The Economics of Poverty and the Poverty of Economics: A Christian Perspective[1]

Christopher B. Barrett
Cornell University

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In this world of plenty, almost half the world's six billion people live on two dollars a day or less. Between one third and one half suffer undernutrition due to insufficient intake of calories, protein or critical micronutrients such as vitamin A, iodine and iron. More than one child in five lives in acute poverty, an especially disturbing fact to this father of five. Why does such unnecessary injustice continue to disfigure a rich, technologically advanced world and what can be done to care for the poor and thereby to care for and honor God, as the Gospels instruct us? In attempting to answer those questions, at least partly, I want to share with you some of the insights of my discipline, economics, as well as my concerns about the limits to economic understanding of these humanitarian, intellectual and spiritual challenges.

The Christian's interest in poverty is rather obvious. Jesus routinely expressed special concern for and devotion to the poor. We are called to feed the hungry, nurse the sick, and clothe the naked. The impulse to assist is obviously not unique to Christendom. Nor is it especially the comparative advantage of economics, for the instinct of economists is to look beyond the symptoms of poverty that indisputably demand prompt humanitarian response, and to seek instead the causal mechanisms that perpetuate poverty. In reflecting on the economics of poverty, my focus is therefore not on how best to run humanitarian operations but, rather, on the big picture mechanisms that necessitate the grim but honorable and too-necessary work of humanitarian relief agencies.

Most of this essay was composed during a two week trip to Madagascar, a fascinating country in which extraordinarily high species endemism rates fuel intense interest by conservationists and where the unique blend of Polynesian and Bantu cultures has long drawn the attention of cultural anthropologists. Such obvious unique qualities aside, Madagascar is nonetheless the quintessential poor economy. According to the most recent nationally representative household survey data, 69.6% of the population of Madagascar falls below a national poverty line equivalent to US$0.42/day per capita. More than 80 percent of the population lives in rural areas and 92% of the poor live in rural areas. The rural poor depend heavily on agriculture for their livelihoods, both as farmers and as workers on others' farms. Yet agricultural productivity is weak and the

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soils, forests and hydrological systems on which smallholder farming fundamentally depends are under significant threat from anthropogenic and natural causes. Because it so typifies poor economies, I will illustrate some of my core points with brief anecdotes from some of the many Malagasy who have been some of my most important teachers about not only the economics of poverty, but also about the dignity and majesty of human life and the whole of God's Creation.

The Economics of Poverty

> "Most of the people in the world are poor, so if we knew the economics of being poor we would know much of the economics that really matters. Most of the world's poor people earn their living from agriculture, so if we knew the economics of agriculture we would know much of the economics of being poor."
>
> \- Theodore W. Schultz

These words from T.W. Schultz's 1979 Nobel Prize in Economics lecture are no less true today than they were a quarter century ago. Most of my remarks will therefore center around poor rural folk, the small farmers and landless laborers who comprise the too-often-invisible majority of the world's population, especially of the world's poor. We have nonetheless advanced significantly in our understanding of poverty since Schultz's seminal contributions. I therefore try in this essay to relate what I consider the most important advances in economists' understanding of the etiology of poverty.

Given the Christian audience, however, I hazard a highly unorthodox structure to the first part of this discussion, organizing my reflections on contemporary understanding of the economics of poverty around five broad themes of particular salience to Christians: hope, agency, discipleship, grace and transformation. We economists do not commonly employ such labels in our research. But perhaps this structure will help those who sometimes struggle to find the Christian content in seemingly secular work.

Hope

Perhaps the most distressing characteristic one frequently encounters among the poor is hopelessness, a general resignation to ongoing physical deprivation and difficulty in envisioning a materially improved existence. Were these conditions chosen out of ascetic discipline, it would be unspeakably admirable. But for most of the world's poor, deprivation is less a discipline than a passion. Hence the Christian obligation to show compassion for the poor, literally to share their passion as we do that of our Lord on the Cross.

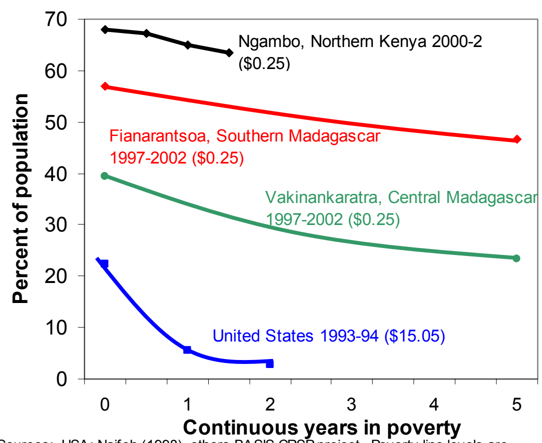
Economists have been steadily developing and improving formal theoretical models and empirical tools and evidence so as to improve our understanding of the nature and causality of poverty, especially the lack of hope one observes too frequently in poor communities. Of particular note, increased availability of longitudinal data at household and individual level is changing empirical poverty research in ways that are profoundly affecting our understanding of poverty. For years now, the staple metric has been the Foster-Greer-Thorbecke (1984, hereafter FGT) family of decomposable poverty measures. The FGT poverty metric encompasses the headcount measure (the proportion of people in a population falling below the poverty line), the poverty gap measure (the amount of annual income or expenditure required to move all poor people above the poverty line if funds transfers could be perfectly targeted for the poor) and more distributionally-sensitive measures of poverty within a population. FGT measures offer a powerful, but merely cross-sectional view of poverty. With advances in data availability and methods, economists are increasingly moving from such "snapshot" views of poverty to "video" perspectives, tracking the path followed by the poor over time. This enables a variety of important refinements.

