Halving Global Poverty

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March 2003

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In September 2000, the world's leaders met at the Millennium Summit at the United Nations in New York City and set an ambitious agenda for improving human welfare. These goals, which are elaborated at <http://www.developmentgoals.org>, include achieving universal primary education and gender equity, ensuring environmental sustainability, reversing the spread of HIV/AIDS, and by 2015 reducing under-age-five mortality by two-thirds, maternal mortality by three-quarters, and the proportion of people without access to safe drinking water by half, in comparison to the levels prevailing in 1990. The goal of central importance to this paper is to cut in half the proportion of people living below $1 a day from around 30 percent of the developing world's population in 1990 to 15 percent by 2015. Based on population projections in 1990 this would correspond to around one billion people exiting poverty. The latest World Bank estimates (for 1998) suggest that 1.2 billion people are below the $1 a day poverty line. And though the fraction of humanity in poverty is falling, absolute numbers in poverty show limited change (Deaton, 2002).

This paper begins by discussing poverty trends on a global scale -- where the poor are located in the world and how their numbers have been changing over time. It then discusses the relationship of economic growth and income distribution to poverty reduction. Finally, it suggests an evidence-based agenda for poverty reduction in the developing world.

A recurrent theme of the paper will be that mainstream economic thinking on how to reduce poverty has evolved in the last couple of decades. The traditional economic focus in development thinking focused heavily on a neoclassical model in which economic growth was achieved by accumulating productive assets in a climate of macroeconomic stability. This perspective has been challenged as insufficient both inside and outside the economics profession. The primary outside challenge has come from non-governmental organizations (NGOs) who have grabbed newspaper

headlines with their concerns about globalization, the environment, human rights, powerlessness and exploitation. Inside the economics profession, the institutional and political context in which policy and accumulation decisions are made has taken center stage. The agenda for growth still emphasizes accumulation of physical and human capital in a climate of macroeconomic stability, but the framework for achieving growth places greater emphasis on institutional reforms that expand opportunities for households, improve the climate for doing business, and improve the accountability of elected officials. The current redistributive agenda focuses less on transfers of money and more on specific policies -- particularly public services, credit and property rights --, which can be shifted in a pro-poor direction. Modern development economics lays to rest the common stereotype of economists as seeing unfettered markets leading to growth as the only (or even primary) route out of poverty. This paper asks how far we have got and builds an agenda for confronting global poverty. It emphasizes that, even though much remains to be done, the evidence base for assessing intervention is at an all time high. Economics offers the means of moving beyond the consensus embodied in the Millennium Goals to generate concrete and effective pathways to global poverty reduction.

Quantifying Global Poverty

Obtaining reliable measures of poverty requires household surveys about the distribution of income or consumption that are comparable across countries. Improvements in such surveys represent one of the key achievements of the World Bank Research Department over the past 20 years. In the mid-1980s, comparable household survey data was only available for 22 countries. There is currently comparable data on around 88 out of a total of 158 low- and middle-income

countries representing about 89 per cent of the total population of the developing world (Chen and Ravallion, 2001). The latest poverty data from around the world can be found at <http://www.worldbank.org/research/povmonitor/>. However, even with this dramatic improvement, it needs to be remembered that our picture of global poverty remains partial and that problems of comparability across different survey instruments remain.[1]

Using World Bank purchasing power parity exchange rates based on price and consumption basket data from the 1993 International Comparison Project, Chen and Ravallion (2001) construct a poverty line of $1.08 per day which is comparable across the 88 or so countries for which they have primary (unit value or tabulated) survey data. This poverty line, commonly known as the "dollar a day" line, is chosen to be representative of domestic poverty lines found in low income countries which are located mainly in sub-Saharan Africa and South Asia. It does not correspond well to what is judged as being poor in middle income countries. As a result, poverty rates based on this method should be viewed as conservative for middle income developing countries.

Viewed from a developed country perspective, living on $1 a day (or less) is unthinkable. Applying the dollar a day line to the US would result in virtually nobody being classified as poor. Debates about providing a decent provision for the poor in developed countries, therefore, have an altogether different character. Even in low-income countries, individuals who live on $1 a day often live on the margin in many ways, not least in obtaining adequate nutrition. For example, using data from the Indian 50th National Sample Survey round for 1993/94 we find that households living on less than a dollar day spent around 73 percent of their budgets on food. The bulk of the households would be involved in subsistence agriculture in rural areas and in the informal sector in

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[1] See Atkinson and Brandolini (2001) for a persuasive discussion of the difficulties involved in using household surveys to make cross-country comparisons of income distributions. Deaton (2003) discusses the different possible methods for constructing measures of global poverty. He persuasively argues that methods based on household survey data are preferable to reliance on consumption data from national accounts.

urban areas. Well over 50 percent of children in these households would be classified as undernourished by international standards. Put simply, being poor in the poorest countries of the world bears little relation to what is judged as being poor in developed countries. And it is this judgment which is reflected in the setting of domestic poverty lines in different countries.

