Discussant comments on "Assisting the Escape from Persistent Ultra-Poverty in Rural Africa" - April 27, 2011

William A. Masters,[1] Professor of Food Policy, Friedman School of Nutrition Science and Policy, Tufts University

Chris Barrett's paper and presentation for this symposium is very rich in detail offering many starting points for discussion. Following his work can be a challenge, since he writes faster than most of us can read! A quick check on Google Scholar reveals the many other articles that cite his research and build on his ideas in multiple directions.[2]

My job is to open up discussion here today at Stanford, and also for those joining this symposium later on. Professor Barrett's summary of the pathways out of poverty is admirably specific and clear, so there is no need for me to restate any of it. Instead, I would like to spark discussion with a bit more context, and to frame these ideas in a way that might open up further dialogue from a variety of perspectives. I will do that first in terms of methodology and style of research, then in terms of research findings and their implications for poverty reduction.

Methodology

Some of the most striking features of today's symposium involve research methods. Barrett's approach offers an extremely valuable way of thinking, which helps account for the wider success of his work.

One feature of Barrett's methods that I hope everyone appreciates is his balanced approach. He avoids monocausal hypotheses, and instead, explains observed outcomes as the result of some kind of interaction between multiple causes. The goal is to identify a structural system in which outcomes are not determined by any one force, but rather by the way in which many forces interact. For example, outcomes might depend on the interaction between each year's income and a cumulative stock of assets, or between an average level of returns and the riskiness of those returns, or between individual and group characteristics.

Barrett's focus on a structural system of interactions is of course an attribute of economics in general, whereby economists try to explain each observed outcome and predict changes as being an equilibrium among forces. He makes it look easy, but it is very difficult to keep an eye on several forces at once, see how each one operates and how they interact, without jumping to the conclusion that any one of them actually dictates the outcome. Thinking in terms of equilibria among many forces can help make discussions more productive by avoiding determinism about negative outcomes, and revealing opportunities to intervene in the system so that it works better. Those 'points of entry' as Barrett calls them are collective actions, guided by a research-based diagnosis, that reveal how to overcome the market failures and political-economy constraints that currently limit the speed of poverty reduction, especially in Africa.

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[1] Professor of Food Policy, Friedman School of Nutrition Science and Policy, Tufts University. Contact: William.Masters@tufts.edu; http://sites.tufts.edu/willmasters.
[2] As of this writing, such a search can be conducted as: www.google.com/scholar?=&q=c.b.barrett.

An empathetic approach

A second key feature of Barrett's approach, which others and I appreciate, is the empathy he shows towards the decision-making of the ultra-poor. That is, trying to understand their choices from their point of view. Again he makes it look easy, but in fact it is very difficult to understand the choices of other people in a helpful way, especially when many of the outcomes for them are so awful. All too often, analysts think of people in bad situations as either passive victims of circumstance, or as having made bad decisions. Here again, the empathetic approach that Barrett uses is characteristic of good economics in general. To understand poor peoples' decisions from their point of view requires the use of constrained optimization; however, calculus is not needed to understand the basic idea. Economics research starts by admitting ignorance about what other people want, assuming only that their observed choices must have optimized something. The task is then to ask what objectives and constraints could have led them to choose what they did.

Barrett uses optimization very skillfully, starting from faith that even the very poorest are already doing the best they can. He then looks for explanations in the structure of each person's objectives and constraints and the resulting outcome in interactions with other people. Following his approach also helps make discussion more productive. Once a constraint or structural trap is diagnosed, it can perhaps be sprung through collective action, informed by that diagnosis.

To advance the discussion I would like to zoom out from the specific results of Barrett's very detailed fieldwork in Kenya, Ethiopia, and Madagascar, and to frame those findings in terms of much broader, long-term forces. Over the long span of history, it seems clear that rural Africans were driven into extreme poverty much more recently than the poor in Asia, and have only just begun to escape from that poverty in the past decade. It seems promising to search for common underlying forces, whose parameters might explain the speed at which specific interventions are most needed.

Results and implications

To frame Barrett's findings in a more general context, I would like to look at two broad dimensions: the extent of poverty and the distribution of income at a given time, and then, the changes in that distribution as it moves from year to year. This approach will help place the experience of the ultra-poor in the context of the entire income distribution, and their escape from poverty in the growth dynamics of an entire society.

Economists who study inequality generally find that income is distributed asymmetrically, with a mass of poor people and fewer rich people. This skewed outcome has been found almost everywhere that income has been measured, and is typically approximated by a log-normal distribution. Many structural processes could lead to such an outcome, but the simplest explanation for the skewness is that underlying variations interact multiplicatively rather than additively. For example, if it takes money to make money, or more generally if one advantage begets another, then income distribution will be skewed in this way. Over time, however, income distributions do not always become more skewed. Diminishing returns may set in to limit how fast money begets money, thereby slowing the pace at which the rich get richer so that the poor

can catch up. One of Barrett's many useful ideas is thinking of interventions to help the poor as being a 'cargo net' rather than a 'safety net', where the goal of the intervention is to help the poor rise rather than to prevent their fall.