One important recent advance comes from a growing appreciation that much poverty is transitory in nature (Baulch and Hoddinott 2000). People commonly suffer short-term income losses or reductions in expenditures that may push them below the poverty line for a relatively brief period of time. Then they recover, often without any assistance from charities or governments. While even transitory poverty is plainly undesirable, the obvious capacity of the transitorily poor to pull themselves up by their bootstraps typically causes policymakers and scholars to worry less about those who are only temporarily poor than about those who remain poor for very long periods of time. The transitorily poor have the hope and well-founded expectation of exiting poverty relatively quickly.

Attention is therefore rightly focusing more than ever on "chronic" or "persistent" poverty, and the associated poverty traps that give rise to persistent poverty. In most wealthy countries, poverty is generally a short-lived phenomenon; most poverty is not chronic. In the United States, for example, the median time in poverty is only 4.5 months (Naifeh 1998). Less than one quarter of those living below the poverty line remain below the poverty line 12 months later. Although our current cross-sectional poverty rate of 11.7 percent is relatively high, the long-term, structurally poor are a very small minority, roughly one percent of the United States population.

Consider now the difference between those statistics on poverty in the United States and the poverty dynamics of peoples living in the drylands of northern Kenya and in the central and southern highlands of Madagascar. My collaborators and I have been working in these sites for several years and have recently assembled directly comparable longitudinal observations on random samples of households (in econometric parlance, "panel data"). The leftmost point on each plot in Figure 1 reflects the headcount poverty measure (i.e., the proportion of the population below the poverty line) at one point in time.[2] The subsequent points depict the percentage of the population that was poor in the initial period and that remained poor in the subsequent period. The curves necessarily slope down because a portion of poverty is transitory, as previously discussed.

Figure 1: Comparative Poverty Dynamics



Sources: USA: Naifeh (1998), others BASIS CRSP project. Poverty line levels are all in inflation-adjusted 2002 US dollars.

What is most striking to me in comparing these graphics is that although the United States suffers a high headcount rate of poverty for a wealthy country – albeit, measured against a relatively generous poverty line equivalent to $15.05 per person per day – most poverty in the United States is plainly transitory and the population share of the persistently poor is small. This is reflected in the steep slope of the persistent poverty dynamics curve plotted in Figure 1 for the United States. In the United States, the probability that a person who is poor today will still be poor in 24 months is less than 13 percent. By contrast, in northern Kenya, the equivalent probability – and against a poverty line of only US$0.25/day per capita! – is 92 percent. In the southern Madagascar highlands, the probability of remaining poor for five years is nearly 82 percent.

The take-home point here is that it is not just the *magnitude* of poverty but, perhaps even more importantly, the *nature* and *duration* of poverty that differs in much of the developing world from that in the United States and other wealthy countries. Where anti-poverty policy in the wealthy countries largely revolves around the provision of safety nets to cushion people against short-term shocks and to help them "get back on

[2] The relevant poverty line appears in parentheses, expressed in 2002 US dollars per day per person.

their feet again" quickly, in the developing countries the task is necessarily far more complex. This is of concern not merely because of the severe material deprivation it represents, but equally because of the hopelessness such dim prospects can induce, with severe cultural, moral, political and spiritual implications.

The emerging dynamic or "video" view of the economics of poverty and the growing appreciation of the hopelessness induced by chronic poverty give particular salience to the concept of *poverty traps* into which people may fall and have some difficulty escaping. Scholars are slowly coming to appreciate that chronic poverty associated with apparent poverty traps may be widespread, especially in rural areas of the developing world, and that the causality of and appropriate policy responses to chronic poverty may differ from those for transitory poverty. But the causality behind the poverty trap phenomenon remains murky.

<u>Agency</u>

The essence of the poverty trap is that one *chooses* to stay in a situation that almost surely implies a life of poverty. It is not that people are entirely powerless over their circumstances. God's children are blessed with the freedom to choose what we eat, where we live, how we spend our time, and so forth. But in some places and for some peoples, the choice set is relatively limited and none of the feasible options is especially attractive. Where chronic poverty is widespread, there is, on average, insufficient incentive to escape the poverty trap to induce the real sacrifice (of meager current consumption) needed to grow out of poverty. In particular, beneath the idea of poverty traps lies the necessary existence of critical thresholds that people have a difficult time climbing over and below which people can fall unexpectedly.[3]

Absent such thresholds, all poverty would be transitory with everyone accumulating productive assets until they converged on a single equilibrium income level, as posited by neoclassical economic growth theory (Solow 1956). Overwhelming empirical evidence against such unconditional convergence has motivated a flurry of research over the past twenty years on "new" or "nonergodic" theories of economic growth (Romer 1986, Lucas 1988, Azariadis and Drazen 1990) and the microfoundations of poverty traps (Loury 1981, Banerjee and Newman 1993).[4]

This nonetheless remains a severely underexplored area of economic research. We know that financial market failures are especially important to the perpetuation of poverty. Such failures arise due to institutional problems associated with poor management and limited legal contract enforcement, to misguided government financial policies, and to the extraordinarily high cost of doing business in places with poor

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[3] The fall is necessarily unexpected – we will refer to them as "shocks" – for if one could anticipate a shock severe enough to push one past such a threshold, one would avert it if at all possible.