Table 1 provides estimates for both the proportion and number of people living below $1 a day for different developing regions of the world in 1987, 1990, 1993, 1996 and 1998.[2] These developing regions comprise countries that are classified as low or middle income by the World Bank. Starting from 1990, it is these numbers that will be used to assess progress towards the goal of halving global poverty by 2015. In 1990 the "headcount index" -- which measures the proportion of people below the $1 a day line -- is 29.3 percent which corresponds to 1.3 billion people. About 90 percent of the poor in the world in 1990 are situated in three regions -- East Asia, South Asia and sub-Saharan Africa. Four-fifths of the poor in the East Asia region are from China. In the South Asia region, the bulk of those in poverty are from India. Thus there is a highly uneven distribution of poverty across the globe. This perception of heterogeneity is reinforced if we look at the national poverty rates which underlie the regional estimates. For example, in South Asia the headcount for Sri Lanka lies well below that for Nepal or India. Even within India we see pronounced variation across states, as Datt and Ravallion (2002) explained in this journal. This heterogeneity has led economists to focus on identifying the factors that allow countries or regions to exit poverty.

How well is the world succeeding in cutting the global poverty rate in half from its 1990 level? Between 1990 and 1998, the headcount index of poverty has fallen from 29.3 percent to 24.2 percent, which represents solid progress. However, the decline in absolute numbers in poverty is more modest, falling from 1.3 billion to 1.2 billion. These figures have been controversial, because

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[2] The 1993 $1 a day line is converted to prices prevailing at each survey date using the country-specific official Consumer Price Index to allow comparisons across time. To obtain regional estimates it is assumed that the average poverty rate for countries without distributional data equaled that for countries with such data at the regional level.

they are sensitive to the data used and time period chosen. For example, if 1987 is taken as the base year, then the numbers in poverty had actually increased by around 17 million in 1998 (see Table 1). This was emphasized in the World Development Report 2000/2001 (World Bank, 2001a). Deaton (2002), however, points outs that another World Bank document published in the same year, Globalization, Growth and Poverty shows the numbers in poverty falling by 200 million between 1980 and 1998 with no trace of increase between 1987 and 1998 (World Bank, 2001b), and Deaton traces the discrepancy to different underlying data sources for the years from 1987-1993. What does seem robust is that although the proportion living in poverty is falling, the actual numbers in poverty show more limited change.

What is even more interesting from a policy perspective is that the poverty trajectories of different regions from 1990-1998 have been so different. Over this period, the poverty rate in East Asia drops from 27.5 percent to 15.3 percent and numbers in poverty fall from 452 to 278 million – mainly because of the dramatic reductions in poverty in China. These figures are startling – the region is on course to achieving the Millennium poverty reduction targets fifteen or so years ahead of schedule. This reduction in poverty, which started well before 1990, represents the largest fall in poverty *ever* witnessed in history (Ahuja et al., 1997). In contrast, poverty rates in sub-Saharan Africa have remained stagnant, moving from 47.6 percent in 1990 to 46.3 percent in 1998. Over this period around fifty million people are added to the African poverty tally. We therefore have an African tragedy to contrast with the East Asian miracle. The situation in South Asia is intermediate – poverty rates declined modestly from 44 percent to 40 percent but numbers in poverty showed a slight increase. Although the number in poverty is much lower in other regions, poverty rates have been stagnant in Latin America and the Caribbean and generally worsening in Eastern Europe and

Central Asia. In short, nearly all of the progress towards the goal of halving the global poverty rate that occurred from 1990 to 1998 is down to the Chinese experience.

In historical terms, poverty has been a highly persistent and slow moving process (Lipton and Ravallion, 1995). This often led to explanations of poverty based in some underlying trait that was difficult to change, such as resource endowments, disease burden, or factors relating to geography. However, the fact that poverty did change significantly in some countries and regions between 1990 and 1998 calls out for explanations that reflect this. There seems little doubt that divergent poverty trends in, for example, East Asia and sub-Saharan Africa, are in part a function of the policy and institutional reforms implemented in the countries that make up those regions.

The Role of Economic Growth in Reducing Poverty

The main sources of economic growth are accumulating human capital, physical capital and technological change. These sources can benefit the poor both directly and indirectly. For example, the acquisition of human capital by the poor results in their earning higher wages. Similarly, adoption of agricultural technologies, such as higher yielding crop varieties, may raise the incomes of the poor. Since various forms of capital constraint (due to imperfect capital markets) may inhibit the income sources of the poor, increasing capital formation can, in theory, yield a disproportionate advantage to the poor (as in the model of Banerjee and Newman, 1993). Whether these optimistic possibilities characterize growth experiences in specific countries can only be assessed on a case-by-case basis using disaggregated data.

