

‘Dollar a day’ poverty was a development mileage marker, not the destination

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Abstract. A 10 percent gain in consumption expenditures in the 13 largest developing countries produces, in 2017 PPP units, \$2.3 trillion dollars in gains to 4.5 billion people. I use simulated data of the distribution of consumption or income in each of these countries to ask: “How much of that 2.3 trillion in gains accrues to the global poor?” If we assume that “global poor” means those who are poor by the standards for poverty used in the rich industrial countries of the world and we assume “inclusive growth” means equal percentage growth across all households, then the 2.35 trillion gain overall produces P\$1.8 trillion in gains for the over 4 billion people who are globally poor by this standard: three quarters of the gains go to the global poor. Completely on the other hand, if one uses the ‘dollar a day’ poverty line first adopted by the World Bank in 1990 then only P\$58 billion, now at P\$2.15 per person per day, then less than 500 million people are poor and only 2.5 percent of the gains of inclusive growth in the largest countries in the developing world accrue to the “global poor.” Even of the 10 percent overall gain comes from a very “pro-poor” distribution of growth in each country only P\$70 billion (3 percent) of growth gains accrue to the ‘dollar a day’ poor. If “global development”—meaning both the actions of the broad array of actors who claim to be engaged in development and the field of research and study of the development process—is to remain relevant to improving the wellbeing of those in the developing world, then “development” must abandon the archaic ‘dollar a day’ standard as the primary (much less exclusive) measure of development progress. Sticking dogmatically to ‘dollar a day’ (or other low-bar poverty definitions) makes “global development” increasingly irrelevant to the powerful and legitimate drive of developing country citizens to improve their material standard of living and to the governments in the developing world.

‘Dollar a day’ poverty was a development mileage marker, not the destination

Introduction

The late Hans Rosling famously demonstrated that monkeys knew more about the conditions in developing countries than did his Swedish Masters students as monkeys knew nothing, while his students knew lots of things that just were not so. In *Factfulness* (Rosling, Roslind, and Ronnlund 2019) show the typical person in the developed world failed to appreciate the magnitude of progress there has been on average in the “developing” world across an array of indicators (schooling, child mortality, fertility, poverty) and, at the same time, the variability of that progress across countries. This combination of sustained progress on average with variability across countries means a characterization of the world as divided into two categories of “rich” and “poor” or “developed” and “developing” or a “first world” and a “third world” are now worse than useless as these broad categories blind people even to obvious facts about global progress, even though popular works by prominent economists have done their best to persuade (Kenny 2011, Deaton 2014).

Massive but variable global progress also requires those working in the field of development to periodically re-assess which of their adopted goals represent complete visions of the journey and which are just mileage markers. The global education movement always had the long-run vision that youth should emerge into adulthood with the broad set of learning, knowledge, skills, and characteristics that would allow them to succeed as adults. A necessary, but never imagined to be sufficient, intermediate goal to universal education was universal schooling. But as many countries have nearly achieved universal basic schooling, with nearly every child enrolling and completing primary and basic grades, there has been a (re)emergence of goals for education that (re)acknowledge that schooling was just an intermediate goal, like the goals in the Sustainable Development Goals (SDG) and a recent goal to eliminate “learning poverty.”

The ‘dollar a day’ per person per day standard was first proposed in Ravallion, Datt, and van de Walle (Ravallion, Datt, and van de Walle 1991) and adopted in the World Bank’s 1990 World Development Report on poverty (World Bank, 1990). This ‘dollar a day’ poverty line is now, with inflation and other changes in the measurement of purchasing power parity, has become the P\$2.15 per person per day (pppd) poverty line. This updated ‘dollar a day’ is so widely used that Wikipedia refers to it “the” international poverty line. I argue that the world has (mostly) outgrown the usefulness of the ‘dollar a day’ poverty line and that treating ‘dollar a day’ poverty as a primary goal of development is causing more harm than good.

I simulate the scenario in which expenditures are 10 percent higher for everyone, that is equal percentage growth across the income distribution, in the 13 largest population developing countries, this would produce P\$2.35 *trillion* in gains for the 4.5 *billion* people in these countries. Yet, at the penurious poverty line of P\$2.15 used by development agencies, how much of this universal 10 percent gain would benefit “the poor”? Only P\$58 *billion*. Only 2.5 percent of the gains from inclusive growth developing countries would accrue to the ‘dollar a day’ poor. Even if growth were very “pro-poor” such that percentage gains to the poorest households were three

times faster than the richest category of households, only P\$70 billion of the P\$2.35 trillion gain goes to the ‘dollar a day’ poor.

The ‘dollar a day’ poverty line is now so low relative to the levels of income in the developing world that treating the *extreme poverty* as the primary goal of development (as opposed to one of many mileage markers of progress) leads to an emphasis on *exclusion*, both across and within developing countries. The emphasis on cost effective actions to reduce ‘dollar a day’ leads to a focus on *targeted* projects and programs which means a focus on how to *exclude* people from the benefits of development. In this logic, benefits, even to the near-poor, are called *leakage*.

This emphasis on benefiting *only* those below a poverty line might make sense if the human wellbeing gains from additional income was dramatically lower, or near zero, for those above the poverty line. But that is precisely what is not true of the ‘dollar a day’ line—by design. The ‘dollar a day’ poverty line was only ever justified as the *lowest* a poverty line could be. But when the poverty line is at its lowest then income gains to those above that poverty line are very important to human wellbeing across a wide array of indicators (about equally important to those at the poverty line)—facts which are easily demonstrated with both micro (Pritchett and Spivack 2013, Pritchett and Viarengo 2024) and aggregate data (Pritchett 2022, Pritchett and Lewis 2023). Nearly all of the 4.5 billion people who would benefit from inclusive growth in the developing world are not “globally rich” but rather people with standards of living that are small fractions of even the poor of the developed world with income levels where additional consumption is highly valued. Development actors broadly agree that “inclusive growth” or “shared prosperity” -- broad-based, inequality neutral (or pro-poor), sustained increases in the standard of living in developing countries—is an important goal and have, to date, just papered over the massive contradiction between this and adopting a low-bar poverty goal¹.

An emphasis on addressing poverty with targeted programs might also make sense if inclusive growth had failed to delivery on poverty reduction. But it is easy to show that precisely the opposite is the case. That is, near 100 percent of the observed differences in poverty across countries and over time is accounted for by differences in the consumption of the typical (median) household (Pritchett 2020). Improvements in the overall level of income/consumption has been an empirically necessary and empirically sufficient condition for poverty reduction, at any poverty line.

¹ There statement is crafted so that even most of those who oppose “growth” as an objective would agree as most opposition to growth is either because: (a) aggregate measures of growth ignore its distribution and if growth incidence is strongly “pro-rich” (as it has been in the USA, for instance) whereas I am specifying both growth and its distribution, (b) in the now rich, industrial countries the levels of material wellbeing are already very high and the incremental gains to wellbeing from growth are small, whereas I am focused only on developing countries, which are at average levels of income one-third or less the rich industrial world, or (c) the idea that growth is deteriorates the quality of the natural environment in a variety of ways, whereas I caveat “nearly all” measures of human material wellbeing are improved by broad based growth starting at low levels.

Where development is today is that the World Bank estimates only 4.93 percent of people in Pakistan in 2018 who were P\$2.15 poor. This means that equally distributed growth in income or consumption (or any other developmental gain) does not primarily benefit ‘the poor’ because only 1 in 20 Pakistanis are, by this global poverty line, poor. Moreover, since the poor are poor, increasing the consumption possibilities of Pakistan’s population is necessarily made to look, by a penurious global poverty line, like very little of the benefit is going to the “poor.” But I hope that everyone reading this paper can agree that a definition of “global poverty” that only counts 1 in 20 people in Pakistan as “poor” enough to be of concern for development efforts has gone badly wrong. Whatever the merits of using ‘dollar a day’ in 1990, is no longer useful as a guide to current and future discourse, research, and action on development.

Fortunately solving the problems created for development actors by the mismatch between the antiquated ‘dollar a day’ poverty line and current development priorities is easy. Just stop. Recognize that ‘dollar a day’ was just mileage marker to be passed, never really a destination, and progress has meant that marker is mostly passed and hence no longer of great relevance. “Extreme poverty” can of course continue to be measured and reported but no longer treated as “the” poverty line or as “the” development goal.

This vision of using an array of poverty lines is already embedded in the SDGs where the overarching goal is “Eliminate poverty in all its forms everywhere.” While the SDGs retain one target for “extreme poverty” there is another target is for the reduction of poverty at national poverty lines. A sensible approach to retain measures of extreme poverty, increasingly emphasis country poverty lines in national plans and strategies, and adopt an “upper bar” global poverty line as the highest a poverty line can be as the logical counter-part to ‘dollar a day’ as the lowest a global poverty line can be.

This turns attention to the question of what is the upper bar global poverty line. Angus Deaton once said (but may no longer aver), he was all for “poverty” analysis--as long as the “poverty line” is infinity². The World Bank’s Poverty and Inequality Platform (PIP) is structured to report on three poverty lines: P\$2.15, P\$3.65, P\$6.85. Infinity seems too high and P\$6.85 seems to low. Many of candidate “upper bar” lines have been proposed. Pritchett (2006) proposed the World Bank use poverty lines more reflective of its shareholders than of its borrowers at suggests at line of around P\$10 per day (at earlier prices, which would be more like P\$20 today). Nancy Birdsall (2014) rightly objects to calling those above a low-bar poverty line the “middle class” and proposes a line like P\$10 for “global middle class” and some label like “strugglers,” “vulnerable,” “anxious poor,” or “strivers” for those between P\$2 and P\$10. Max Roser has been critical of too exclusive an emphasis on “extreme poverty” and has (with others) propose a poverty line of P\$10.89 per day (in 2012 prices) as the minimum needed to access to

² “Infinity” as a poverty line may sound facetious but if, as an empirical fact, there is no satiation in subjectively assessed life satisfaction (if not emotional wellbeing) as suggested by Deaton and Kahneman (2010) and documented more fully by Stevenson and Wolfers (2013) then the standard Foster, Greer, Thorbecke (1984) poverty measures could only satisfy the standard axioms of a non-paternalistic welfare measure at a poverty line of infinity and so, as is often the case, Deaton is making a correct and important point in a pithy way.

basic health care (Sterck et al 2018). The Our World in Data website reports the standard World Bank poverty lines but also provides data on those living on less than much higher levels, like P\$10 and [P\\$30](#) (as representative of rich country poverty lines). Even the think tank of the consulting firm McKenzie (2023) has gotten into the poverty business and proposes a line of P\$12 as a threshold of “empowerment.” A companion paper with Martina Viarengo (Pritchett and Viarengo 2024) takes the analytic properties of a poverty line seriously as estimates with household and aggregate data an upper bound global poverty line based on where it might be reasonable to take zero as even a loose approximation of the level of income at which important gains to wellbeing for which, provisionally, we estimate P\$21.5 (as a round number that is a focal point of 10 times higher than the lower bound).

How much of the benefits of inclusive growth in developing countries accrues to “the poor” obviously depends completely on the poverty line chosen. At the World Bank’s line of P\$6.85 gains from equal percentage growth to the poor are P\$733 billion (versus P\$58 billion), with 31 percent of the benefits of growth accruing to the global poor at this poverty line. At P\$21.5 a 10 percent equal percent increase in consumption the 13 largest developing countries produces P\$1.8 trillion in gains to the “global poor”--76 percent of the total gains. “Inclusive growth” and “poverty reduction” are closely companions at higher poverty lines based on standards of “who is *not* poor.”

I) *The WDR 1990 creates a trap for development*

I have always been and remain a staunch opponent of treating this low bar poverty line based measure as the only--or even the principal--measure of poverty, in both academic articles (Pritchett 2006) and more popular fora ([blog](#) and [video](#)). I say I have “always” opposed the ‘dollar a day’ standard because I opposed it before it ever was. The ‘dollar a day’ standard first gained wide publicity when it was used in the World Bank's World Development Report 1990 on poverty.

The novel analytic justification of the ‘dollar a day’ line was that the empirical relationship between national poverty lines and GDP per capita suggested a non-linear relationship with a left asymptote. That is, while national poverty lines tended to be higher for higher income countries, at the lower tail of GDP per capita poverty lines stopped getting lower (Ravallion, Datt, and van de Walle 1991). The estimate of this “lower bound”—the average of the poverty lines of the poorest countries--was roughly a “dollar a day.” This empirical argument only justified that ‘dollar a day’ was defensible as a *lower bound* for a reasonable national poverty line. But this finding, in and of itself, provides zero justification for why if one would choose a single global poverty line (which one should not) nor why, if one were choosing a single global poverty line one should choose it to be the *lowest* it could plausibly be (one shouldn’t).