[4] Easterly (2001) offers an especially accessible, even entertaining, treatment of the evolution of growth theory and the empirical evidence on economic growth.

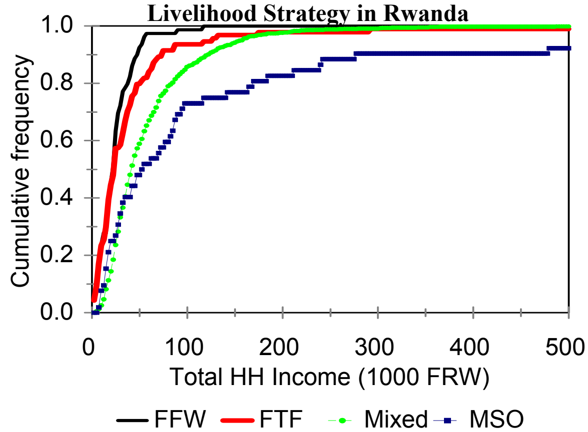
communications and transport infrastructure. Because financial products – credit, insurance and savings – permit people to decouple current expenditures from current income, they permit strategic investment (and prevent distress sales of productive assets) without forcing draconian sacrifices in terms of present consumption. Those without access to simple financial products are commonly trapped in chronic poverty.

Consider the case of a farmer in the little village of Iandratsay, in Madagascar's central highlands, who recently explained to me how he sells rice at harvest in order to pay his children's school fees and his hired harvest workers, but he then must buy back an even greater volume of rice six months later at a price effectively 85 percent higher (once one makes proper adjustments for different units of account, paddy-rice conversion and storage losses). Like many other small farmers, this gentleman is using the rice market as a quasi-credit market, at an implicit compound annual interest rate greater than 300%, because he cannot get interseasonal loans any place else. Yet he also laments his inability to muster the $60 he would need to upgrade from the local Zebu breed cow he has now to a higher-yielding European cross-bred cow producing more than twice as much milk. At current milk market prices, the extra milk would increase his income by $60 in just over one month. The lack of access to even a two month loan of $60 at an interest rate of 50% precludes this fellow from making a strategic investment that could significantly improve his and his family's situation.

Similarly, most poor rice farmers in Madagascar are not taking up a remarkable new rice cultivation method known as SRI, for the system of rice intensification, which was developed locally by a French missionary priest in Madagascar and which requires no purchased inputs such as improved seed or inorganic fertilizer. SRI has been repeatedly shown to double and triple rice yields in Malagasy farmers' fields and thus, at first blush, seems an excellent technology for helping boost the well-being of poor farmers and agricultural workers. Yet few poor farmers are trying it (Moser and Barrett 2003). There seem to be two big reasons. The first is, again, finance. The poorest farmers' hungry season begins as they exhaust their rice harvest from the previous season and begin preparing their rice fields for the next season. During this period, they have to find wage employment to earn cash with which to buy food for their families. Although labor productivity (output per day worked) increases significantly, on average, under SRI, this method requires some added labor investment early in the season and the reduced current cash income cannot compensate for higher future harvest when the farmer cannot borrow over the intervening season to feed his family. The second reason is that poorer farmers tend to have less land with poorer water control. SRI requires more careful water management than does traditional rice cultivation. A small farmer has to coordinate with many neighbors to get them all to switch to SRI if they are to get the water management right. That rarely happens. Such coordination failures among poor households are another prime reason for nonadoption of an exceedingly promising technology by the poor.

The point of the preceding anecdotes is that any solid understanding of the etiology of chronic poverty must confront the central role of human agency. People rationally choose strategies that leave them poor because superior options are either infeasible or unattractive to them, given the incentives they face. If one wants to help the poor, it is not enough to create wonderful new technologies. One must make them accessible and attractive enough that the poor will freely choose to change their behaviors in a way that can predictably grow their incomes over time, enable them to climb out of the poverty trap in which they find themselves ensnared.

Figure 2: Income Orderings by Livelihood Strategy in Rwanda



Moreover, not everyone's choice set is the same. Figure 2 (adapted from Barrett et al. 2000) depicts the cumulative frequency distributions of total income among 1079 households in Rwanda, organized into four distinct livelihood strategies. The farm and farm worker (FFW) strategy includes households that only work as unskilled agricultural laborers or farm their own land. The full-time farmer (FTF) strategy represents households that farmed their own land and livestock and had no off-farm employment. The mixed strategy includes non-farm employment with farming and unskilled agricultural labor. Finally, the mixed-skilled only (MSO) strategy involves only farming or skilled non-farm labor for a salary or as an entrepreneur. In Rwanda, full time farming (FTF) and especially farm and farm worker (FFW) livelihood strategies, are plainly stochastically dominated by mixed strategies, especially those involving only skilled labor and farming (MSO). One would never choose to draw an income randomly from the farm and farm worker cohort's distribution if one could instead draw from the mixed skilled-only group's distribution. These welfare orderings of livelihood strategies appear strongly related to barriers to entry that impede access to more remunerative livelihoods by those lacking the necessary financial, human or natural capital to undertake these activities (Dercon and Krishnan 1996, Barrett, Reardon and Webb 2001). Full-time farming is only an option for those endowed with enough land or livestock to absorb all the adult labor in the household. Skilled non-farm employment is only available to those with education, particular skills (e.g., blacksmiths, lorry drivers), or the necessary financial capital to start a business. Initial conditions matter.