The relationship between economic growth and poverty is ultimately a task in quantification. Here, we analyze cross-country poverty and national income data from the World

Bank. A key magnitude in assessing the anti-poverty effectiveness of growth is the elasticity of poverty with respect to income per-capita, which we denote by η. Estimates of this elasticity can be obtained in a variety of ways. Here, we present results from regressions of the form:

$$\log P_{it} = \theta_i + \eta \log \mu_{it} + \varepsilon_{it}$$

where P_{it} is the headcount poverty rate for country i at time t based on the $1 a day poverty line, θ_i is a country fixed effect, μ_{it} real per capita national income for country i at time t, and ε_{it} is the error term. One limitation of this is that because of the fixed effect term only countries with data on poverty and per capita income for more than one year are included in the regression. Sixty of the countries in our sample have data for more than one year. The first column of Table 2 shows the estimates of η for the entire sample. The coefficient on the variable for log GDP is equal to -0.73 with a (robust) standard error of 0.25. This confirms that increases in income per capita are associated with reductions in poverty. A growing body of evidence confirms this general finding (Dollar and Kraay, 2000; Ravallion, 2001).

Using estimates of η, it is straightforward to derive the (annual) per capita rate of economic growth that would be needed to halve the poverty rate for the world or for that region in a period of 25 years. For the whole sample $\eta = -0.73$, which means that it would require a 3.8 percent rate of growth over 25 years to cut the poverty rate by half. The historical per capita growth rate from 1960 to 1990 was 1.7 percent, so this expansion of growth is a fairly tall order. More than a doubling of economic growth would be needed to halve global poverty.

However, these estimates are only illustrative, at best. There are serious issues regarding comparability of data across countries and the coverage of countries within regions is partial. A

wide variety of estimates of η can be obtained, depending on the method and data used. For example, increases in national income only partly translate into increases in household consumption. As a result, the elasticity of poverty with respect to national income is much smaller than with respect to household consumption (or income). If researchers are trying to look at the effect of changes in national income on poverty, then they should be using much lower elasticities than if they are looking at the effect of consumption changes on poverty (see, for example, Collier and Dollar (2001)). In the illustrative regression, we are also not controlling for factors like income inequality and population growth in the regressions, which might affect how growth in national income maps onto poverty reduction.

There are good reasons to expect the elasticity between national income and poverty to vary across regions or countries. We can relax the assumption that η is uniform by running the regression for different sub-groups of countries (such as different geographical regions). In this case, there are too few observations for a fixed effects regression, although we are allowing the intercept to vary across regions. Growth elasticity estimates by region are shown in the rest of Table 2. Growth reduces poverty in all regions. Despite small sample sizes, these effects are significant at the 5 percent level or below in all regions except Eastern Europe and Middle East and North Africa.

Again, the second row of Table 2 shows the growth rate needed if growth alone is to reduce poverty by half over 25 years, while the third row of the table shows the historical growth rate from 1960 to 1990. In East Asia, and also in the Middle East and North Africa region, the historical rate of growth for the region exceeds the rate needed to halve the poverty rate. In Eastern Europe and Central Asia the growth rate needed to halve world poverty of 2.4 percent may be compared to an historical growth rate of 2.0 percent. But projecting from history before 1990 is hazardous for this

region. The dramatic institutional changes and collapses in output, which have accompanied economic transition in the former Soviet Union and in central and Eastern Europe transition, have caused poverty to rise substantially in this region in recent years. In South Asia and Latin America, the historical growth rate is less than half of the growth rate needed to halve poverty.[3] Finally, sub-Saharan Africa is an outlier in several ways. Growth has the lowest impact on poverty in this region and the historical growth rate is by far the lowest. Thus, the growth rate needed to halve poverty in sub-Saharan Africa between 1990 and 2015 is 28 times its historical average.

These data support the view that higher growth translates into poverty reduction. However, for much of the world, the amount of growth that is needed to halve the poverty rate is large relative to historical averages. This insight has two main implications. First, finding ways to increase economic growth is important to reducing poverty. To attain this aim, uncovering specific institutional and other drivers of growth at the local level in different parts of the world – that is, the microeconomics of growth – should remain one of the main research frontiers within development economics over the next decade or so. Second, economic growth by itself seems unlikely to be enough to cut the poverty rate in half in much of the world. Thus, it will be necessary to identify policy and institutional changes that can directly reduce poverty, even if growth does not increase, or which can improve the mapping of growth onto poverty (that is, increase η). Redistribution and institutional reforms loom large here.

Redistribution and Poverty

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[3] However, the situation may be more optimistic in South Asia given on-going revisions to the poverty numbers in India which suggest a larger fall in poverty than was previously believed.

Income distribution can be characterized in complex ways, such as presenting the cumulative density function of the whole distribution. The available cross-country inequality data are typically rather crude, with one-dimensional characterizations of distribution, such as the Gini coefficient or the standard deviation of incomes in logs, dominating the debate. Even though such measures can miss important changes in distribution, they represent the only means of looking at the relationship between inequality and poverty for a broad range of countries.