Barrett's work is quite technically sophisticated, so for discussion purposes I would like to frame it in what I think is the simplest possible story about income distributions and its change over time. The goal here is to explain why there might be a mass of people in poverty, from which some can rise at different speeds, if they are helped by appropriate intervention.

The (over) simplified model I find most useful explains income distribution as resulting from half of a group being relatively lucky, and the other half unlucky. Furthermore, half have relatively high skills, while the others are unskilled. This is a 2x2 example of what in reality would involve many different abilities and sources of income. The system can be symmetric in every dimension, but if it takes skill to use luck, then only those who are both skilled and lucky can escape from poverty. In the simplest 2x2 example, three-quarters of the members would be relatively poor because they were either unlucky or unskilled or both, and only one-fourth escape from poverty. In Barrett's terms the unskilled are 'structurally' poor, while the skilled will fluctuate stochastically in and out of poverty.

To see how income grows over time, another feature is needed in the model. There must be some way to save and invest in man-made capital, making for a 2x2x2 model. There are many kinds of capital, of course, and if the capital that is introduced requires both skill and luck to make income, then the rich get even richer and income distribution becomes even more skewed. On the other hand, if the capital can be used directly by the poor, it will help them advance and perhaps even acquire the same skills that the rich used to get ahead in the first place. That process would make income distribution less skewed.

In reality, as the old cliché says, the rich get richer… and the poor get children. Demography and population growth are two influences on poverty that Barrett rarely addresses in his work. He is in very good company in abstracting from population growth, because almost all development economists now realize that population density is no absolute barrier to poverty reduction. The issue is rather how demographic structure changes during the demographic transition, particularly in two dimensions: first by changing the mix of ages in the population, and second by changing the number of farmers and hence the area of land available per farmer.

The role of changing age structure in economic growth has been well explored since Bloom and Williamson's research (1998). They show how historical patterns of demographic transition – in which socioeconomic improvements lead to child mortality decline followed by a decline in fertility – creates an initial rise and then a fall in children as a share of the population. This 'demographic drag' can slow economic growth as it did earlier in Asia and even more so in Africa a few decades later. However, the later 'demographic dividend' can help accelerate growth when child dependency rates fall. The fraction of people available for productive work is now rising in Africa, as it did earlier in Asia, offering a powerful opportunity for faster income growth in each household and for the economy as a whole.

The influence of demographic transition on land area per farmer is less well understood among economists, but it has special resonance in this particular setting. Professor Bruce Johnston worked here at Stanford for the entire second half of the 20th century. One of his most important discoveries was how demographic transition, when combined with the growth of nonfarm employment, changes the land available per farmer.

In the early 1970s, Johnston's findings from Asia led to his clear prediction for Africa. Even if nonfarm employment grew at world-record speed, the small fraction of Africans who already had nonfarm employment ensured that the absolute number of farmers would grow for several decades before it could fall (Johnston and Kilby 1975). Johnston's prediction was that Africa's rapid total population growth could not be absorbed through urbanization. As a consequence, the decline in land area per farmer would drive them ever further into poverty. He stressed this Malthusian phase of development would eventually come to an end as cities grew and absorbed more workers. The implications of this idea for modern African are illustrated in Masters (2005, 2011).

The arithmetic of rural population growth helps explain the dramatic worsening of African poverty through the 1990s. When available land per farmer is falling, that land gets used with increasing intensity of labor, capital and other inputs per acre, but diminishing marginal returns drive down each worker's earnings and living standards. The speed and timing of this decline depends on how fast the country's total workforce is growing, how fast nonfarm employment grows, and also on the fraction of workers already in nonfarm employment.

To see how this matters for income distribution and growth, I return to the simple 2x2x2 model, and recognize that capital accumulation mainly pulls people up out of poverty through nonfarm employment. The distribution of agricultural income generally falls further and further behind the distribution of income from services and industry, both rural and urban, until nonfarm employment outgrows the total population. At that point the absolute number of farmers can begin to fall, acreage per farm family begins to rise, and the distribution of farm income begins to catch up with the distribution of nonfarm income. Development specialist, Peter Trimmer, has shown how this leads to a U-shaped curve in agricultural as opposed to nonagricultural incomes; contributing to the overall problem of poverty worsening before it improves (Timmer 2009).

This fall-and-then-rise relationship in land per farmer and hence farm living standards is driven fundamentally by the arithmetic of demography and migration. So returning to the simplified model of income distribution and growth, it is useful to the think of two separate sources of income: earnings from agriculture follows a 2x2x2 model in which earnings depend on farmland per worker; in contrast, earnings from nonfarm work can grow without that constraint.

In conclusion, I hope that the development profession can sustain Barrett's very productive approach of balanced explanations (equilibrium) with empathy towards the decisions of the poor themselves (optimization). It is important that we see how the poverty traps he documents are embedded in the larger economy wide distribution of income. Finally, I am concerned about the several decade-long impact population growth has farmer income. Growth drives down land per farmer and hence farmer income, and until that trend reverses, farm income will be unable to catch up to nonfarm income.

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