Discipleship

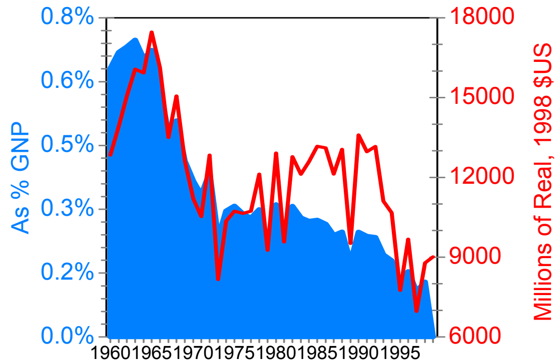
This leads directly to the importance of discipleship. A disciple eschews comfort and complacency in favor of constant seeking for new insights and challenges, albeit about a single, core Truth. The challenge of Christian discipleship is to go beyond merely asserting or displaying our faith to regularly venturing beyond our comfort zone in order that we might better discern and follow God's will.

The challenge of escaping poverty is strikingly similar. The poor must be willing and able to learn new skills and technologies, to acquire education, and to uncover and exploit new market opportunities in order to increase the productivity of the productive assets they hold and thereby increase incomes and other measures of well-being. The vast majority of the poor's productive assets are embodied in their labor power and, to a lesser degree, in the agricultural land they control. Hence the importance of public and private investment in improving agricultural technologies, as well as in education, at all levels, primary through tertiary. Education and technological improvement are the most direct and effective means of increasing rural labor and land productivity.

Perhaps the most basic lesson of Solow's (1956) Nobel Prize winning research is that economic growth requires technological change. Due to diminishing returns, mere accumulation of capital, land, labor or other productive assets cannot provide sustained increases in productivity, income or well-being. At the macro scale, almost all economic growth and poverty reduction is driven ultimately by technological change. Moreover, the constraints seem to exist largely at the macro level as well; I have yet to meet a poor farmer who did not want both to educate his or her children as long and as well as possible and to find new and improved ways of sustainably increasing his or her farm output and the earnings to be made per unit of output. The poor are prepared to practice economic discipleship but are too rarely presented the opportunity.

Economists and international donors would do well to keep the fundamental lesson of technological change firmly in mind. The research of another Nobel Laureate, Bob Fogel, emphasizes that technological change has been causally related to all significant improvements in human nutrition, physical stature and life expectancy in recorded human history. More recently, the 1960s and 1970s' massive investment in improving seed, fertilizer, irrigation and basic agricultural machinery, as well as in education at primary through tertiary levels led to rates of increase in literacy and life expectancy and decreases in malnutrition and poverty that were unprecedented in human history. So spectacular and important was the progress in cereal grain production that the Nobel Peace Prize for 1970 was awarded to a plant breeder, Dr. Norman Borlaug!

Figure 3: US Foreign Assistance Flows



Rates of growth in crop yields and in literacy and reduction of hunger and poverty began stalling out in the 1970s and then collapsed in the 1990s for a complex set of reasons related to global politics and recession, social and political unrest in much of the developing world, and a sharp shift in international aid modalities. Donors and governments began turning away from international assistance, especially the provision of global and national public goods through agricultural technology development and investment in rural feeder roads, schools, electrification, extension services, agricultural research institutions, and public security. This is evident in Figure 3 (from Barrett and Carter 2002), which shows foreign assistance flows from the United States, both in real (i.e., inflation-adjusted) dollars and as a share of national gross domestic product. Not coincidentally, a striking slowdown in poverty reduction began soon thereafter. Just like the poor themselves, individuals and institutions committed to helping reduce chronic poverty around the world need to practice discipleship, constantly seeking new insights and challenges so as to better discern and practice the single, core truth that technological advance is the only sustainable path out of poverty. Moreover, we need to heed Paul's instructions to the Corinthians as we consider how best to use our riches in a poor world:

> "For you know the generous act of our Lord Jesus Christ, that though he was rich, yet for your sakes he became poor, so that by his poverty you might become rich. I do not mean that there should be relief for others and pressure on you, but it is a question of a fair balance between your present abundance and their need, so that their abundance may be for your need, in order that there may be a fair balance. As it is written, "The one who had much did not have too much, and the one who had little did not have too little." (2 Corinthians 8:9,13-15).

Grace

Because income is merely the product of the asset stock one controls and the rate of return on those assets, chronic poverty necessarily arises from meager asset endowments, low rates of return, or both. Human agency plays an important role in establishing one's asset holdings and productivity, as already discussed, through the resource allocation choices people make, particularly their choices regarding investment in asset accumulation and in acquiring and learning new technologies.