Changes in income per capita do reduce poverty, as argued in the previous section, but they do not seem to be correlated with changes in inequality. Although measures of inequality vary across countries and regions, the extent of inequality within countries and regions changes relatively little over time (Li, Squire and Zou, 1998). This could be because structural features of the economy that determine income distribution, like ownership and social relations, change only slowly.[4] In any case, the data suggest that economic growth raises mean income, without widening or narrowing the distribution of consumption (Dollar and Kraay, 2000).[5]

Countries in our data differ in their measured income distributions as captured by simple statistics. Table 3 confirms this using the standard deviation of the income distribution (in logs) as the measure of inequality. These data confirm what is widely believed -- Latin America is the most unequal part of the developing world. Second is sub-Saharan Africa. South Asia has almost the lowest level of inequality – this block of countries is also relatively homogenous as reflected in the small standard deviation.

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[4] This may also be because survey instruments for measuring household income/consumption vary little within countries over time while they do vary substantially between countries.
[5] However, it should be remembered that surveys measure consumption inequality and not the components of income used to measure economic growth. As a result the finding that changes in inequality are uncorrelated with changes in GDP cannot be taken to mean that, on average, incomes/consumption of the poor grow at the same rate as GDP (see Deaton, 2003).

How do these variations in inequality relate to poverty differences, after controlling for income per capita? To examine this, we add a measure of income inequality to our earlier regressions, thus running regressions of the following form:

$$\log P_{it} = \theta_i + \eta \log \mu_{it} + \beta \sigma_{it} + \varepsilon_{it}$$

where P_{it} is again the headcount poverty rate for country i at time t based on the $1 a day poverty line, θ_i is a country fixed effect, μ_{it} is real per capita national income for country i at time t, σ_{it} is income inequality for country i at time t measured by the standard deviation of the income distribution in logs, and ε_{it} is the error term. When this equation is estimated, the β coefficient on the variable for income inequality is equal to 2.80 with a (robust) standard error of 0.71. This finding suggests a positive and significant association between inequality and the level of poverty within a country.

To get a "back of the envelope" feeling for the order of magnitude of this effect, consider the following thought experiment. Suppose that we could lower the level of inequality in each region of the world by one standard deviation (that is by the amount in parenthesis under the first row of Table 3). Then how much would poverty fall? The answer is given in the second row of Table 3.

It is striking that a one standard deviation change in inequality reduces poverty in sub-Saharan Africa by more than half. It nearly accomplishes that goal in Latin America. The one standard deviation reduction in inequality understandably makes the least impact in South Asia, which already had a relatively low level of inequality. Overall these results suggest that some focus on inequality reduction is not unreasonable. This has two clear implications. First, finding

feasible means of achieving redistribution must be a priority. The potential for achieving redistribution via conventional tax and transfer systems is limited in low income countries (Burgess and Stern, 1993). However, other measures such as strengthening property rights, increasing access to credit and improving the delivery of public services do hold real promise. Working out the political economy of how these policies can be shifted in pro-poor direction is now a major area of work. Besley and Burgess (2000), for example, show for India that land reforms, which enhanced security of tenure for poor farmers, had appreciable impacts on rural poverty in India whereas attempts to redistribute land via the imposition of land ceilings were blocked and had no effect. Second, attention needs to be paid to the distributional impact of growth. Growth which reduces inequality will have a larger impact on poverty. This is turn leads to a focus on specific drivers of growth which can directly benefit the poor. Reforms which expand opportunities for households, improve the climate for doing business, and improve the accountability of elected officials are important in this respect.

The Agenda for Reducing Poverty

The standard approach to reducing poverty focuses principally on economic growth. The Washington Consensus that emerged in the late 1980s brought forth a number of prescriptions for economic progress. These included sound fiscal and monetary policy, greater openness, security of property rights and privatization (see Williamson, 2000). Given its political sensitivity, calls for redistribution under the consensus were limited – focusing on broad based taxes and public spending targeted towards the poor. The most controversial parts of the consensus were its

emphasis on openness and privatization which led many of its opponents to view it as the handmaiden of unfettered markets. Moreover, the fact that these prescriptions were depicted as consensus led it to be cast as the mantra of mainstream economics.

It has been surprisingly difficulty to find robust evidence that the policy prescriptions of the Washington consensus generate growth in cross-country data. However, some recent studies do provide encouragement on key aspects. For example, Acemoglu, Johnson and Robinson (2001) examine the relationship between income per capita and security of property rights in a cross-section of countries. Using their estimated coefficient, we find that an increase in protection of property rights across the globe of half of one standard deviation would be sufficient to halve global poverty (see Table 4). In similar vein, Hall and Jones (1999) construct a measure of social infrastructure which is the average of an index of the extent to which property rights and contracts are enforced and respected in a country and the degree of openness to international trade. This measure is intended to capture the institutions and government policies that determine the economic environment within which individuals accumulate skills, and firms accumulate capital and produce output. They find a strong association between social infrastructure and output per worker and argue that this is an important determinant of growth. Using their estimate, our own calculations show that an increase in social infrastructure of two standard deviations would be sufficient to reduce global poverty by half. The impact of changing either measure varies strongly across regions with poverty in sub-Saharan Africa being most resilient to institutional change (see Table 4).