Understanding this historical context is important because many people think that using ‘dollar a day’ as a (or “the”) global poverty line has a firm “technical” justification. But this fundamentally confuses two, completely different, questions. One question is: “what is the *lowest* a global poverty line can reasonably be?” To this, showing, as Ravallion, Datt and van de

Walle (1991) do, that essentially no country, no matter how poor, adopts a poverty line (much) lower than the ‘dollar a day’ line is a sound argument in favor of ‘dollar a day’ as a lower bound.

But the more important question is completely different: "what is the poverty line (or, if more than one, the range of poverty lines) an organization (or person) concerned about *development* should use as its *primary* measure of poverty?" To this question there is no "technical" or "analytic" rationale for using a *lower-bound* as the *primary* global poverty line. As poverty is fundamentally a social construct, that question was in 1990, and is today, entirely a social and political question.

I was working for the World Bank's research group at the time and in the internal discussions leading up to the WDR 1990 argued as strenuously as I could that adopting a lower-bound poverty line was a massive mistake for the World Bank (and, if more broadly adopted, for development (both academic and in practice) more generally). I made three arguments: (i) a low-bar poverty line makes the problems of a poverty measure as social welfare measure the worst they can be, (ii) a low-bar poverty line needlessly makes it impossible for “development” to be “cost effective” at poverty reduction and (iii) the World Bank is a development organization not a poverty organization.

I.A) The standard class of poverty measures has three serious conceptual problems—and all these problems are empirically worse the lower the poverty line

My second argument against adopting the ‘dollar a day’ standard was that the Foster-Greer-Thorbecke 1984 (FGT) class of poverty measures (then, and now, the standard, mostly widely used, class of poverty measures by economists) violated (i) the standard axioms for an normative measure of wellbeing, (ii) widely accepted principles of fairness, and (iii) just plain common sense. Moreover, these problems with FGT poverty measures were *worse* the lower the poverty line.

The FGT formula for poverty for H households is:

$$FGT. discrete) FGT(PL, \alpha) = \left(\frac{1}{H}\right) \sum_{h=1}^H I(c^h \leq PL) * ((PL - c^h)/PL)^\alpha$$

Where:

- c^h is a measure of the consumption or income of the h^{th} household, which, for simplicity I will describe as per capita consumption^{3,4},
- $I()$ is an indicator function that takes a value 1 if true (hence the summation only counts HHs with c^h below the poverty line, and,
- The weight α is the measure of “poverty intensity” and the three widely used values are $\alpha=0$, which is “headcount” poverty, $\alpha=1$, which is the “poverty gap” and $\alpha=2$, which is “squared poverty intensity.”

A feature of FGT measures of poverty is that the derivative of FGT poverty with respect to household consumption is *exactly zero* above the poverty line and this is true for any poverty deprivation weight α . This feature is a massive bug as it creates three problems with using “poverty” as a ranked social ordering (such as a social welfare function) or normative goal for organizations or governments.

First, it treats consumption gains that people highly value as if they count for nothing in advancing a social goal. This violates the (strict version) of axioms that economics had always previously accepted for social orderings, which is that, in comparing situation A and B if at least one person/household was better off in A than B and no one else worse off in A than B then A was ranked higher than B.

Second, FGT poverty measures treat households that are essentially identical as very different. The gains to those just a tiny bit below the poverty line are, at any poverty deprivation weight α , treated as *infinitely* more important than income gains to people even just a tiny bit

³ As with any topic there is an enormous literature with lots of important granular details about how to measure household consumption as a proxy for wellbeing. One issue is the scale factor, δ , on household size N : $c^h = C/N^\delta$ and hence “per capita” is the special case of $\delta=1$, which implies there are no economies of scale in translating aggregate consumption expenditures into wellbeing (e.g. $\delta=1$ implies the saying “two can live cheaper than one” is false). A second issue are demographic adjustments so that rather than just the total number of people in the household the assumption is made that different age people have different “requirements” and hence the formula for “adjusted” household size could weight, say, young children as a fraction of adults. The combination of taking into account scale effects and demographic adjustments produces an “equivalized” household consumption that would, in principle, produce the same wellbeing for its members. A third issue is that using c^h assumes away any distributional issues within the household, like gender, and hence that the wellbeing of each person in the household is well proxied by the equivalized household consumption. Even though no one believes in the “per capita” assumptions as exactly correct (no scale effects, no demographic differences in needs, gender equality inside the household) the “per capita consumption” measure persists as a focal point in applied measurement in development (though, not, for instance in Europe RRR). I am reasonably confident that the points I make about the choice of poverty lines are robust to altering any of these assumptions about measurement and I mention them mainly to reassure readers that, although for simplicity, I “ignore” these issues I am neither “ignorant” nor “ignoring” them.

⁴ Another large literature addresses the question of whether “consumption” or “income” is a better for measuring poverty. This is mostly resolve pragmatically rather than conceptually as the early (1980s) efforts of the World Bank’s Living Standards Measurement Surveys (LSMS) concluded that (i) “income” was nearly impossible to measure with any accuracy in settings in which most people do not earn a regular wage and (ii) with consumption smoothing (even if one doesn’t want to go in for the strict, full, inter-temporal optimization assumptions) measured income will be a (much) noisier proxy for household wellbeing than consumption and (iii) for poorer households (most of the distribution in many countries) the magnitude of savings was very small so the income consumption distinction was not an empirically huge issue. In practice, nearly all poor countries use consumption measures in poverty measures while upper-middle income and richer countries use income as, if households rely on wage (or other regular, formal, payments like pension) income one can avoid the effort it takes to measure consumption.

above the poverty line. This introduces a discontinuity into poverty measures around the poverty line that (i) has no grounding in any empirical reality (see below) and (ii) violates a common sense notion of fairness and equity that “likes should be treated alike.”

Third, FGT poverty measures treat households that are very, very different exactly alike. Suppose one could take an action that would increase the consumption of either a household just barely above the poverty line ($c^h = PL + \epsilon$) or a household at the Danish (as a typical rich, industrial, country) median of P\$59 dollars a day. From the point of view of poverty reduction one is completely indifferent as these gains both count for zero.

I am not saying these three issues make any use of a global poverty line worthless, there might be rhetorical or political gains from the use of a poverty measure that help put more focus on adopting policies and programs that have broad benefits and are not just captured exclusively by elites. However, the *combination* of an FGT poverty measure *and* adopting a low-bar poverty line makes these three conceptual failings as bad as they can possibly be.

First, the appeal of using a lower-bound poverty line is that it is possible to generate near universal consensus that "Yes, improving the wellbeing of people at that very, very, low level of standard of living is an urgent global goal." But, by the same token, this makes counting the gains to those just above the lower-bound poverty line at *zero* completely absurd. Even if the evidence suggests there isn't "satiation" in subjective valuations of income gains (Stevenson and Wolfers) there might be some level of consumption gains such that "zero" is an rough and ready approximation to the incremental gain to wellbeing from a social and especially "development" viewpoint. But *for sure* this isn't remotely true at a 'dollar a day' poverty line. You cannot have it the both ways that FGT measures and low-bar poverty lines analytical do (and must) have it: increasing the consumption of those at P\$2.14 is an urgent global priority but increasing the consumption of those at P\$2.16 is a matter of complete indifference. That the gain in poverty measures falls to zero is a bug that might be minor at very high global poverty lines but is just absurd at low-bar poverty lines.

Second, even if the gains to poverty don't fall to exactly zero there is a second serious conceptual issue of having any "discontinuity" at all at a poverty line. The idea that there is a category called "poor" that meaningfully separates people into groups and "the poor" are different from the "non-poor" just isn't empirically true. If it is very important to improve the wellbeing of people at a consumption level of P\$2.14 per person per day then the most natural assumption is that it is almost equally as important to improve the wellbeing of people at P\$2.16 pppd. There are "lines" in some natural phenomena: water is liquid above 0 degrees Celsius and then undergoes a phase transition to being solid at temperatures below that. There is an "escape velocity" from Earth's gravity that creates a boundary such that below that velocity an object returns to Earth and above that it can be in a stable orbit or just travel through space. But these lines are empirically established and a consequence of accepted scientific theories. What is striking is that it has never been empirically asserted or defended that there is a line at the

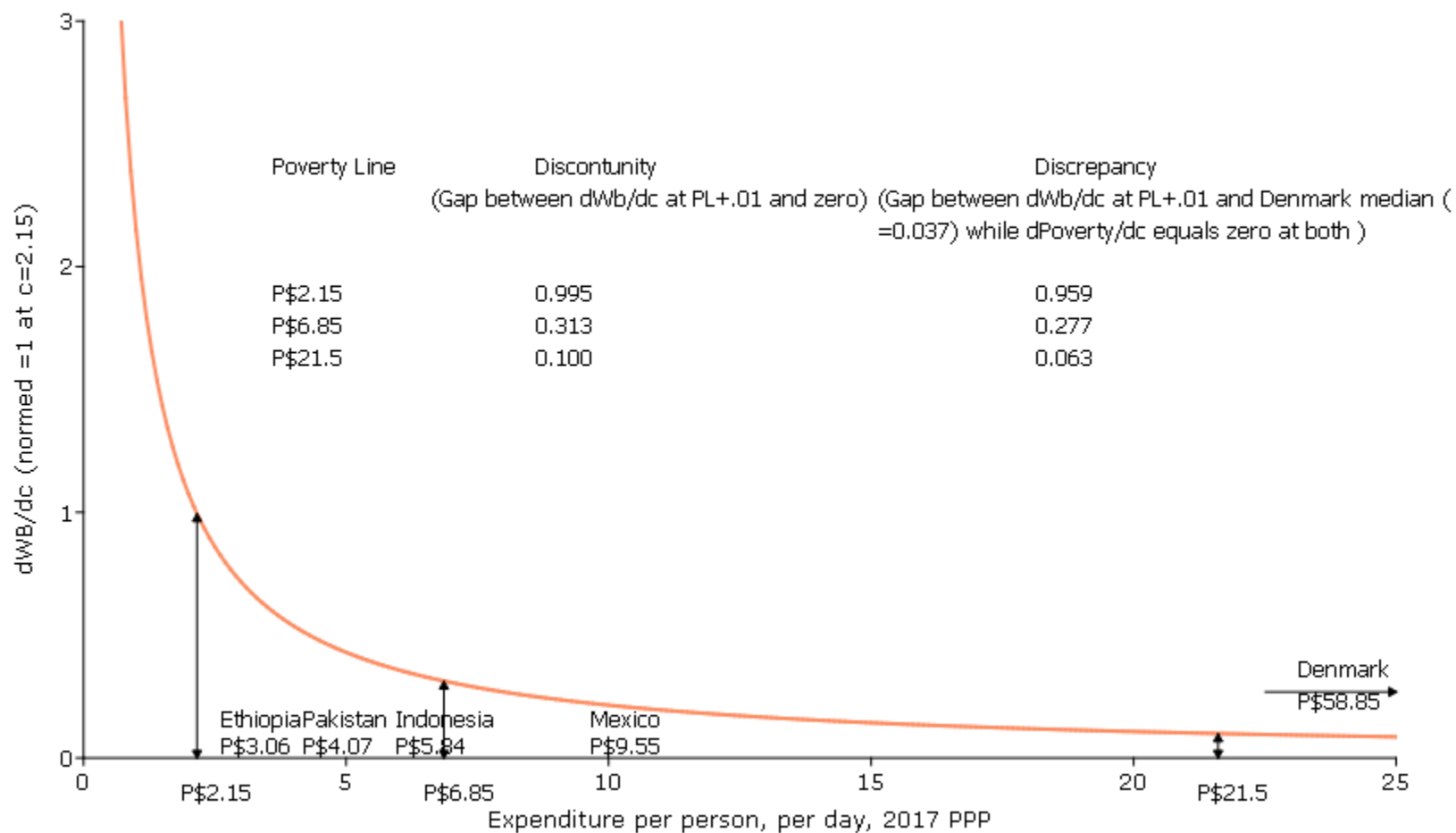
‘dollar a day’ poverty line⁵. (Preliminary results suggest) there is *no* evidence that in *any* measure of subjective wellbeing or in *any* measure of material wellbeing (e.g. child health, malnutrition, child education, access to water, etc.) there is *any* household's wellbeing there is any discontinuity (or even sharp non-linearity) around the P\$2.15 pppd poverty line (Pritchett and Viarengo 2024). Evaluating anti-poverty programs on the premise that there is a discontinuity at a poverty line benefits to the poor are “good” while any benefit to the non-poor is “leakage” and has no validity (Skoufias and Coady 2007).