Nevertheless, much progress is fortuitous, albeit predictable. One of my father's favorite phrases during my childhood was "you make your own breaks." There's great wisdom in that remark. There are consequences to our actions; our choices change the probability distributions we face over outcomes. But our choices are in no sense deterministic of those outcomes. Grace – the unmerited favor of God – is ever present, although remarkably underappreciated. For example, I am not a tenured professor at an Ivy League University because I am smarter or hard working than those who are not, but because I have been materially luckier than the many others who are at least as smart or hard working as I am. One reason that I so value spending time with poor households in my field research sites is that they force me to accept this fundamental truth. I marvel at the creative solutions they come up with to tricky problems, at their fortitude and industriousness, and, not least, at the injustice of their and their children's hopelessness and physical sufferings. My beautiful, healthy family and successful career are evidence of grace, of the unmerited love and favor God has showered on me.

God's grace may be no less present in the lives of the poor, but it is manifest in starkly different ways. Their suffering is, as Jesus tells us on curing the man who was blind from birth (John 9), an opportunity for us to witness God's power and to respond to God's call to love. For the things we possess are not really ours, but God's and we are called to acknowledge this through almsgiving and acts of compassion and selflessness. Luke 12 provides especially clear direction in this regard, instructing us to "seek his kingdom, and these things shall be yours as well", (12:31) and cautioning that "every one to whom much is given, of him will much be required; and of him to whom men commit much they will demand the more" (Luke 12:48).

Grace explains a great deal of chronic poverty. Most of the poor have simply not been as materially lucky as the non-poor have been. In the presence of crucial thresholds that create poverty traps, luck can have persistent effects, for good or for ill. Perhaps the simplest way to see this is to study the effect of one's genetic and material inheritance on one's subsequent earnings. Recent research on the United States[5] suggests that about 65 percent of fathers' earnings differentials relative to the broader population is transmitted to their children (Mazumder 2001), with that transmission rate growing over the past couple of decades (Levine and Mazumder 2002). Relatedly, a child born in the bottom 10 percent of the family income distribution in the United States has a 51 percent chance of ending up in the bottom 20 percent as an adult (Hertz as quoted by Krueger 2002). Economic status persists intergenerationally, even in the United States where, as we

[5] Unfortunately, there have been no good economic studies of intergenerational earnings or wealth transmission in developing countries.

have seen, there is relatively great economic mobility and most poverty is therefore transitory.

The role of chance in chronic poverty is perhaps best understood by the poor, who most commonly define their poverty in terms of insecurity, rather than low income levels (Narayan et al. 2000).[6] While it is often recognized that poverty breeds insecurity, the reverse is also true because insecurity distorts asset accumulation strategies. For example, in Africa, farmers cut the forests and deplete soil nutrients in response to price and yield risk. Food traders limit employment of able-bodied workers and sleep with their inventories for fear of theft. Families reduce food intake to cope with shocks, thereby diminishing children's educational attainment. Even in a good year in Madagascar, like 2000/1, only 21% of cultivated plots did not suffer production problems associated with water (too much, too little, too early or too late), pests, hail, plant disease, or wind damage due to cyclones. Once one controls for such risk, median farmers are technically efficient, although the output losses associated with environmental shocks commonly exceed one-third of potential output (Sherlund et al. 2002). But in the face of such risk, farmers rationally trade off yield for shock-resistance in cultivars, limiting their capacity to accumulate marketable surpluses.

The common denominator to these examples is that poor people respond to insecurity today in ways that compromise their capacity to build a better life for themselves tomorrow. Such behavior is rational. It reflects the constraints that affect the poor's capacity to pursue strategies needed to break out of the poverty traps that have captured them and the associated relief traps that have stymied contemporary development policy (Barrett and Carter 2001).

Stocks of financial, natural, manmade, and human capital help individuals manage risk so as to prevent vulnerability. Vulnerability goes hand in hand with asset poverty. Yet asset ownership is only a necessary condition against vulnerability. The poor can't eat currency or soil or the goodwill of neighbors or governments. They must have access to markets and technologies that enable conversion of assets into a sustainable stream of income sufficient to provide for a healthy life. International investment in improved agriculture, health, education and transport technologies for low-income communities and in basic market infrastructure has fallen sharply over the past decade as real aid budgets have dwindled and been increasingly absorbed by emergency relief, tied exports, and macroeconomic policy conditions. This trend must be reversed.

The past two decades' emphasis on extricating government from markets has not been matched by equally necessary emphasis on fostering state support for efficient and fair markets in which the poor can fully participate. Further liberalization and preferential trading arrangements that open OECD markets to exports from low-income countries

[6] These next three paragraphs draw heavily on Barrett and Carter (2001).

will surely help those who enjoy the necessary access to technology and domestic factor markets. But these measures are unlikely to assist the structurally poor whose condition is defined by their exclusion from these markets. Relief of debt that was not being serviced in the poorest countries will do little to stimulate investment in creating market-based opportunities for the poor. Both debt relief and trade policy reform attempt to address poverty problems without committing the real resources needed to unlock poverty and relief traps. Real aid flows must be restored to previous levels and focused more on ex ante crisis mitigation than ex post crisis response. In the short term, there is an undeniable need for emergency assistance. This implies the need for extraordinary short-term increases in development assistance if serious efforts are to be made at crisis mitigation without reducing crisis response budgets. If this is not done, more than one billion people living in extreme poverty -- on less than one dollar per day -- will not escape the vulnerability and poverty traps in which they are currently caught, and aid programs will remain ensnared in related relief traps.