How to map from these findings into concrete policy suggestions about property rights or social infrastructure is not immediately clear. Given issues of comparability across countries and institutions, it is seldom, if ever, possible to derive highly specific policy proposals from cross-

country analysis. In any country, the policies that can be selected and maintained are shaped by the political, legal and social institutions in that country. Making real improvements often involves far more than passing a law or a budget appropriation.

Plugging this gap in our knowledge is where the agenda now lies. Ten years on, there is much more emphasis on institutional development and its role in bringing forward and sustaining good policy outcomes. The focus of the debate on trade liberalization, for example, has shifted towards examining the institutional context in which opening occurs. Aghion et al (2003) find that the impact of liberalization on the productivity of industries in India depends both on their distance to the Indian technological frontier and on the industrial relations climate in a state. Moreover, the importance of the institutional framework is based on a growing body of concrete evidence. For example, experience with privatization, particularly in Eastern Europe and the former Soviet Union, made clear that well-developed legal systems and competition authorities are central to successful outcomes. Similarly, there is an emerging consensus that making gains in education is often not an issue of school budgets, but of finding mechanisms of delivery that work.

It is unlikely that cross-country data will be the main vehicle for progress on these issues. Cross-country data is best at providing a signpost for more focused work. Moreover, there is a need to square macro and micro facts which may sometimes be at variance with one another. A good example of the productive exchanges that can take place when this is done is the recent paper by Krueger and Lindhal (2001). Their starting point is the apparent inconsistency between the robust evidence on the returns to education in micro-data compared to the more mixed findings from macro-data. They argue that measurement error in education helps to explain why a number of macro studies fail to find a significant relationship between education and income. In addition, they point out that even where we see a significant relationship it is impossible to ascertain whether

differences across countries can be taken as a cause of income as opposed to a result of current or anticipated income growth. This kind of debate is important.

We also emphasize that our agenda for reducing poverty needs to be built on firm theoretical foundations. Having a more or less unified approach to assessing the validity of theoretical arguments has set economics apart from other parts of the social sciences for more than fifty years. How theory should be accommodated in empirical analyses is still an issue of debate. However, the importance of reasoning about the evidence using a well-defined theoretical structure is not. Moreover, it is only by looking for consistency between models and facts that progress can be made.

We will argue that lessons are emerging where sub-national findings are consistent with the broader cross-country picture. Micro-evidence provides a means of modeling incentives at the ground level and makes more specific and applicable the kind of knowledge available in the aggregate. Basing the analysis on solid theoretical foundations also helps to increase the portability of findings to different settings. We now discuss specific policy areas emphasizing the insights available from sub-national studies and the emerging consensus on what matters.

Human Capital

Literacy and other indicators of education remain woefully low across much of the developing world. The best estimates for developing countries, from micro-econometric studies that take issues of endogeneity and measurement error seriously, find that each additional year of schooling is associated with a 6-10 percent increase in earnings (Duflo, 2001). This evidence appears robust across both methods and locations; in fact, the magnitude of the result is in line with

results for developed countries (Krueger and Lindhal, 2001). This suggests that investment in education can be used to attack poverty both by encouraging economic growth and as a method of redistribution to the poor.

But choosing the appropriate mechanism for expanding education is important. New work in the area is paying much more attention to the market conditions under which education is provided and the incentives faced by different providers. This is critical to understanding *how* education expansion can be achieved. One strand of research focuses on policy design. Intriguing experiments in western Kenya, for example, used a randomized design to evaluate whether increasing the supply of textbooks or improving child health affect attendance and attainment in NGO run schools (Glewwe, Kremer and Moulin, 2000; Kremer and Miguel, 2002). Another strand focuses on whether there needs to be a change in the organization of how policy is delivered. Public schooling, for example, may require a variety of monitors and competitors – including different levels of government, community and non-governmental organizations and the private sector – in order to be accountable and effective (Reinikka and Svensson, 2002; Hsieh and Urquiola, 2002). The question of how social relations between ethnic groups affects delivery is also a central theme here (Miguel and Gugerty, 2002).

Policy thinking on the way to expand human capital typifies how economists now think about development. Institutions for delivery are a primary object of reform and there is a reliance on solid micro-evidence as a means for charting the way forward.

Credit

The large cross-country literature on credit shows a strong correlation between "financial depth" and growth (for example, King and Levine, 1993). However, the poor tend not to have

access to banks and other formal financial institutions, and so aggregate credit expansion may not necessarily deliver benefits to the most disadvantaged groups. A recent theoretical literature emphasizes links between inequality and development via the operation of credit markets. Even if the poor have access to investment opportunities, it may be difficult for them to exploit those opportunities (Banerjee and Newman, 1993; Aghion and Bolton, 1997). Finding ways of expanding access to credit for the poor may both increase the elasticity between economic growth and the reduction of poverty, and also act as a form of redistribution.