Third, a consequence of a low-bar line for global poverty is that it treats people who are in completely different economic circumstances as if they were exactly the same with respect to their global poverty status. A poverty line of P\$2.15 implies that the impact on global poverty of improving the consumption of the median household in the Ethiopia, Pakistan and Denmark are all exactly the same—these gains all count for zero in reducing global poverty. I admit that in writing this paper I sometimes find myself struggling for words. I have been to each of Ethiopia, Pakistan, and Denmark many times. I imagine a person being in Ethiopia and then in Denmark and saying “Yes, I think adopting as a primary standard of development progress a measure of poverty that treats gains in income and consumption to the typical Ethiopian and the typical Dane exactly the same is a good idea.” Is that: absurd? obtuse? obscene?

Figure 1 assumes a wellbeing measure that is just $\beta \cdot 1/c^h$ with $\beta=2.15$ so that dWB/dc is equal to 1 at P\$2.15, which is an arbitrary normalization, but any normalization or functional form that is concave produce a qualitatively similar graph. This graph is just the visual illustration of the point that each of the three analytical features of an FGT poverty measure relative to any standard, continuous, concave, continuous, evaluation of wellbeing get larger, and hence “worse” the lower the chosen poverty line. The difference in dWB/dc at a high global poverty line of P\$21.5 and the median Dane is a modest .063 compared to being almost equal to the dWB/dc of a person at P\$2.15 of consumption at the low-bar poverty line. Similarly, that a poverty measure treats dWB/dc at P\$21.51 (one penny per day over a high-bar poverty line) as zero is “paternalistic” and ignores the private value of those income gains, but it is 10 percent of the level at P\$2.15 (.1 versus 1) whereas assuming dWB/dc falls to zero at P\$2.16 is massively at odds with continuity (of this particular function).

⁵ In the popular imagination and popular press there is often the confusion between low-bar poverty lines being based on “nutritional adequacy” and the idea that the poverty line is really a “line” because it is what people need to “survive.” But all poverty experts have long understood that poverty is a social construct and that even “food based” poverty lines are determining the dollar amount a household would need to spend to achieve nutritional adequacy at a diet and consumption pattern that reflects local norms and that this level of expenditures is much, much, higher than the *minimal* expenditures needed to achieve nutritional adequacy (XXX). In this sense the US poverty line calculations of Orshansky (1965) and the poverty lines in Indonesia are both set on achieving roughly the same levels of caloric intake but the resulting poverty lines differ by an order of magnitude because of the “quality” (cost per calorie) of the respective food consumption (Pradhan et al 2001). It is just a complete misunderstanding that amateurs make to think that the ‘dollar a day’ line is a biologically based survival line for “survival” versus a locally contextual social construct.

Figure 1: FGT poverty measures necessarily impose conceptual anomalies relative to a standard relationship between wellbeing and consumption: that near identical are very different (discontinuity) and that very different are identical (discrepancy)



Source: Author's calculations.

I.B) National development cannot be cost-effective at poverty reduction at low-bar poverty lines

The second argument I made was that the *combination* of the rhetorically attractive statement “development is about poverty reduction” *and* adoption of low-bar poverty line would (at least eventually) undermine the case for actions to promote broad based development that were effective and cost-effective in raising human wellbeing. Again, neither “poverty as the goal of development” or having *some* low-bar poverty line as one of many poverty lines alone is particularly worrisome. But if people came to believe the reduction of ‘dollar a day’ poverty was *the* overarching goal of development (or even a primary goal) then the logical consequence would be that everything about national development—inclusive economic growth through higher productivity, expanding state capability for implementation, promoting responsive governance—would be seen as not really necessary and more particularly not “cost-effective” way of achieving this goal.

Adopting a low-bar poverty line necessarily implies only a small portion of the gains from inclusive growth (or other broad based improvements in wellbeing) would go to "the poor." This is just a consequence of two pieces of simple arithmetic.

First, suppose one chooses a poverty line such that only 20 percent of the population is “poor” at that poverty line. Then, arbitrarily but necessarily 80 percent of those who benefit from growth are not poor.

This leads to the very serious organizational problems. If an organization says "my goal is inclusive growth"--or even "my goal is raising human wellbeing"--then achieving inclusive growth is a big success. But if an organization says: "My goal is poverty reduction and the *means* or *instrument* to that goal is inclusive growth *and* our definition of poverty is based on a low-bar poverty line" then, mechanically, due to the choice of a particular poverty line, no matter how “pro-poor” or “inclusive” growth is, most of the beneficiaries of inclusive growth are not poor.

Second, the poor are poor. This obvious fact leads to the arithmetic consequence that the share of the “poor” in income is less than their share in the population. The average share of income/consumption of the bottom 20 percent in developing countries in recent data is about 6 percent. If one chooses a low-bar poverty line that implies only 20 percent of the population are “poor” then if everyone’s income grows by X percent, only 6 percent of those gains accrue to the poor.

The consequence of the combination of (a) claiming that "poverty reduction" is your goal *and* (b) adopting a lower-bound, low bar poverty line as the primary measure of poverty inevitably creates a massive and completely unnecessary rhetorical trap for development organizations. Suppose a development organization worked with a partner government and managed to help them accelerate their growth in an “inclusive” way such that the income of all groups went up by the same percentage amount. This is a massive success.

But, if the organization has embraced a low-bar poverty line it would not take a very numerate critic to say, also correctly: "But only a very small fraction of those benefits from improved standards of living went to the poor." In a hypothetical country with 20 percent poverty rate and typical levels of consumption inequality so that the share of the poor was 6 percent a critic could be even stronger. A numerate could correctly say: "Relative to their organization's stated goal of reducing 'dollar a day' poverty only 6 dollars of every 100 dollars of the gains went to the poor." And, they could use even more harsh rhetoric but still (kind of) correctly: "94 dollars of every 100 dollars in gains produced by the economic growth that resulted from the support of the development organization was *leakage* as it did not reach the poor."

And the consequence of adopting low-bar poverty lines does not apply to just "inclusive growth" it affects *any* efforts at broad based development.

Suppose a development agency helps a country improve their education system so that every child learns 10 percent more in every year of their schooling. This would be a massive development success relative to the existing low and stagnating (or falling) levels of learning in basic education (Pritchett 2016, Pritchett 2024). And, as most developing countries lag very far behind the rich countries in learning levels, on a global level these learning gains would be massively equalizing of the global distribution of education outcomes (). But, if a global poverty line is chosen such that only 20 percent of the population are "poor" then *at most* 20 percent of those learning gain benefits went to "the poor." (And if children of poor households are less likely to be in school an equi-proportionate gain in learning of those in school would be even more predominantly to the non-poor).

Or take a uniform transfer program that transferred the same absolute amount to every household from a proportional tax. This would be a massively equalizing transfer. But if, at a low bar poverty line only 20 percent are poor then "most" of these gains could be characterized as "leakage" that went to the non-poor and hence these transfer programs are not "cost effective."

As this is a key point and frames the calculations in Section II and has been, I fear, deeply confused (even though the analytics are simple and not confusing) let me illustrate with some simple equations and a not so simple graph.

Suppose some action A could be taken that would raise the consumption of at least some people in the country by some percentage (this can be a specific project or programmatic intervention with specific intended beneficiaries or an economy wide policy change that potentially affects everyone). We could evaluate the benefits for any metric of wellbeing by taking the elasticity of that metric with respect consumption gains that is a function of the initial level of consumption, so that, for instance, the gains to poorer people count for more than for less poor people (as any standard welfare function with inequality aversion). We can then create a discrete equation for the total gain to wellbeing in the economy from action A by creating N categories arrayed from poorest to richest (say, centiles or N fixed intervals in consumption), in which case the simple equation for the total gain is the (i) percent gain in income for each category (benefit incidence as a function c), (ii) the elasticity of wellbeing to income gains for

each category (the wellbeing as a function of c) and (iii) these are weighted by the fraction of people in each category N (which is the initial distribution function for consumption).

$$2) \text{ Wellbeing gain}(A) = \sum_{n=1}^N \text{Popl}_N * \% \Delta c_n(c) * \epsilon_{WB,c}^n(c)$$

The fraction of this wellbeing gain that accrued to the initially poor is just that same formula, but limited to those whose income was less than the chosen poverty line, and to make the formula simple we will assume that the poverty line is at the upper threshold of one of the N consumption categories. Hence one just adds an indicator function $I()$ to equation 2.

$$2. a) \text{ Wellbeing gain}(A) \text{ to the poor} = \sum_{n=1}^N \text{Popl}_N * \% \Delta c_n(c) * \epsilon_{WB,c}^n(c) * I(c^{upper,N} \leq PL)$$

Figure 2 illustrates the three components of equation 2 to give (especially for those of us whose intuitions for equations are aided by visualization).

First, in the various shades of green are five possible “elasticities of wellbeing wrt consumption gains.”

- One is not empirical and just assumes that $WB = \ln(c)$, with the elasticity normed to equal 1 at P\$2.15. This falls very steeply: the elasticity at P\$21.5 is only .10 (a tenth of the level at P\$2.15).

The other four green lines are empirically estimated elasticities of the relationship across countries between GDP per capita and various indicators of wellbeing using a flexible functional form (a quartic plus the natural log) which allows the elasticity to vary across the range of GDP per capita (see the regression results in Appendix: Regressions for Elasticities)

- One uses the 2020 value of a cross national index of basic human needs created by the Social Progress Imperative. This uses fourteen individual indicators, aggregated into four sub-components (nutrition and basic medical care, water and sanitation, and personal safety) and, by design, does not include any directly economic measures (like income or poverty) and so is a “physical” index of material wellbeing. Like $\ln(c)$ this is very steep at very low levels but then flattens out. The elasticity is .54 at P\$2.15 and still .22 at P\$21.5.
- Another indicator of wellbeing is the Social Progress Index, which is a broader cross-national index of wellbeing, which is an average of the Basic Human Needs index, the Foundations of Wellbeing index, and the Opportunity index. The elasticity of this index is lower and is quite flat as it falls from .32 at P\$2.15 to .19 at P\$21.5.
- Under five child mortality is an indicator of wellbeing whose cross-national associations with income (and other correlates) has been studied for decades. Interestingly, the elasticity of U5CMR actually rises across the displayed range of GDPpc and hence while the gain from any absolute magnitude increase in income/consumption falls the elasticity rises.

- This rising elasticity of U5CMR wrt to GDPpc is not anomalous as a similar pattern holds for the fraction of children 5 or under whose height for age is very low (stunting, an indicator of malnutrition).

Second, in the shades of blue are just two hypothetical distribution of the gains.

- One is a flat percentage growth (just a horizontal line on the right axis). This obviously implies larger absolute gains for richer households but would leave proportionate measures of inequality unchanged.
- The other is one possible shape (and magnitude) of “pro-poor” growth in a linear fashion so that the rate of growth for the poorest is 50 percent higher than the average and the rate of the richest is only 50 percent of the average.

Third, is the initial distribution of consumption. This is shown here as a log-normal distribution with parameters chosen to mimic the average and Gini coefficient of Pakistan’s 2018 household consumption.

Fourth is the poverty line.

Figure 2 illustrates, with a little mental gymnastics of shifting these four curves around, crucial intuitions about the share of the wellbeing benefits of an action A (micro or macro) that increased incomes that accrue to the poor versus non-poor. Note that I am not asking about the impact on measures of poverty on the presumption that a poverty measure *is* the relevant normative objective (as section I.A shows just how problematic that assumption is). Rather, I am asking, suppose one had some reasonable set of goals or preferred measure of material wellbeing—which could place much more weight on the gains of the poor than of the non-poor—and one wanted to assess the total benefits that resulted from A and also what fraction of those benefits went to the (initially) poor.

Here are the four key intuitions, each with ‘all else equal’ so shifting one of the four lines with the others constant, keeping in mind these are all interactive.