Transformation:

By God's grace we are transformed, given not just life but life everlasting. The point of the preceding discussion is that by grace, be it in the form of the stock of productive assets one owns or of a positive shock to one's productivity or to the price of those things one sells, the prospects of the poor can be transformed. There are tipping points associated with critical thresholds. Those who can clear those thresholds enjoy reasonably good prospects in life. But relatively few are able to do this entirely on their own. There is a crucial role for well-placed assistance.

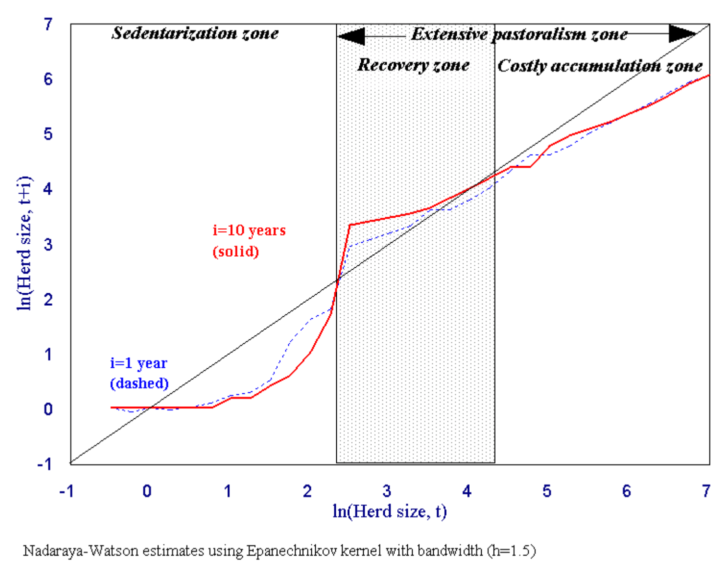


Figure 4: Herd size transitions among southern Ethiopian pastoralists

Economists are only just beginning to identify such thresholds in longitudinal data on poverty. For example, herd history data among Ethiopian pastoralists shows how a minimum sustainable herd size threshold creates a poverty trap in drylands of the Horn of Africa. Figure 4 (adapted from Lybbert et al. 2002) shows how herd size next year evolves from herd size this year. The solid curve in the figure is a best statistical estimate of the actual pattern of accumulation and deaccumulation among Ethiopian pastoralists. When this curve lies above the dashed diagonal line, it indicates expected positive growth in the household's herd size from one year to the next. When the curve is below the diagonal line, it indicates deaccumlation; next year's herd is expected to be smaller than this year's. As stands out very clearly in the figure, households with less than 12-15 tropical livestock units[7] tend to suffer declining wealth. Herds below that size cannot viably undertake the transhumant migration necessary to sustain a herd in a semi-arid region characterized by sharp spatiotemporal variability in forage and water availability. Households that fall below this critical minimum threshold enter a downward spiral of poverty, becoming involuntarily sedentarized. In contrast, households whose initial stocks exceed this threshold, or who can be lifted above this threshold through one-time transfers, are expected to accumulate cattle into the future, with the data showing that a herd size of 60-75 animals is sustainable in the long run. The challenge facing economists today is to identify why and where such poverty traps exist and what interventions can most effectively transform the prospects of the chronically poor, putting them on a new and materially better accumulation trajectory.

A farmer with whom I recently visited in the rural Malagasy village of Ambatomainty, Mr. Basile Rajaonarison, credits a government development project's gift of a single cross-bred dairy cow almost 20 years ago with having changed the course of his life. He inherited relatively little land, not enough to feed his family. That one cow made all the difference, he says. With subsequent training in livestock husbandry – Mr. Rajaonarison proudly displays his training certificate to anyone who asks – and the good fortune of living near a road along which the country's main dairy processor collects fresh milk daily, he has been able to buy irrigated rice land and to grow his herd to five cattle, becoming one of the wealthiest farmers in a sample of 230 households. Well timed and calibrated transfers can make a huge difference.

The Poverty of Economics

In the preceding section, I have argued that contemporary economics offers crucial insights into the causal mechanisms behind chronic poverty and valuable guidance as to what must be done if we are to heed Christ's call to serve the poor. The discipline's analytical toolkit is both diverse and powerful, emphasizing axiomatic logic and precision in theoretical and empirical analysis. The formalism of economics contributes immensely to thoughtful stewardship and has not yet begun to be fully exploited by those who commit themselves to serving God by assisting the poor.

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[7] Tropical livestock units (TLU) are a cattle equivalent index used to aggregate multi-species herds based on live weight of approximately 250 kilograms. 1 TLU = 11 sheep = 10 goats = 1 cattle = 0.7 camels.

Unfortunately, within the discipline sometimes the tools become idols unto themselves.[8] Of particular concern to those of us who work on the economics of poverty, economic theory is too often taken to be truly universal in all of its details, although many of the assumptions fundamental to mainstream theory are socioculturally specific and lack empirical support in poor communities throughout much of the world (Barrett 2003). This leads to misplaced confidence in the predictions and prescriptions of some bread-and-butter elements of graduate economics training, manifest most tangibly in widespread free market idolatry within the profession.[9]

Similarly, while many facets of the phenomenon of poverty can be quantified and rigorously analyzed using the economists' empirical toolkit, not all of the salient issues are best approached via my discipline (Kanbur 2002, 2003). The humanities and other social sciences hold clear absolute as well as comparative advantage in exploring some important dimensions of human suffering and we economists need to recognize this and yield accordingly. For economics is itself poor, in the sense of palpably lacking in some key attributes, and it needs assistance no less than the poor do. The remainder of this paper highlights a few areas of particular importance in which I believe we economists could learn much from our colleagues in other disciplines.