A central concern in this literature is whether changes in institutional design can overcome the problems of elite and political capture which have plagued formal credit. One line of attack on this issue has been to look at the functioning of informal institutions which, to some extent, have filled the void left by market and state failure to reach the poor (Besley, 1995a). Another line has been to look at whether changing the way that formal credit institutions deliver credit can affect outcomes. Burgess and Pande (2002), for example, evaluate the impact of massive social banking experiment in India where licensing rules were used to force commercial banks to open over 30,000 branches in rural areas. They find that banking of rural India led to significant falls in rural poverty. They also find effects on non-agricultural output and employment, agricultural wages and on education which helps them to understand how the arrival of banks in rural India enabled people to exit poverty.

One much heralded innovation as regards delivery of credit has been micro-finance institutions like the Grameen Bank, which target the poor and rely on peer selection and peer monitoring to overcome the need for collateral. These schemes are typically operated by non-governmental organizations. In the case of the Grameen Bank, there are recent studies that shed light on the ability of credit to affect livelihoods and poverty (Pitt and Khandker, 1998, Morduch,

1998). However, it remains unclear whether micro-lenders like Grameen Bank achieve their success in repayment through peer monitoring, or through the promise of future interactions with the bank, or simply because the bank itself spends more time in monitoring.

There remains a gulf between the broad macro results which link credit and output and those that look at the micro level. An intriguing open question is whether innovative institutions or mechanisms for credit delivery to the poor can lower inequality and raise output simultaneously.[6]

Property Rights and Contracts

It is sometimes implied that improving property rights primarily favors the rich, conjuring up the image of rich owners of capital securing greater rents. However, there is increasing evidence that secure land rights, in particular, are an important vehicle for the poor that may promote both equity and efficiency. Lin (1992), for example, showed that the move from collective to household farming in China starting in 1978 led to large productivity increases in agriculture. In a similar vein, Banerjee, Gertler and Ghatak, (2002) show that increases in tenurial security in West Bengal also had large positive effects on agricultural output. This is in line with Besley and Burgess (2000) who utilise state level data in India to find that rural poverty was reduced by land reform, particularly reforms that strengthened property rights over land. They estimate that the sum total of land reform legislation in India since 1958 can account for one-tenth of the poverty reduction witnessed during that period. Obtaining property rights over land in urban areas can also help poor households to gain access to credit, increase labor supply and improve productivity (see Field, 2002; De Soto, 2000). These micro findings are consistent with papers which identify

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[6] A recent theoretical literature has questioned whether there is an equity-efficiency trade-off in the case of credit (see Benabou, 1996) although there is, as yet, little evidence to back this view.

property rights as a key determinant of growth in cross-country data (Hall and Jones, 1999; Acemoglu, Johnson and Robinson, 2001).

The literature, however, also makes clear that the implementation of rights over land needs to be managed carefully, or it can have unintended negative consequences. Besley (1995b) suggests that in Ghana land rights are likely to respond endogenously to investment decisions because of the social and political process surrounding the establishment of rights. Banerjee, Gertler and Ghatak, (2001) discuss the fact that improvements in tenurial security are likely to lead some tenants being fired as a preemptive measure, lest they lay claim to the land that they are farming.

Property rights can be viewed as part of a broader set of mechanisms for legal enforcement of commitments, like contracts. Improvements in the enforceability of contracts can promote investment and the development of firms. For example, Banerjee and Duflo (2000) emphasize the importance of reputations in enforcing contracts in the Indian software sector. In this journal, McMillan and Woodruff (2002) discuss how social and business networks can help with access to credit and investment at one stage of development in transition economies, but how legal enforcement of contracts becomes necessary for further development. Using a data set on contracts between a large tractor assembler in Pakistan and its suppliers, Andrabi, Ghatak and Khwaja (2002) study how asset specificity of a supplier may, to some extent, compensate for quality in highly uncertain environments. These studies have in common an emphasis on the role of social and business networks in promoting industrial development in countries where contractual enforcement through formal means is imperfect.

Regulation

The postwar model of economic development was built on a raft of regulation. Such regulation was often justified as the welfare improving actions of benevolent governments intent on fixing market failures. Insofar as such market failures are a cause of poverty, this was closely allied to the poverty reduction agenda. However, there is increasing empirical evidence that, noble as the intentions of the architects of regulation may have been, many forms of regulation have been neither an engine of economic development, nor a boon for the poor. This insight comes as no surprise to students of the political economy of regulation (for example, Stigler, 1971; Shleifer and Vishny, 1998).

This raises the specter of appropriately structured *deregulation* being part of the anti-poverty agenda. Economic analysis is increasingly playing a role in identifying specific directions for deregulation that help the poor. One key theme is to provide an improved climate for investment and entrepreneurship. For example, Djankov et al. (2002) collect data on the time and number of procedures an entrepreneur must complete to officially open a business in 85 countries. They find that heavy regulation of entry is associated with less democratic governments, greater corruption and larger unofficial economies – which supports the idea that entry regulations are not in the public interest. Besley and Burgess (2002a) use data for India to look at differences across states and time in legislation concerning workers' rights in industrial disputes. They find that state-level amendments to the Industrial Disputes Act that were intended to be pro-worker are associated with lower investment, productivity and output in registered manufacturing.[7] Output in unregistered manufacturing, in contrast, is increased which is in line with the Djankov et al (2002) who find that countries with many entry regulations tend to have larger informal sectors. Besley and Burgess (2002a) also find that regulating in a pro-worker direction is associated with *higher* urban poverty.