- i. The lower the poverty line the smaller the fraction of the benefits accrue to “the poor.” Note that this has nothing to do with the total benefits of action A.
- ii. The larger the bulk of the population that is in the range in which the evaluation function values the gains to wellbeing (relatively) highly the *smaller* the share of the benefits that go to the poor—because a high share go to the non-poor. So, for instance, if the distribution is relatively equal then for a given poverty line more people will be “near” the poverty line and hence, for any given downward slope of the evaluation functions will contribute more strongly to the overall gains to wellbeing.
- iii. The less steep the downward slope of the evaluation function in the range above the poverty line the *higher* the share of the total benefits will go to the non-poor (as these gains in consumption are more highly valued for wellbeing) and hence the *smaller* the share to the poor.

- iv. For any given absolute dollar magnitude of gains the more “pro-poor” the distribution of those benefits the *higher* the share of benefits to the poor.

Here is the key point. A good deal of economic analysis asks the question “Is action A worth doing?” This involves an analysis of all of the value of the benefits of doing action A, including a consideration of who they accrue to, and an analysis of all of the costs of doing action A. This produces a conclusion that, relative to a specific evaluation function, which may include giving much higher weights to poorer households, A is a positive NPV action or perhaps just cost effective. The essence of development economics and development policy making more generally is deciding what those desirable actions are.

Suppose we have some action A at cost C and there is a pretty solid, evidence based, consensus that A is a desirable development action across a pretty broad array of normative evaluations. Then someone can ask: “Is action A positive NPV or cost-effective *judged solely on its benefits to the poor?*” (or alternatively, “judged solely on its impact on a measure of poverty?” although, as the previous section argued, this is almost never an accepted social ranking).

Obviously this hinges on the fraction of the benefits that accrue to the poor, as if most, or nearly all the benefits, accrue to the non-poor, whereas the costs are fixed then obviously the range of developmentally beneficial actions will be larger than the range of actions justified *exclusively* based on whether they “reduced poverty” or “the extent they benefitted the poor.” And this, in turn, hinges on the choice of the poverty line at which it is decided whether a household is poor or not. At some sufficiently low poverty line *nearly everything* that is development attractive both at the “service delivery” level (e.g. building out school systems, creating effective municipal sanitation, providing a reliable supply of electricity, building rural roads, research into improved agricultural practices, creating an effective system for medical care) and at the “policy” or “institutional” level (e.g. sustaining a system of rule of law, maintaining macroeconomic policies that avoid excessive inflation and macroeconomic instability, laws (and enforcement) that regulate internal and external commerce, providing secure claims over property (against theft, gangs, etc.)).

Put simply: at a sufficiently low-bar poverty line development cannot be justified solely on its “poverty reducing” or “benefits to the poor.”

And that is true even if development is, in fact, empirically necessary and empirically sufficient to reduce/eliminate extreme poverty. That is, the reduction (and elimination) of poverty, at all levels, is nearly everywhere and always the consequence of governments doing things that were *developmentally effective* and hence that expanded opportunities and raised productivity *broadly*.

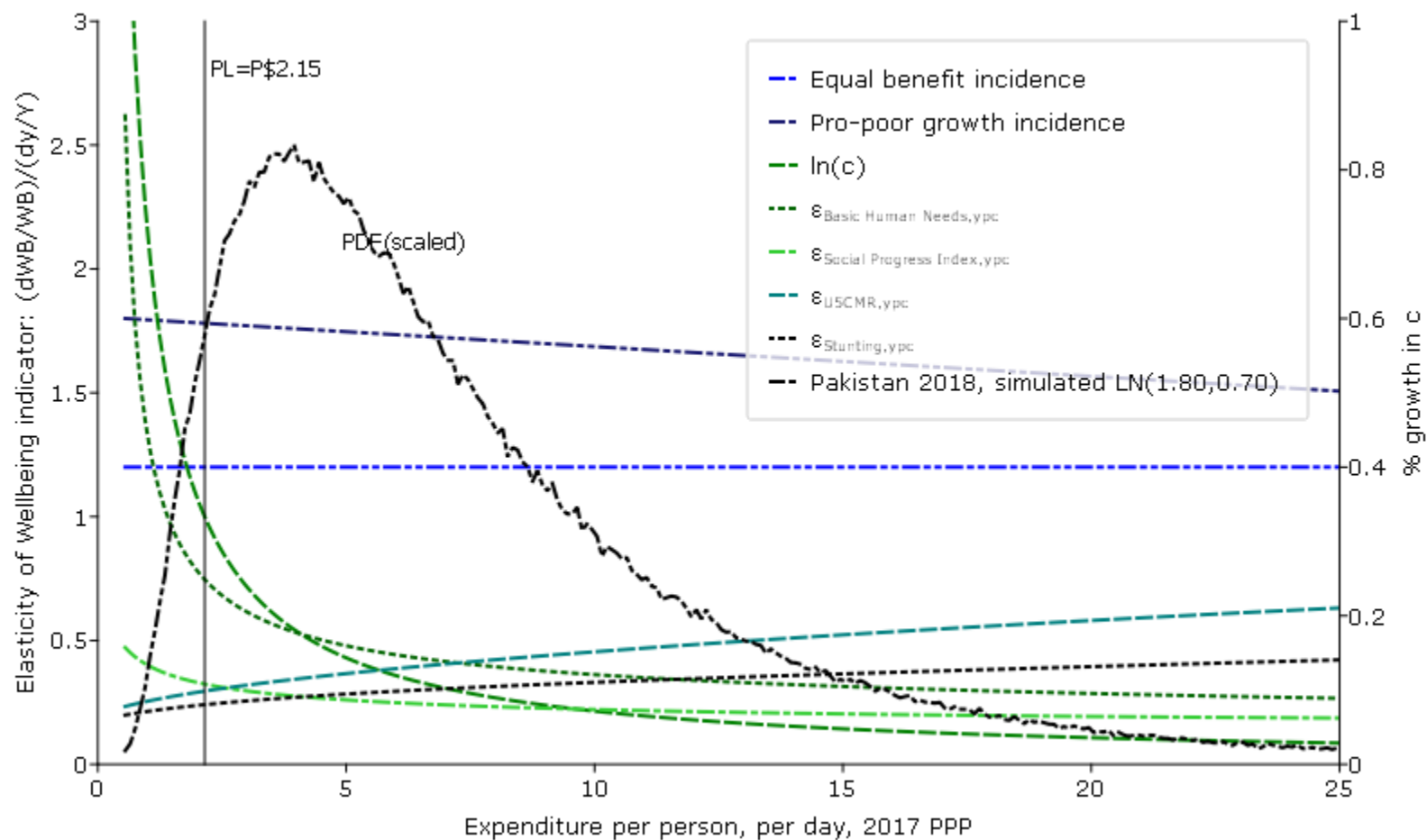
And that is true even if development is, in fact, empirically necessary and empirically sufficient for achieving high levels of human wellbeing across a wide array of indicators of material wellbeing.

Low-bar poverty lines, if followed to their logical conclusion, lead to a tragic asymmetry. If governments just did things that were developmentally effective but *not* cost effective at reducing poverty then extreme poverty would be dramatically reduced/near eliminated. But, if governments did *only* those things that were cost effective at reducing poverty or which could be justified based on their benefits to “the poor” alone at a low-bar poverty line then there would be very little progress in poverty or for the poor.

That is, just looking at Figure 2 one can see that even if the gains to the poor count normatively much more than those to the non-poor (as with $WB=\ln(c)$ or WB is a basic human needs index) if the poverty line is set so low there are few poor, then there are still massive gains in wellbeing that go to the non-poor and these *normatively* justify the costs of doing developmental actions. But the only way for actions to be cost effective based only on their gains to the poor (or gains in reducing poverty) is to make the benefit incidence curve, very, very steep (much more than the linear “pro-poorness” in Figure 2). And the only way to do this is to target benefits to the poor and exclude the non-poor from these benefits.

So, my argument in 1990 was that adopting a low-bar poverty line will give critics, from both the left and the right of the political spectrum, plenty of ammunition to destroy support to those development actions that would be effective and cost effective at raising wellbeing in developing countries and which would actually reduce poverty. Because it will be easy to point out that what governments and development organizations are doing is not “cost effective” for poverty reduction at low-bar poverty lines.

Figure 2: Evaluating wellbeing gains to poor and non-poor



Source: Author's calculations

I.C) Why did the World Bank (and then others) adopt ‘dollar a day’ as their primary poverty line?

These analytic and conceptual arguments against the adoption of ‘dollar a day’ as the global poverty line were, I thought, even stronger make in the organizational context of the World Bank. The World Bank’s main development lending arms, the IBRD (International Bank for Reconstruction and Development) and IDA (International Development Association) are multinational organizations governed by Articles of Agreement ([IBRD](#), [IDA](#)), adopted by its member states. These purposes make it clear the World Bank is a *development* organization, not a *poverty* organization.

IBRD Article I lays out the five purposes of the organization, including “encouragement of the development of productive facilities and resources in less developed countries” and “encouraging international investment for the development of the productive resources of members, thereby assisting in raising productivity, the standard of living and conditions of labor in their territories” and “To promote private foreign investment by means of guarantees or participations in loans and other investments made by private investors” and “to promote the long-range balanced growth of international trade and the maintenance of equilibrium in balances of payments...” Clause (iv) of Article I also specifies that a purpose is to “To arrange the loans made or guaranteed by it...so that the more useful and urgent projects, large and small alike, will be dealt with first.” Article I concludes: “The Bank shall be guided in all its decisions by the purposes set forth above.”^{6,7}

Nothing in the Articles prevented the World Bank from adopting “pro-poor” stances in their definition of “standard of living” and building distributional concerns, like “basic needs” into their definition of “useful and urgent projects.” Long before the WDR 1990, Squire and van der Tak’s *Economic Analysis of Projects* (1975) laid out principles for incorporating the distribution of gains into the cost-benefit analysis of projects (which the arguments above are consistent with) and these had been taken up in World Bank policy.

Hence, if ever any organization was well placed to avoid the risky siren song of “defining development down” (Pritchett and Kenny 2013) to the purpose of reducing/eradicating low-bar

⁶ Of course organizations can choose to change their purposes over time and the Articles specify the procedures for doing so and amending the Articles requires a super-majority vote (85 percent) of the Board (where member country votes are weighted) So changing the Bank’s purposes is not a “management” or even a routine Board decision (Pritchett 2014).

⁷ The International Development Association was created in 1960 to facilitate much lower cost loans to the poorest countries. But even IDA’s purposes do not mention “poverty” as opposed to “economic development” “productivity” and “standards of living.” The full content of Article I “Purposes” is: *The purposes of the Association are to promote economic development, increase productivity and thus raise standards of living in the less-developed areas of the world included within the Association's membership, in particular by providing finance to meet their important developmental requirements on terms which are more flexible and bear less heavily on the balance of payments than those of conventional loans, thereby furthering the developmental objectives of the International Bank for Reconstruction and Development (hereinafter called "the Bank") and supplementing its activities. The Association shall be guided in all its decisions by the provisions of this Article.*

poverty it was the World Bank as its purposes never mention poverty, much less a specific standard for poverty.

So, why did I lose this argument in 1990? Well, for one thing I had no place, power, or formal authority over the decision as I wasn't even on the WDR team but rather just making comments as a very new and junior member of the development research group.

In my discussions with the director of the report he made two arguments for adopting 'dollar a day.'

First, he thought that if the World Bank's first poverty report adopted a higher poverty line the cynics and critics of the World Bank (of which there were, and are, many) would argue this definition of "poverty" was an obviously self-interested ploy. That is, he thought that reporting the numbers of the global poor based on anything other than the lowest possible low-bar poverty line would lead the World Bank to be accused of "exaggerating" poverty in order to bolster its pleas for greater funding. He argued it was safer for a global political organization that relied on rich country capital pledges and funds to adopt the lowest possible poverty line, hence 'dollar a day.'

Second, I remember (which doesn't mean it happened exactly the way I recount it) the report director saying to me: "Lant, for a report on global poverty I need a headline number of the global poor. But that is all the 'dollar a day' poverty line will be used for. Your fears this will become a big deal are exaggerated as, for the reasons you lay out, people will see the 'dollar a day' standard cannot be taken literally as 'the' definition of poverty and cannot be used to frame development decision-making." He reassured me that precisely because I was right about the analytics I would be wrong about its practical impact.

Well. Hindsight. Sometimes what seems at the time like an innocuous, or even clever and wise, decision sets dynamics in motion from that create a rhetorical trap from which it difficult to escape. The WDR 1990 reporting the "number of poor" using the 'dollar a day' poverty line is one of those.