Metrics of Poverty

Economists understand as well as anyone that the experience of poverty extends well beyond low income or consumption. Yet we struggle to move beyond these imperfect indicators, other than to similarly quantifiable measures such as literacy rates, anthropometric measures of health and nutritional status, and the like. The danger, of course, is that economists concerned about poverty may unwittingly contribute to a reductionist approach that emphasizes the material and measurable over the nonmaterial and nonmeasurable, although one surely cannot order these so neatly in a hierarchy of human needs and the Gospel message plainly elevates the spiritual above the material. This suggests a crucial role for other social scientists (in particular, anthropologists, psychologists and sociologists) in helping keep firmly in mind the sociocultural foundations of chronic poverty and the tradeoffs that may exist between material and nonmaterial benefits. The inherent limitations to the economists' metrics of poverty likewise imply a need for ethicists, moral philosophers and theologians to remind us regularly of the other metrics by which quality of life must be judged, such as

[8] Axel Leijonhufvud (1973) long ago made similar observations in a wonderful ethnographic parody of economics as a "tribe" within which "status is tied to the manufacture of certain types of implements, called "modls." … [And] that most of these "modls" seem to be of little or no practical use, [which] probably accounts for the backwardness and abject cultural poverty of the tribe" (p.328). He adds that the most "exquisite modls [are] finely carved from the bones of walras" (p.334), referring to Léon Walras, the late 19th century father of modern, formal general equilibrium theory.

[9] On both the libertarian and the communist ends of the political philosophy spectrum, one finds a disturbing tendency to celebrate and honor the created – the market or the state – instead of the Creator, a sort of pantheism that puzzles me among monotheistic descendents of Abraham.

physical and mental health, the experience of love, the fulfillment of moral obligations, or the celebration of the mystery and beauty of God's creation.[10]

Consider one example that has long troubled me within mainstream economics: what is the value of work? The standard economic approach depicts work as merely a means for converting one's endowment of available labor time into cash one can spend on goods and services that bring satisfaction. More refined treatments assign a value to leisure and thus some disutility to labor, disutility that must be compensated for through material earnings. Yet such a view suggests that the human's are valued for what they have or what they consume rather than for what they are: children of God, made in the Creator's image. Indeed, the Christian Church's special love for the poor affirms that human dignity arises from our createdness by God rather than from the things we create or consume. The disciplines of work help define individuals' identity, reinforcing who we are and the way(s) in which we use the talents we are given to honor God. Failing to recognize the intrinsic value of work as a manifestation of human agency and talent bestowed on each of us by the Creator, we economists tend to undervalue the role of employment generation in poverty reduction.

The trap of imperfect metrics may be of special concern to the Christian. Wise spiritual advisers have repeatedly cautioned me to guard against viewing the poor as unlucky across the board. The poor enjoy God's grace no less than the rich do. We must be careful not to mistake our frequent failure to comprehend God's plan in allowing some people to be and remain poor for some failure by either the poor themselves or by God to care for these children of His. Chronic poverty is likely more a sign of our failure to heed the opportunity to honor God by compassionate service to the poor, rather than of the poor's individual moral failings or God's inattentiveness to their plight. At the same time, we need to be careful not to fall into the Gnostic trap of celebrating the spiritual over the material to the point of diminishing the palpable suffering of the chronic poor. This is a difficult balance to strike, one I struggle with constantly.

Powerlessness

The World Bank's most recent decadal statement on poverty, the *World Development Report 2000/1* (World Bank 2000) and its affiliated Voices of the Poor project (Narayan et al. 2000) emphasize in particular the importance of powerlessness and insecurity to the poor's own understanding of their situation. The indisputable role of "governance" in development and poverty reduction has become something of a fad in economics of late. The problem is that we economists are poorly equipped to handle these issues with skill because political support turns on more than voters' base material interests. How does one model charisma or venality? And whose charisma or venality is of greatest concern?

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[10] Barrett (1999) offers a simple attempt at accommodating deontological constraints within the inherently consequentialist framework of microeconomic theories of choice.

Discussions of the political economy of poverty reduction tend to focus on corruption and autocratic behavior in developing country governments. Sadly, there remains ample ongoing justification for such concern. But what about the power of greed and superficial pandering to base interests in our own communities and politics? For example, while international assistance to poor farmers has been falling sharply in real terms, as discussed previously, assistance to wealthy farmers in the United States, Europe and Japan has been rising significantly. Today, the EU, US and Japan combine to spend just under $1 billion a day on agricultural subsidies that benefit less than half – and disproportionately the wealthier –farmers in our countries. While more than half the world's population lives on less than $2/day, the Europeans' agricultural subsidies come to $2.50/day per European cow and the Japanese's farm payments come to more than $7/day per Japanese cow! Domestic farm subsidies in wealthy countries amount to more than six times what is contributed to international development and relief efforts combined. Can we really speak truth to power in developing countries while capitulating to gross pandering to political power in our own countries?