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[7] Registered manufacturing refers to firms with more than ten employees with power or more than twenty employees without. Firms below these sizes are referred to as unregistered manufacturing and are not subject to regulation governing industrial relations.

This effect can be explained by the fact pro-worker regulations hindered the growth of manufacturing. This suggests that attempts to redress the balance of power between capital and labor can end up hurting the poor.

An alternative to regulatory action is to promote better access to courts for legal remedy, especially for the poor. Increased access to justice for the poor may have both powerful equity and efficiency consequences.

Responsiveness and Accountability of Government

Mainstream economics has typically taken a technocratic view of government. However, over the last decade or so political economy has moved to center stage in terms of identifying effective routes to poverty reduction. Many states in the developing world are democratic only in a formal sense. Even if they hold elections, the poor and disadvantaged are poorly represented and, in any case, are largely uninformed as regards the actions of their representatives. Recent research has begun to look at how governments can be made more responsive and accountable for their actions.

The role of mass media in acting as a check on the actions of politicians has recently been emphasized. Besley and Burgess (2002b) show that state governments in India are more responsive to falls in food production and crop flood damage via public food distribution and calamity relief expenditure where newspaper circulation is higher. They also find that higher political competition and electoral turnout are associated with greater responsiveness to food production shortfalls and floods. Djankov et al. [2001] focuses more directly on the effect of media ownership patterns on a variety of outcomes. They develop a remarkable data set on media ownership patterns in 97 countries to do so. Their main finding is that state ownership of the media

is, on the whole, negatively correlated with good government. Using this data, Besley and Prat [2001] find that countries with more press freedom (and private media ownership) tend to have shorter tenure by politicians. These findings suggest that the formal institutions of political competition (such as open elections) are not sufficient to deliver a responsive government unless voters have the real authority to discipline poorly functioning incumbents.

A basic tenet of representative democracy is that all those subject to policy should have a voice in making policy. There are many reasons, both social and historical, why certain groups may not obtain the full attention of politicians. Affirmative action programs which mandate representation of disadvantaged groups can be used to counter this problem. India, for example, has mandated representation of women and low caste groups in different levels of government. Chattopadhyay and Duflo (2001) exploits the fact that an amendment to the Indian Constitution implied that one third of village councils in India were randomly selected to have female heads. Comparing across reserved and unreserved village councils in West Bengal she finds that having a female head is associated with greater investments in infrastructure which is directly relevant to the needs of rural women (water, fuel, roads). Pande (2002) exploits the fact that the Indian constitution provides political reservation for disadvantaged castes and tribes in state elections. She finds that reservation has increased spending on welfare and employment programs which are targeted at the groups which benefit from the mandate. These finding highlight the importance of political representation in shaping public policy.

Assessment

Empirical approaches based on sub-national data provide the most credible base for economists to influence the debate about global poverty reduction. The evidence based approach to

policy has proven effective in a range of industrialized countries and its expansion into the developing world is long overdue. The scope for expanding the use of policy evaluation is enormous. At present, our knowledge is patchy and specific to the countries and policies that have been studied. Whether successful policies can be replicated elsewhere is moot.

It is clear that expanding the scope of properly evaluated policy experiments provides an exciting practical agenda. To appreciate its importance one need only contemplate the alternatives. The broad brush policy prescriptions from cross-country studies rarely lead to reliable and specific policy prescriptions. It also seems unlikely that pure theory will be much of a guide. But more worrying is the possibility that bald assertion, intuition and ideology dominate the debate about global poverty reduction.

Even in the absence of firm evidence on the anti-poverty effectiveness of a wide variety of programs and institutional changes from all parts of the globe, studies that emphasize the role of institutional change are able to shift the climate of opinion. They undermine the cynicism that often surrounds debates about global poverty, suggesting that little or nothing can be done. Even if there are political constraints to adopting good policies and institutions, it is still important to know when the poor have benefited from such change elsewhere.

Conclusions

The recent development economics literature has both bolstered traditional themes as well as putting a fresh gloss on them. The overarching theme is on the centrality of the institutional context in which policy and accumulation decisions are made. Reading this literature suggests that the gap between the agendas of the global NGOs and the economics profession is not that large. It

also seems at odds with the common portrayal of economists as seeing free markets and unfettered growth as the being the only routes of poverty.

Responsibility for achieving the goal of cutting global poverty rates in half lies firmly at the door of domestic governments. The possibility of concerted international action playing a major role is remote. The foreign aid resources on offer are woefully inadequate relative to the task at hand. The aid target set by the United Nations is that high-income countries should deliver 0.7 percent of GDP in aid. Most high-income nations do not meet this target. But even if they did, 0.7 percent of GDP from the G7 group of countries (the United States, Canada, United Kingdom, Germany, France, Italy, and Japan) would generate $142 billion per year. For comparison, the cost of giving everyone living below dollar a day a transfer of a dollar per day would cost $443 billion per year. Canceling debt repayments from the world's poorest countries would yield only around $1 billion per year. This is not to say that effectively targeted aid and debt relief cannot have some impact but rather to point out that domestic reforms are going to have to do the lions share of the work.