I) The trap of adopting 'dollar a day' is sprung

My objective is not to re-litigate what happened in 1990. My objective is to point out that in 2023 (and going forward) the objections to 'dollar a day' poverty incredibly more telling. Any person or organization that says today "My primary normative goal is poverty reduction at 'dollar a day' (P\$2.15)" is not a development actor but has chosen to engage in charity work.

II.A) Current levels of estimated poverty in the largest countries in the developing world

I focus on the 13 largest developing countries by population, each of which has over (or near to) 100 million people. These 13 countries include 4.5 billion people, which is 71 percent of the population of the developing world (on a definition that excludes the rich industrial economies, the FSU and Eastern Europe, and the Gulf States). Each additional country requires additional country specific (non-automated) calculations and there is no reason to believe

extending these calculations to more countries would significantly alter any of the major conclusions⁸.

Table 1 shows the basic data about the 13 largest countries, sorted by latest World Bank reported headcount poverty. What is striking is how incredibly low the estimated poverty rates are, even for very poor countries. Only for the Democratic Republic of Congo (where the estimate is from 2012 as conditions preclude reliable nation-wide data collection) is the percent of poor above 50 percent.

Ethiopia, is a very poor country, whose GDP per capita is only 1/20th of the high income average and whose GDP per capita is at the level that the USA experienced in 1862—over 150 years ago. The latest World Bank data⁹ show indicators of wellbeing consistent with this lack of development: child mortality is 47 per 1000, only 7 percent of households use safe sanitation, only 13 percent use safely managed drinking water, 36.8 percent of youth are stunted in height for age, only 29.7 percent of youth complete lower secondary school. And yet the reported ‘dollar a day’ poverty rate in 2015 was only 27 percent of households.

Strikingly, the three largest South Asian countries show poverty rates of only 11.9 percent in India, 9.6 percent in Bangladesh and 4.9 percent in Pakistan. While these countries have experienced reasonably robust growth over the past decades, this growth started from a very low base. The average consumption per person per day is less than P\$5, less than a tenth of the typical rich industrial country at P\$50 pppd. These countries still face severe development challenges in every dimension and wellbeing indicators are still low. In Bangladesh less than 10 percent of households are poor and yet 28 percent of children are stunted in height for age, only 31 percent use safely managed sanitation, only 59 percent have safely managed drinking water, only 27 percent have access to clean fuels for cooking and 52 percent of the urban population lives in a slum. This implies that a significant fraction of households in Bangladesh as classified as “non-poor” and yet have malnourished children, lack of safe water or sanitation, still cook their food with traditional fuels, still live in slums.

And the more middle income and upper-middle income countries have very low rates of poverty. Vietnam has growth very rapidly from a low base but the World Bank estimates are that less than one percent of Vietnam’s population is poor. Brazil and Mexico have higher GDP per capita but also higher poverty due to their higher inequality.

⁸ The three largest countries excluded are Iran, Turkey, and Thailand, each of which is upper-middle income and so, including these at the margin would *strengthen* the simulation conclusions.

⁹ <https://data.worldbank.org/country/ET> accessed January 11, 2024.

Table 1: Population and official World Bank estimates of headcount poverty at the P\$2.15 poverty line and GDP per capita in PPP

Country	Pop'l, 2022, in millions	Headcount poverty rate at P\$2.15 pppd (sorted)	Mean of the consumption or income of distribution used in poverty calculations	Year of poverty data	GDP per capita, PPP, 2022, in 2017 units	GDP per capita as percent of high-income average	Year USA was at same ratio to 2022 GDP PC
DRC	99.0	69.86%	\$2.02	2012	\$1,337	2.2%	1800(x)
Nigeria	218.5	30.86%	\$3.66	2018	\$5,860	9.7%	1907
Ethiopia	123.4	26.98%	\$3.74	2015	\$2,812	4.6%	1862
India	1417.2	11.90%	\$4.90	2021	\$8,379	13.8%	1929
Bangladesh	171.2	9.58%	\$4.94	2022	\$7,395	12.2%	1938
Philippines	115.6	6.75%	\$6.56	2021	\$10,133	16.7%	1943
Brazil	215.3	5.82%	\$19.18	2021	\$17,822	29.4%	1968
Pakistan	235.8	4.93%	\$4.98	2018	\$6,437	10.6%	1913
Mexico	127.5	3.10%	\$13.97	2020	\$21,512	35.5%	1978
Indonesia	275.5	2.47%	\$7.81	2022	\$14,653	24.2%	1963
Egypt	111.0	1.47%	\$6.76	2019	\$15,091	24.9%	1964
Viet Nam	98.2	0.65%	\$15.05	2020	\$13,457	22.2%	1956
China	1412.2	0.11%	\$13.62	2020	\$21,476	35.4%	1978

Sources: World Bank PIP data (columns 2 and 3), Feenstra, Inklaar, and Timmer (2015) Penn World Tables 10.0 (columns 4 and 5), and the Maddison update (Bolt and van Zanden 2020) for column 6.

II.B) How much of the benefit of inclusive growth in the developing world accrues to the “global poor?”

The strength of using a simulation is that, very much unlike answers from data (whether observational or experimental), the researcher actually knows data generating model exactly and hence, in principle, can explain not just the “what?” of the answer but also (at least the proximate determinants of) “why?”

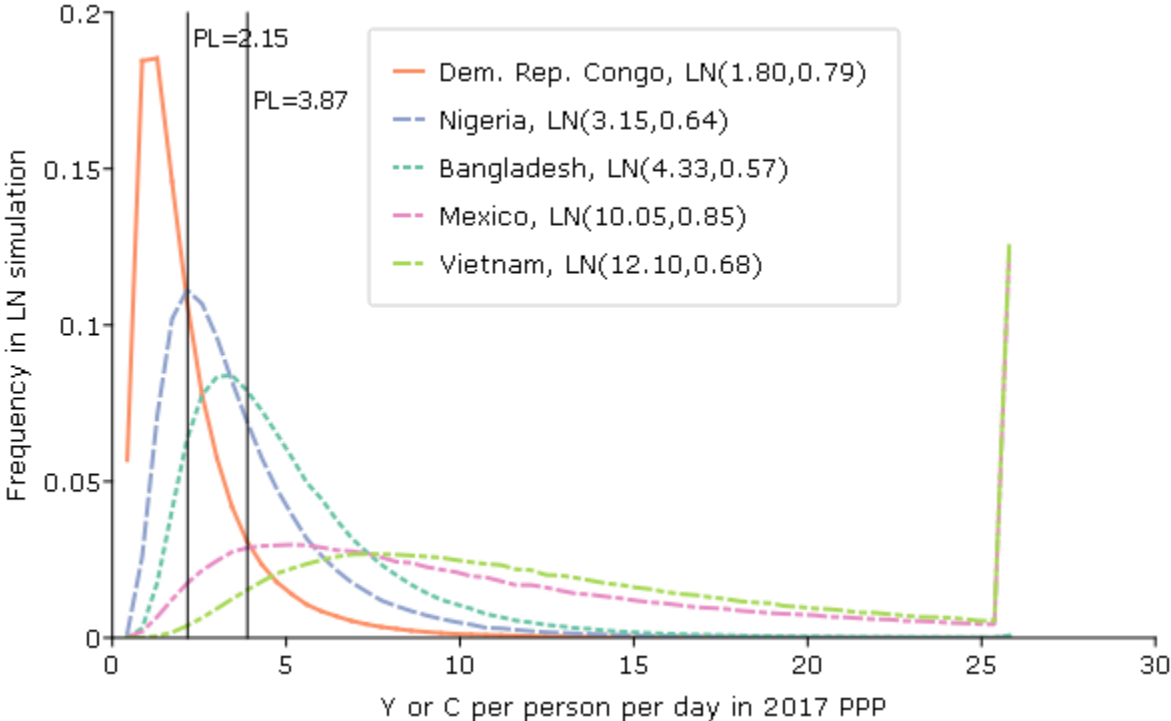
The first step is to generate a simulated distribution of income/consumption for each of the 13 countries using a log-normal distribution, which provides the parsimony of choosing only two parameters. Lopez and Serven (2006) use 800 country-year observations and show that the hypothesis that the size distribution of income is log-normal cannot be rejected (though it is rejected for the distribution of per capita consumption) and assumption of log-normality will generally be an acceptable “rough and ready” approach.

For distribution of income/consumption I use data from the World Bank Poverty and Inequality Platform (PIP). For the 13 countries the PIP provides summary statistics about the household survey-based distribution of income/consumption that is used to calculate the poverty measures. This includes the mean and the median and measures of distribution (the Gini and the

mean log deviation (MLD), and decile shares. For each country I choose μ and σ for the log-normal such that the simulated distribution's mean and Gini coefficient are within one percent of the actual values. For each country i a random sample of 600,000 observations from the distribution $LN(\mu^i, \sigma^i)$ is drawn. As log-normality is opposed the fit of simulated and actual will not be exact and hence this procedure generates simulated “Pakistan” or, more precisely $Pakistan(LN(\mu^{Pakistan}, \sigma^{Pakistan}))$.

The second step bins each of the 13 countries' simulated data into 60 brackets of consumption/income per person per day, starting from 0 and incrementing by 43 cents, which is chosen because $2.15/5=.43$ so the bottom 5 of the 60 categories are the P\$2.15 pppd poor. This implies the top-code is P\$25.8 per person per day, which is well above the mean for all countries (Mexico and China are still below P\$14). The proportion of observations in each bin and the mean in each bin produces a relatively finely grained estimate of the probability distribution function (pdf) and cumulative distribution function (cdf) of income/consumption for each country. Figure 3 shows illustrative simulated pdfs for DRC, Nigeria, Bangladesh, Mexico and Vietnam (Figure 2 shows the pdf for Pakistan).

Figure 3: Simulated log-normal distributions of consumption/income for five illustrative, large developing countries



Source: Author's simulations fitted to World Bank PIP reported summary statistics.

The third step creates two counter-factual distributions using different assumptions about growth incidence.

The “equal growth” scenario is very simple, for each bin, b , for each country, i , the baseline y or c is increased by the same percent, g . This is a scenario of “inclusive growth” as households at all income levels see their income increased by the same proportionate amount hence this is just a distribution neutral right-ward shift in a log-normal distribution.

$$EG) y_{EP}^{c,b} = y_{Baseline}^{c,b} * (1 + g)$$

The second scenario is one of “pro-poor” growth that assumes that the income of the poor growth by a faster percentage rate than the rich. Hence the formula for each country is:

$$PP. 1) y_{PP}^{c,b} = y_{Baseline}^{c,b} * (1 + g^{c,b})$$

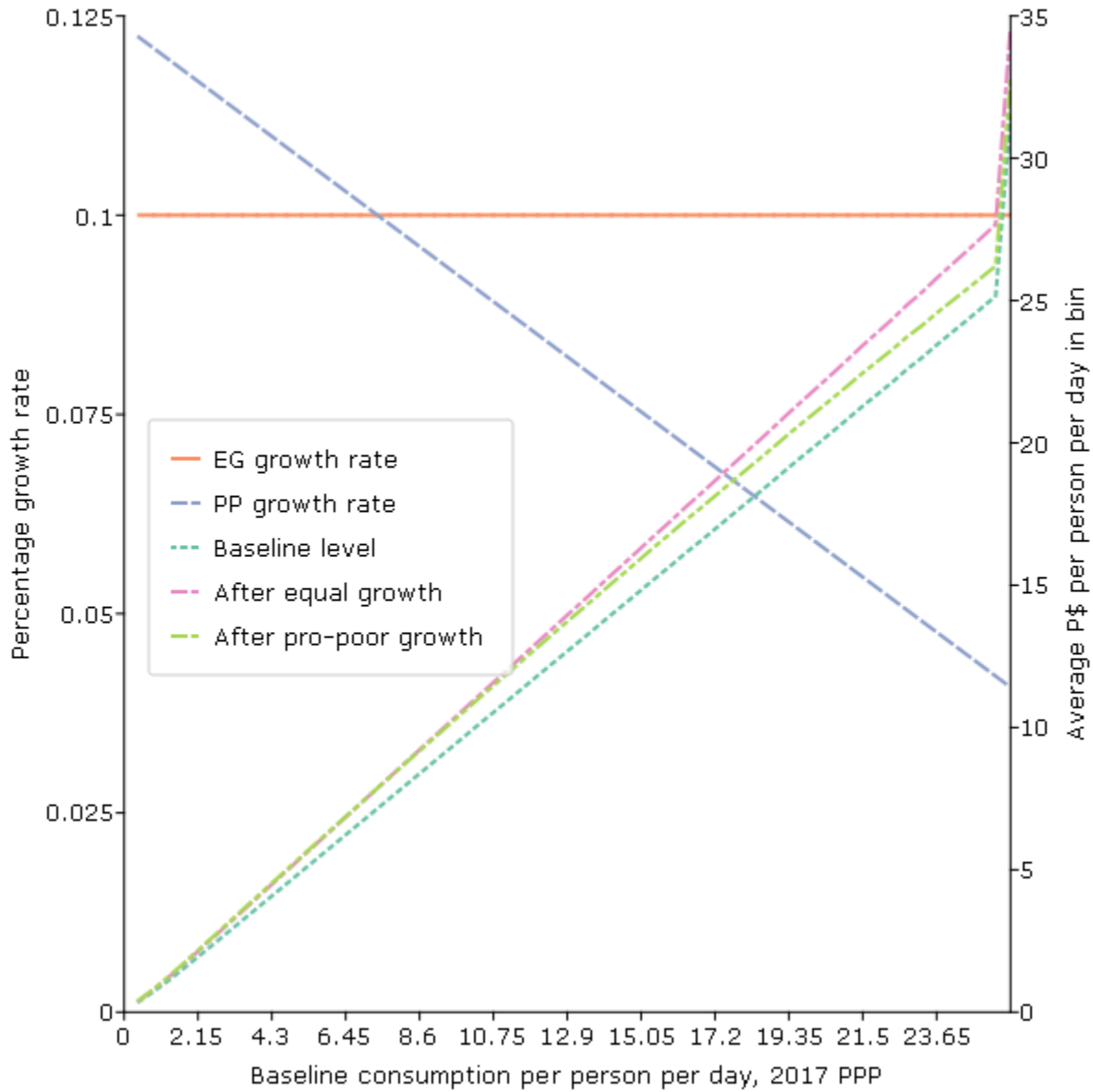
Where the growth rate for each bin for country c is:

$$PP. 2) g^{c,b} = (g * adjustment^c) * scaling^b$$

And the scaling factor for each of the 60 bins, b , is a sequence that starts at 1.5 (for the poorest bin) and then decrements by $(.5-1.517)/60$ for each b , such that the scaling factor for the 60th bin is .5. Hence the growth for the poorest category is roughly three times higher than the growth for the richest category and, by construction, exactly 1.5 times higher than the average growth rate.

The country adjustment factor is set so that for each country the percentage growth of the aggregate is exactly, g . Since aggregate growth is the pdf weighted growth rate across the 60 bins the unadjusted aggregate growth in the pro-poor counter-factual would differ from country to country because they have such different pdfs across the bins (as seen in Figure 3).

Figure 4: Growth incidence curves (left scale) and absolute dollar levels of income by category in baseline, “equal percent” and “pro-poor” growth scenarios (illustrated with India)



Source: Author’s calculations

The total gain in consumption or income per person per day for each country is just the frequency of the population weighted sum of the gains to income by category. The total annual gain multiplies by 365 days of the year and the population.

$$EP.T) \text{ Total annual Gain}^{c,EP} = \left(\sum_{b=1}^{60} (y_{EP}^{c,b} - y_{Baseline}^{c,b}) * f^b \right)$$

And

$$PP.T) \text{ Total annual Gain}^{c,PP} = \left(\sum_{b=1}^{60} (y_{PP}^{c,b} - y_{Baseline}^{c,b}) * f^b \right)$$

The gains to the poor at even given poverty line can be calculated using an indicator function (I(logical condition)=1 if the logical condition is true) that identifies the bins in poverty at a given poverty line was at or below the poverty line:

$$EP.P) \text{ Gain to baseline poor}^{c,EP} = \left(\sum_{b=1}^{60} (y_{EP}^{c,b} - y_{Baseline}^{c,b}) * f^b * I(b^{UB} \leq PL) \right)$$

$$PP.Poor) \text{ Gain to baseline poor}^{c,PP} = \left(\sum_{b=1}^{60} (y_{PP}^{c,b} - y_{Baseline}^{c,b}) * f^b * I(b^{UB} \leq PL) \right)$$

The ratio for the equal percent or pro-poor growth scenarios gives us the answer to the question: “What fraction of the gains from equal percentage growth accrue to the initially poor?” Of course, as the calculations above, since everything is proportional this ratio is just the same as the share of the poor in initial income. The advantage of the simulation apparatus lies in the ability to investigate how robust the findings are to alternative patterns of growth, and, in particular, to see how much difference the pattern of growth across incomes matters.

Figure 5a (for the six largest population countries) and Figure 5b (for the remaining seven) show the cumulative distribution function of the share of gains from equal percentage growth by initial level of consumption. From that we can read off the share of gains to those below any given poverty line. Embedded in Figures 5a and 5b are tables showing the headcount poverty rate and the share of gains at the ‘dollar a day’ (P\$2.15) and the next highest poverty line used by the World Bank, P\$3.87.

What is striking in these graphs/tables is just how small the share of the gains of inclusive growth (equal percent, flat growth incidence curve) to the ‘dollar a day’ poor is. In five of the six largest countries the share to the poor is 5.1 (India) percent or less. It is astounding that in Pakistan (simulated) only 3.4 dollars of every 100 dollars in gains generated by inclusive growth goes to “global poor” measured at the lower-bound poverty line.

In only three of the 13 largest developing countries is the fraction of growth gains to the poor above 10 percent. Almost no one would regard Nigeria as a country that is not “developing” nor as a country where inclusive economic growth is an unimportant objective and the headcount poverty rate, FGT(2.15,0), is nearly a third of the population. And yet only 12.9 percent of gains from equal incidence growth, one dollar in every six, would benefit the ‘dollar a day’ global poor. Ethiopia’s GDP per capita is one of the poorest countries in the world, in the World Bank data for 2022 it ranks 22nd out of the 150 countries with more than 1 million people. Its GDP per capita is on a par with the USA during its Civil War. Yet only 11.8 percent of the gains from equal percentage consumption expenditure growth would benefit the ‘dollar a day’ poor.

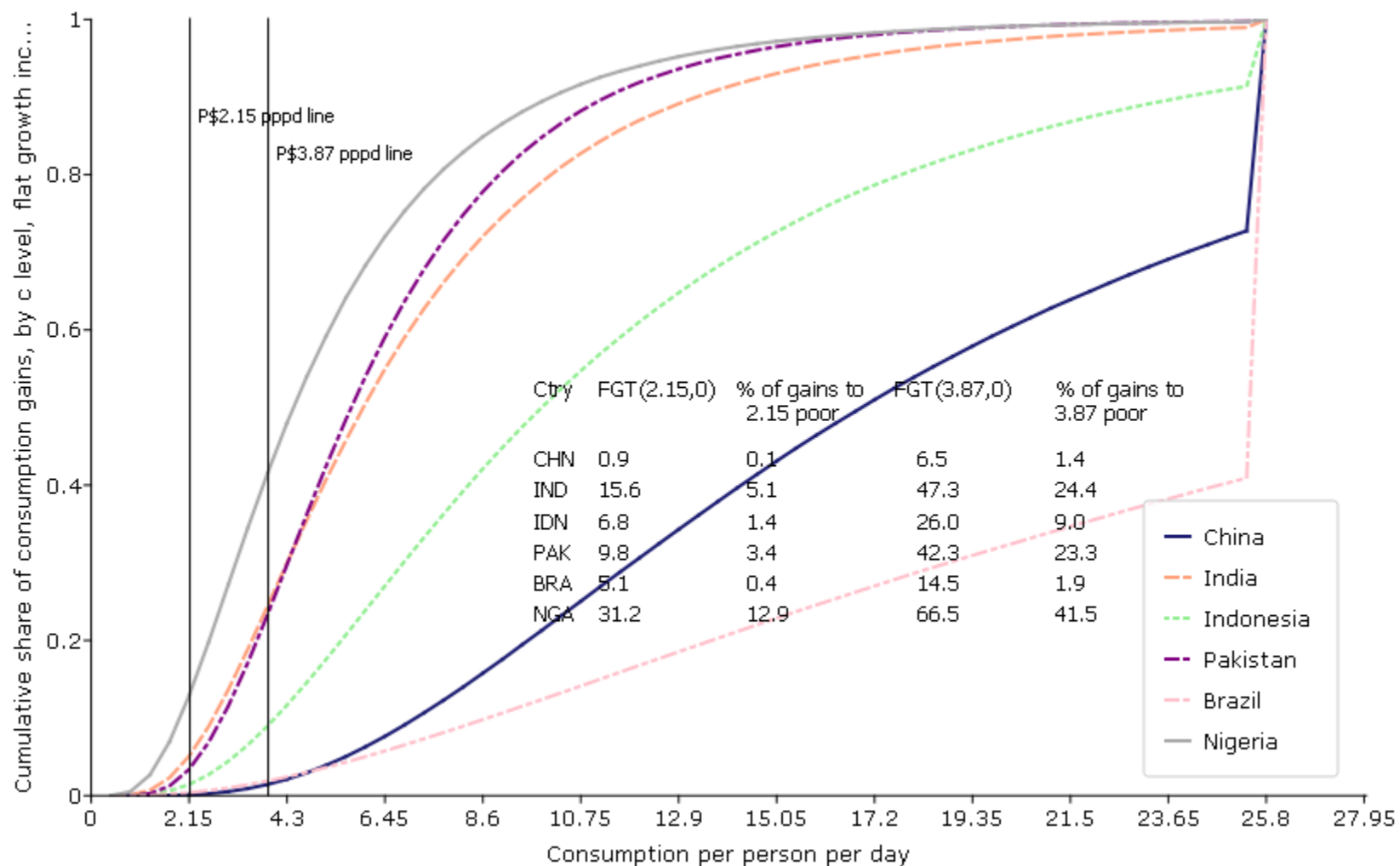
Table 2 that these low level of benefits to the poor is not that growth is not sufficiently pro-poor. The pro-poor simulation, in which the growth rate for the poorest is 3 times bigger than for the poorest, which is chosen to be at the outer-limits of the “pro-poor”-ness of observed growth episodes (Pritchett 2022), only show modestly higher shares of growth gains to the poor. For instance, moving from “equal percent” to “pro-poor” growth rates the fraction to the global ‘dollar a day’ poor in Ethiopia from 11.8 to 13.3 percent. Amazingly, even in DRC (in 2012 data), the third poorest country in the world in 2022, which is, in the historical data, poorer than the USA at its founding, and (these very long-run comparisons are to be taken with a few grains of salt) even poorer than Egypt was when Jesus, Joseph and Mary visited (Pritchett 2022). And yet only 37.9 percent of equal percent growth—less than half—would benefit the ‘dollar a day’ poor.

On the other hand, these results are very much not robust to the poverty line. Figure 2 shows that the cumulative distribution of benefits is, for many of these countries very steep right around the P\$2.15 line so modest increases in the global poverty line produce very much larger shares of consumption gains going to the global poor.

Moving to a P\$3.87 poverty raises the share to the poor in the South Asian countries to about a quarter of the gains (24.4 percent in India, 23.3 percent in Pakistan, 24.1 percent in Bangladesh), about 40 percent in Nigeria (41.5) and Ethiopia (39.6), to two-thirds in DRC. In some of the upper-middle countries the share goes from very to around 10 percent (Indonesia from 1.4 percent to 9 percent, Philippines from 2.4 to 13.4 percent, Egypt from 1.2 to 10.4 percent), in each about a six-fold increase.