The Swahili peoples of coastal east Africa have a wonderful proverb that captures the essence of the problem beautifully: "Tembo wanapopigana nyasi huumia," which translates as "When elephants fight, the grass gets hurt." The assets the poor control and the incentives and risks they face tend to be conditioned more by power politics than by the technical details of economic policy, as has been abundantly clear through decades of Cold War proxy battles, ethnic cleansing, electoral contests in newly democratizing nations and innumerable resource conflicts among local elites. Concurrent government failures, market failures and community dysfunction are an unpleasant reality in most of the developing world. In such settings, the raw exercise of economic and political power, even if only at rare, conjunctural moments as during drought or civil strife, give rise to what the geographer Michael Watts (1983) vividly and aptly termed "silent violence."

Vulnerability

In spite of generally greater risk aversion, the poor face considerably greater risk than do the wealthy. Easterly (2001, p. 197) reports that "between 1990 and 1998, poor countries accounted for 94 percent of the world's 568 major natural disasters and 97 percent of disaster-related deaths." The rural poor are far more likely to fall victim to violent crime in Madagascar than are urban or peri-urban residents (Fafchamps and Moser 2002). And worldwide, the poor are several times more likely to suffer injury or illness than are the rich (Prasad et al. 1999). Plainly, an understanding of risk and vulnerability is central to a solid understanding of poverty.

Economists' conceptualization and analytical treatment of risk nonetheless leaves much to be desired. When understood as the degree of curvature of a fictive utility function, as convention has it in the discipline, risk preferences are inherently indistinguishable from time preferences and variance is then generally taken as a measure of risk as if upside and downside deviations were of equal importance to people. The most recent Nobel Prize in Economics was awarded to Princeton's Daniel Kahnemann for, among other things, pointing out the deep flaws to this approach to understanding human behavior. Individuals' response to risk cannot be reduced simply to preferences that are linear in probabilities; rather risk assessment and preferences appear to be a product of history and context.

Limited recent evidence also suggests that economists have tended to overemphasize the extent to which risk is covariate across individuals. As mentioned earlier, crop yield shocks are ubiquitous even in good years and vary markedly across farms (Sherlund et al. 2002). So too is livestock mortality among pastoralists experiencing cycles of drought and recovery on common property rangelands in southern Ethiopia explained almost solely by household-specific factors rather than community-level factors (Lybbert et al. 2002). Because the experience of risk and vulnerability extends beyond the mere exposure to objectively measurable, biophysical perturbations such as rainfall or cyclones, encompassing subjective perceptions based on past experience and potentially idiosyncratic capacity to mitigate (*ex ante)* or cope (*ex post*) with adverse shocks, vulnerability has proved a far more complex phenomenon than reflected in my and others' work in economics.

The moral underpinnings

There is an important implication of risk and vulnerability being more individual-specific than highly covariate within communities: risk management could effectively take place within communities. The need for outside assistance to stabilize consumption around the local mean may be minimal if people can work together, although external transfers may still be essential in order to raise average local consumption. This introduces my final point on the poverty of economics: much of the source of vulnerability, powerlessness and chronic material poverty in the world arises due to failures of coordination and cooperation within poor communities. Economists are struggling to understand and model such phenomena,[11] but our graduate training ill equips economists for such questions.

Markets, governments and communities each depend fundamentally on trust, on a generalized morality inculcated and reinforced from the earliest years of childhood by families, schools, churches and the myriad institutions of civil society. Where generalized morality and trust deteriorate, the problems of powerlessness and vulnerability multiply, gains from trade go unrealized, coordination and cooperation falter, economic growth slows, and poverty mounts (Platteau 1994, Barrett 1997, Platteau 2000). Mainstream economics makes little space for addressing these phenomena. Within the inherently consequentialist architecture of our discipline, emphasis falls on (pentateuchal) procedural justice far more than on the restorative justice and redemption

[11] Hoff et al. (1995) offers especially good treatment of these issues

celebrated in the New Testament. Further, the profession's more positivist pockets explicitly eschew the prophetic tradition, the need to speak out against bad policy, corrupt leadership, and the exploitation of the weak. By our silence, we prove our poverty.

Conclusion

There is no unique Christian approach to economics, nor to the economics of poverty. The discipline has posted important recent advances in understanding and addressing chronic poverty. Important obstacles nonetheless remain. In order to surmount those obstacles, economists will have to continue to look to other disciplines in order to gain a richer understanding of poverty, its causality and how we individually and collectively can reduce its intensity, pervasiveness and persistence. Without sacrificing that necessary humility, we must be emboldened to make use of the valuable tools with which God has equipped us. In this spirit, I close by quoting the inspired words of Nelson Mandela's 1994 inaugural address as President of the Republic of South Africa:

> "Our deepest fear is not that we are inadequate.
> Our deepest fear is that we are powerful beyond measure.
> It is our light, not our darkness, that most frightens us.
> We ask ourselves, who am I to be brilliant, gorgeous,
> talented , or fabulous?
> Actually, who are you not to be?
> You are a child of God.
> Your playing small doesn't serve the world.
> There is nothing enlightened about shrinking so that other
> people won't feel insecure around you.
> We were born to make manifest the glory of God that is
> within us.
> It is not just in some of us; it is in everyone.
> As we let our own light shine, we unconsciously give other
> people permission to do the same.
> As we are liberated from our own fear;
> Our presence automatically liberates others."

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