Moreover, national governments that seek to reduce poverty will typically not succeed by only enacting reforms at a lofty level –government budgets not too far out of balance, not too much inflation, greater openness to foreign trade and investment. The institutions and policies that determine the economic and political environment within which individuals accumulate skills, and firms accumulate capital and produce output must take center stage. Researchers have a role to play here in conducting sub-national analysis to identify effective anti-poverty policies. Building up bodies of evidence based on various countries and tying studies to particular theoretical accounts can help to create a menu of anti-poverty policy options for consideration and comparison.

Economics has many contributions to make to the debate about the way to achieve global poverty reduction. First, unique among the social sciences, it provides a consistent and common theoretical framework within which we can evaluate policy and institutional reforms. Second, it is in a position to provide some quantification of the effects of various measures. Third, advances in theoretical and empirical political economy provide a basis for encompassing an agenda that puts more weight on institutional change. Fourth, there is real promise that we can, in future, deliver a better understanding of the micro-economic processes that generate income growth.

The message for economists is optimistic. The kind of evidence currently being built by micro-economic research at the sub-national level will doubtless be the most persuasive and credible advice to policy makers in the decade to come. But it is clear that, when it comes to halving global poverty, there is no magic bullet.

Acknowledgements

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Table 1: Poverty Across the Globe

	Population Living Below $1.08 a day (1993 purchasing power parity)									
	Poverty rate (% below $1.08)					Number of poor (1,000,000)				
	1987	1990	1993	1996	1998	1987	1990	1993	1996	1998
East Asia & Pacific	26.6	27.6	25.2	14.9	15.3	415	452	432	265	278
(exclude China)	22.9	15.0	12.4	8.1	9.6	109	76	66	45	56
East Europe & Central Asia	0.2	1.6	3.9	5.1	5.1	1	7	18	24	24
Latin America	15.3	16.8	15.3	15.6	15.6	64	74	71	76	78
Middle East & North Africa	11.5	9.3	8.4	7.8	7.3	25	22	21	21	21
South Asia	44.9	44.0	42.4	42.3	40.0	474	495	505	532	522
sub-Saharan Africa	46.6	47.7	49.7	48.5	46.3	217	242	273	289	291
Total	28.7	29.3	28.5	24.9	24.3	1196	1293	1321	1207	1214
Total (exclude China)	29.6	29.3	28.5	28.2	27.3	891	916	955	987	991

Table extracted from http://www.worldbank.org/research/povmonitor/ on July 08, 2002.

Table 2: Growth and Poverty Across the Globe 1990-2015

	Whole sample	East Asia and Pacific	Eastern Europe and Central Asia	Latin America and Carribean	Middle East and North Africa	South Asia	Sub-Saharan Africa
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Elasticity of poverty with respect to income per capita	-0.73 (0.25)	-1.00 (0.14)	-1.14 (1.04)	-0.73 (0.29)	-0.72 (0.64)	-0.59 (0.36)	-0.49 (0.23)
Annual growth rate needed to halve world poverty by 2015	3.8%	2.7%	2.4%	3.8%	3.8%	4.7%	5.6%
Historical growth 1960 – 1990	1.7%	3.3%	2.0%	1.3%	4.3%	1.9%	0.2%
Total growth needed to halve world poverty by 2015	95%	70%	61%	94%	95%	117%	141%

Source: Authors' Calculations – see http://econ.lse.ac.uk/staff/tbesley/hgp/ for details.
Notes: Robust standard errors in parenthesis.

Table 3: Inequality and Poverty Reduction

	Whole sample	East Asia and Pacific	Eastern Europe and Central Asia	Latin America and Carribean	Middle East and North Africa	South Asia	Sub-Saharan Africa
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Standard deviation of income distribution in logs	0.76 (0.24)	0.72 (0.11)	0.54 (0.15)	0.98 (0.16)	0.67 (0.12)	0.59 (0.06)	0.86 (0.22)
Poverty decline after a one standard deviation reduction in inequality	67%	31%	42%	45%	34%	17%	62%

Source: Authors' Calculations – see http://econ.lse.ac.uk/staff/tbesley/hgp/ for details.
Notes: Standard deviation in parenthesis.

Table 4: Social Infrastructure, Expropriation Risk and Poverty Reduction

	Whole sample	East Asia and Pacific	Eastern Europe and Central Asia	Latin America and Carribean	Middle East and North Africa	South Asia	Sub-Saharan Africa
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Percentage of required poverty reduction achieved by a one standard deviation change in risk of expropriation	240%	294%	240%	213%	250%	210%	118%
Percentage of required poverty reduction achieved by a one standard deviation change in social infrastructure	52%	114%	28%	36%	61%	39%	22%

Source: Authors' Calculations – see http://econ.lse.ac.uk/staff/tbesley/hgp/ for details