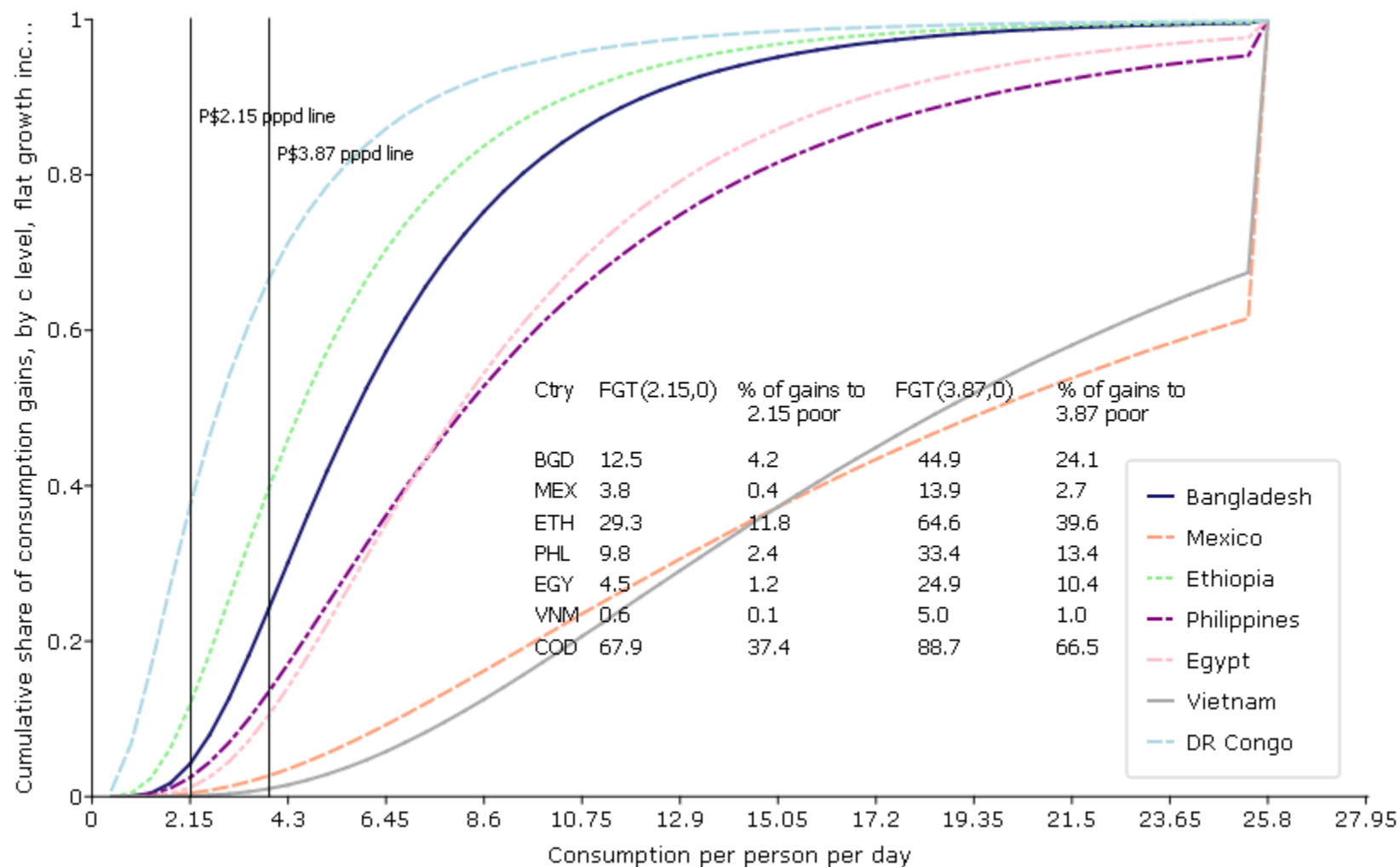
It may seem that an increase in the poverty line from P\$2.15 to P\$3.87 is a “big” change, but that is just in relative terms from a tiny base. In absolute terms this is an annual gain of P\$628 (=1.72*365). USA national accounts personal consumption expenditures in 2022 were \$52,594 to the move from P\$2.15 to P\$3.87 is only a 1.1 percent increase. Or, even take the case of a household that was very poor by US standards, with two full-time workers supporting a household of four on the US federal minimum wage of \$7.25 per hour. To add P\$628 per year their wage would have to increase by less than 10 percent.

Figure 5a. The cumulative distribution function of the share of gains from equal percentage growth which accrue to the poor, at P\$2.15 and P\$3.87 for the six largest population developing countries



Source: Author's calculations

Figure 5b. The cumulative distribution function of the share of gains from equal percentage growth which accrue to the poor, at P\$2.15 and P\$3.87 for the seven next largest population developing countries



Source: Author's calculations

II.C) Aggregate estimates of the gains from an across the board increase

I apply these ratios of “share to the poor” from simulated household data to macroeconomic estimates of aggregate consumption expenditures in PPP across countries to produce estimates of the total gains across the 13 countries and the gains to the “global poor” at various poverty lines.

A major issue around discussing the connection between poverty and economic growth is that the poverty calculations depend on distributional data which is derived from household surveys. The data on economic growth comes from national accounts data which have no distributional data. The difference between the estimate of total personal consumption expenditures derived from household surveys and the total personal consumption expenditures in the national accounts can be quite large, and worse, their underlying growth rates can differ. As Deaton (2005) and others have discussed this can lead to large discrepancies in what the poverty data indicate and the growth in the national accounts.

In this case I use the data on the ratio of gains accruing to the poor based on internally consistent data about poverty and simulated distributions that match and mimic the World Bank data from household surveys while for the macroeconomic estimates I apply the growth rates and ratios to the macroeconomic data from the Penn World Tables, which produce (or at least strive to produce) comparable estimates across countries of national accounts consumption expenditures in PPP.

Table 2 shows the absolute gains of a 10 percent increase in consumption expenditures for each country and then, using the share of gains to the ‘dollar a day’ poor, the absolute magnitude of the gain to the poor. Adding up across the countries gives an estimate of the total gain and the total gain to the poor in these 13 developing countries.

The total gain is P\$2.35 trillion, of which over half is from China (P\$770 billion) and India (P\$581 billion) as they both have a much larger population, both China and India are five times larger than Indonesia, the third largest country and both are near the average in consumption per capita¹⁰. As the gain is 10 percent in each country the aggregate gain is a combination of population and level, so even though Egypt has a smaller population than Ethiopia the absolute gain to consumption is more than four times higher (P\$85.1 versus P\$20.1).

The somewhat obvious findings is that in the upper middle income countries the absolute gains are very small. Even though the gain in China is 770 billion, less than 1 billion would go to the ‘dollar a day’ poor. Total gains to the ‘dollar a day’ poor are less than 2 billion dollars in not just China but also (in population order) Brazil, Mexico, Philippines, Egypt and Vietnam.

But what is not so obvious is that the absolute gains are so low even in the South Asian countries. The gains to the ‘dollar a day’ poor in Pakistan are only P\$2.9 billion of a P\$86.7 billion total gain and in Bangladesh only P\$2.3 billion of a P\$55 billion total gain. About half of the total gains P\$29.6 billion in these 13 countries go to India, in part because the total of P\$581 billion is so large even a smallish share (5 percent) adds up to large gain.

¹⁰ China's total consumption is much nearer to India's even though its GDP per capita in Table 1 is so much higher because the consumption to GDP ratio in China in the PWT 10.0 is so low,

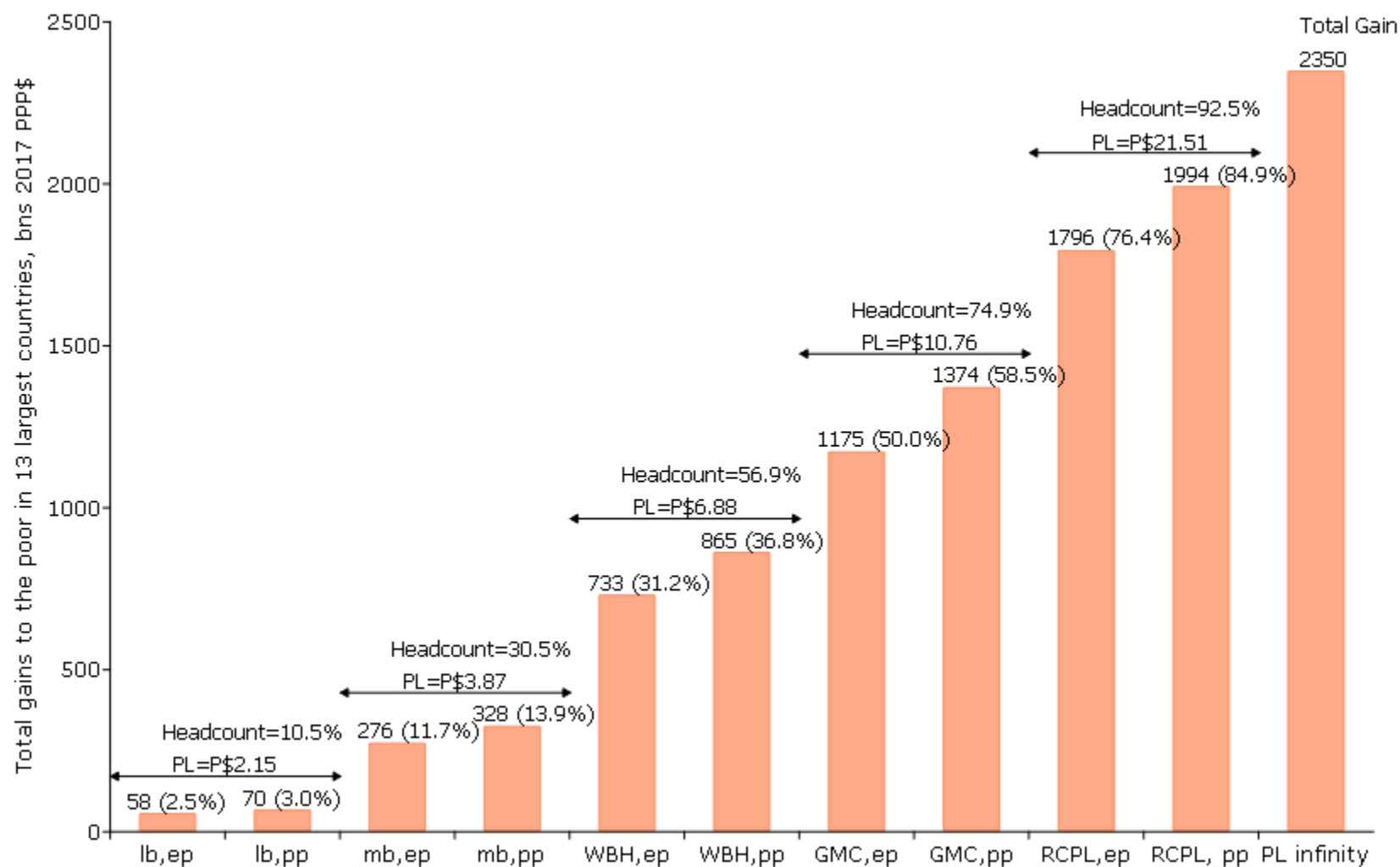
The three poorest countries have (by definition) the largest shares but as their economies are relatively small because consumption per person is low their total gains to the ‘dollar a day’ poor are still relatively small (P\$2.4 bn in Ethiopia, P\$2.7 bn in DRC, and P\$10.6 in Nigeria).

Table 2: Estimate of the absolute gains from a 10 percent point gain in consumption and the total gain to the global poor at the P\$2.15 poverty line.							
Country’s Log-normal simulation	Headcount poverty rate at P\$2.15 per person per day	Share of gains from growth to the low-bar poor		Population (in millions)	Total gain in consumption from 10 percent growth in \$PPP 2017, billions	Total benefits to the low-bar poor (in PPP 2017 billions)	
		Equal percentage growth	Pro-poor growth			Equal percentage growth	Pro-poor growth
CHN	0.87%	0.11%	0.20%	1,433.8	\$777.2	\$0.9	\$1.5
IND	15.60%	5.10%	6.01%	1,366.4	\$580.9	\$29.6	\$34.9
IDN	6.84%	1.44%	1.98%	270.6	\$171.0	\$2.5	\$3.4
PAK	9.84%	3.39%	3.91%	216.6	\$86.7	\$2.9	\$3.4
BRA	5.13%	0.40%	0.84%	211.0	\$200.8	\$0.8	\$1.7
NGA	31.17%	12.89%	14.40%	201.0	\$82.4	\$10.6	\$11.9
BGD	12.48%	4.22%	4.90%	163.0	\$55.2	\$2.3	\$2.7
MEX	3.79%	0.44%	0.79%	127.6	\$161.3	\$0.7	\$1.3
ETH	29.31%	11.83%	13.28%	112.1	\$20.1	\$2.4	\$2.7
PHL	9.83%	2.44%	3.14%	108.1	\$68.5	\$1.7	\$2.2
EGY	4.55%	1.16%	1.46%	100.4	\$85.1	\$1.0	\$1.2
VNM	0.61%	0.07%	0.13%	96.5	\$53.3	\$0.0	\$0.1
COD	67.94%	37.44%	40.04%	86.8	\$7.3	\$2.7	\$2.9
Population weighted	10.5%	3.7%	4.3%				
Total				4,493.9	\$2,349.9	\$58.2	\$69.8
Percent						2.48%	2.97%

Source: Author’s calculations.

As shown in Figure 6 above moving from an “equal percent” growth scenario to a strongly “pro-poor” growth scenario leads gains to increase from P\$58 bn to only P\$70 billion. This illustrates (again) the simple arithmetic (and intuition in Figure 2) that if one chooses a very low poverty line then: (i) there will be relatively few people classified as poor and (ii) the poor will be very poor relative to the rest of the population. Therefore arithmetically nearly all of the gains, even of strongly “pro-poor” growth, accrue to the non-poor.

Figure 6: The gains from across the board increases in consumption to the ‘global poor’ ranges from near zero to near one depending on the choice of poverty line



Source: Author's calculations.

II) *Ending the use of low-bar poverty lines: Just Let Go*

The centrality of the poverty line to development discussions and considerations of trade-offs is illustrated by a June 2023 World Bank Data Blog (Mahler, Wollburg, and Hallegatte 2023, based on an earlier research paper (Wollburg, Hallegatte and Mahler 2023) on climate change and poverty reduction. They point out that that studies which calculate the incremental emissions needed to reduce poverty that assume that poverty is reduced by increasing the consumption of *only* the poor to exactly the extreme poverty line are far too optimistic (Bruckner (2022), and they acknowledge that in reality nearly all of poverty reduction is the result of economic growth. They calculate the growth that would be needed to meet the World Bank's goal of reducing extreme poverty ('dollar a day') to 3 percent in every country by 2050 at (i) the historical association of growth and poverty reduction and (ii) the historical relationship of emissions to GDP growth. Their (initial) conclusion is:

Compared with a scenario without any reduction in poverty, ending extreme poverty in all countries by 2050 with historical energy and carbon intensity patterns would increase annual emissions by only 2.37 gigatons of CO₂e or 4.9% of 2019 global emissions.

This empirical finding leads to statements like:

...eradicating extreme poverty can safely be considered an absolute priority...it would not threaten our global climate goals

and

The good news is that eradicating extreme poverty would increase emissions by less than 5 percent and doing so can thus safely be considered an absolute priority, even if it is done with historical energy and carbon intensities

and

We were surprised by how small this increase is: it corresponds approximately to the increase in emissions the world has been experiencing every three years since 2000.

But, to their great credit, the authors use their same method to calculate the incremental emissions to eliminate poverty at the World Bank's higher poverty lines of P\$3.65 and P\$6.85 and find: *At the upper-middle-income poverty line of \$6.85 per day, the added annual emissions in 2050 amount to 22.1 gigatons or 45.7% of 2019 emissions.*

The answer to the seemingly simple question "what are the incremental carbon emissions needed to eliminate global poverty?" varies by an order of magnitude (4.9 percent versus 45.7 percent) even using the relatively narrow range of poverty lines used by the World Bank. Therefore the authors also conclude:

The reason there is so little tradeoff between climate goals and ending extreme poverty...reflects the abject nature of extreme poverty and providing middle-class standards of living to all while stabilizing climate change will require radical changes in energy and carbon intensity, and this is where the challenge lies for the next few decades.

Using the exact same method the climate change implications of "eliminating global poverty" are either a "small" matter or "require radical changes" depending on the poverty line used to define "global poverty."

These results are exactly the converse of the results above. As Figure 6 shows, the answer to the question: “How much of the benefits of inclusive (or pro-poor) growth in the developing world accrue to the global poor?” can either be “almost none of it” (2.5 percent at P\$2.15), “about a third” (31.5 percent at P\$6.88) or “more than three quarters” (76.4 percent at P\$21.5). The difference depends on the choice of poverty lines.

The name “monkey trap” comes from the story, perhaps apocryphal but instructive nonetheless, that one can catch a monkey by placing a desirable item, like a banana, in a trap designed with a slit wide enough that the monkey’s hand can reach in but narrow enough the monkey’s hand cannot get out while holding the object. Even when the monkey clearly sees the risk of capture as a person approaches, they won’t make their escape by just letting go.

Whatever the merits of adopting a ‘dollar a day’ standard as “the” poverty line that defined global poverty were in 1990, it was a trap. Over time the challenge of reducing ‘dollar a day’ poverty has become less and less capable of being the organizing goal around which developing country efforts for their own national development or for global (or regional) efforts at supporting development. Fortunately, this is a monkey trap, which means escape is easy: just let go. And “letting go” doesn’t mean abandoning the ‘dollar a day’ standard as one mileage marker and or one indicator of development progress, it just means abandoning the insistence that the lowest possible poverty line also be “the” global poverty line and acknowledging that there is a wide array of equally legitimate poverty lines to define “global poverty.”

III.A) Leadership in developing countries: Just say no

The leadership of developing countries (in the broadest sense, political, policy making, social, intellectual) should just say ‘no’ to use of the ‘dollar a day’ poverty line as a dominant description of their country’s developmental goals. This seems like a natural concomitant of the de-colonialization of development as the ‘dollar a day’ standard was created and has been pushed almost exclusively by “Western” dominated organizations. This is also a natural sequelae of the adoption of the Sustainable Development Goals state of “end poverty in all its forms, everywhere.”

The obvious strategy is for developing country leadership to emphasize, in all development and international fora, that their goals for eliminating poverty for *their* people are, naturally, *exactly* the same as the goals for the leaders of the USA, Denmark, Japan. To accept in any forum their country’s *long run* objective for poverty reduction can be defined by a lower poverty line than those accepted in the USA or EU or Japan would be to accept that a person born in Nigeria, Bangladesh, or India is somehow born without any claim to aspire to levels of material wellbeing as those born in Germany, Sweden, or France *already* enjoy.

This is not to argue that country’s leadership (again, in the broadest sense) should not be concerned about poverty and inequality and fairness and equity in the distribution of income and consumption. Absolutely they should. But economically and politically effective concern about issues of fairness and equality of opportunity and equity is not helped, but rather hindered, by an exclusive or dominant focus on global low-bar poverty lines.

At a programmatic level, developing country governments can, and should, have poverty programs based on locally and contextually relevant national and regional definitions of poverty. Moreover, it is not obvious the attempt to achieve very sharp targeting in social programs or services or “social protection” schemes is a politically viable means of creating support for adequate funding.

A poverty measure that only focuses on the very bottom of the distribution the issue of the legitimacy of the economic process overall and the role of “crony capitalism” or “closed deals” in creating a concentration of income and wealth at the very top.

III.B) The “Impossible Trinity” for Development Organizations

The adoption of the lowest possible poverty line as “the” (or at least the most widely used) global poverty line led to a shift from a “national development” to a “kinky development” agenda. The “national development” approach was an understanding of “development” as a complex historical four-fold country-level transition in economic, social, political, and administrative rules systems that would lead, *mutandis mutatis*, to much higher levels of human wellbeing across a large number of domains. Again, with hindsight and more and better data, it is demonstrably the case that “national development” is an empirically necessary and empirically sufficient condition for high levels of human wellbeing (Pritchett 2022a) and that economic growth itself is an empirically necessary and sufficient for achieving the basics of material wellbeing (Pritchett and Lewis 2023). In the “national development” approach to development poverty reduction, at all levels and at all poverty lines, was an objective that would be reached as a consequence of national development. And that has been true as nearly all of the variation in headcount poverty (across a variety of poverty lines) across countries and time is accounted for by the level of income of the median individual.

However, emphasis on a single, lower-bound, low bar poverty line led to the confusion between “what would happen when development happened” to poverty reduction at a low-bar poverty line as *the* goal, which could be achieved with or without national development. This increasing emphasis on specific, low-bar goals, led to efforts movements like the Millennium Development Goals, in which the purpose of development assistance shifted from its natural interpretation as assisting countries with their national development to the accomplishment of very specific, very narrow, quantifiable outcomes. This led to an increasing blurring and confusion between “development work” which attempted to creation the conditions for broad based progress in human wellbeing and “charity work” which attempted to mitigate the worst consequences of the lack of national development by specific programmatic interventions (Pritchett 2022b).

A “trilemma” or “impossible trinity” is three desirable goals which are mutually incompatible. First pointed out in macroeconomic policy (Fleming 1962) these “impossible trinity” situations have been articulated in globalization (Rodrik 2007), in monetary unions (Beck and Prinz 2012). It has become increasingly obvious that there is a “trilemma” facing development organizations.

While each is desirable, it is impossible for development organizations to simultaneously:

- (a) Embrace ‘dollar a day’ (or any similar low-bar threshold) as their working definition of the “poverty” that it is their goal to reduce or eliminate.

and

- (b) Support the principle of “country ownership” of the development strategies which development organizations support. For instance, Paris Declaration on Aid Effectiveness (OECD 2005) embraces “ownership” (“Countries put in place national development strategies with clear strategic priorities.”) and “Alignment” (“Donors align their aid with national priorities and provide the information needed for it to be included in national budget”) as two of five key principles for effective development assistance.

And

- (c) Desire to work with (or promote the existence of) democratic governance (or even governance that is responsive to the needs and priorities of their citizens).

As early as 2005 (almost 20 years ago) a key Indian policy maker (and former World Bank staff) explained to me that the World Bank was making itself increasingly irrelevant to the development challenges of India--a very large, democratically governed, and still quite poor developing country—by its insistence that “low-bar poverty reduction” was its goal. He pointedly expounded the obvious: that no democratic government can (practically)—or should (normatively)—formulate its overall developmental objectives and strategy on the premise these should only (or even primarily) benefit one quarter (or less) of its population (Pritchett (2013)).

Insisting on a low-bar poverty line to define global poverty has made these organizations increasing irrelevant to very real and very pressing agendas of most of the developing countries (Leo 2013, Pritchett 2015, 2023). This has, in turn, undermined the interest of developing countries in these organizations and their agendas.

And this loss of interest in development organizations by their developing country “partners” was not offset by stronger political support in the rich industrial countries. As the agenda of “foreign assistance to national development” narrowed to “poverty reduction” so too did the political coalition supporting development assistance. Autonomous development focused agencies were merged with larger, more powerful agencies in Australia (AusAid into FAT), the UK (DfID into FCDO), Canada (?) and others.

The remaining development organizations, both multilateral (World Bank, UNDP), regional, and bilateral should just say ‘no’ to use of the ‘dollar a day’ poverty line as a dominant organizational goal. This will allow them to focus on working with their developing country partners to promote progress in a broad vision of national development hence produce transformational improvements in human wellbeing.

III.C) Development economics

And lastly, my own beloved (sub)disciplinary tribe of development economists should return their intellectual efforts to addressing the hugely consequential questions of national development. In 1988 Robert E. Lucas (1988), whose primary field was macroeconomics, published an article about economic development in which, after reviewing the differences across countries in levels and growth rates of GDP per capita wrote:

Is there some action a government of India could take that would lead the Indian economy to grow like Indonesia's? or Egypt's? If so, what exactly? If not, what is it about the nature of India that makes it so? The consequences for human welfare involved in questions like these are simply staggering: Once one starts to think about them, it is hard to think about anything else.

This is what we need a theory of economic development for: to provide some kind of framework for organizing facts like these, for judging which represent opportunities and which necessities.

In this short passage Lucas is right about two things but wrong about a third, which is a puzzle.

First, he is right that the reason for thinking about economic development, broader than just growth but certainly including economic growth, is that the consequences for human welfare are staggering. The connection between GDPpc and *any* omnibus measure of the material basics of wellbeing (health, education, housing conditions, water and sanitation) is very strong and the elasticity is substantial up to very high levels of GDPpc. Three indicators of national development (GDPpc, state capability, and democracy) account for nearly all of the cross-national variation in a broad measure of social progress (Pritchett 2022). Stevenson and Wolfers (2013) show the responsiveness of subjectively reported measures of wellbeing to income gets *stronger* in richer countries.

Second, he is right that one needs a *theory for judging opportunities*. The alchemists proved that the hallmark of science is not doing experiments or generating facts but having a correct theory of the relevant phenomena.

Third, he was however wrong, at least as a positive prediction about the behavior of other economists, that, once one realized the gains to human wellbeing from sustained accelerated economic growth, it would be hard to think about anything “but” that question. In sharp contrast, large parts of development economics over the last 20 years or so have eschewed *both* thinking about the big questions of economic development and about theory in favor of a overriding commitment to a method (Pritchett 2020). While this method, randomized control trials (RCTs) can produce reliable estimates of causal impacts of specific “interventions” in specific contexts—they are not at all well suited to answering most/many/all questions about how to accelerate and sustain economic growth (Pritchett 2014, which became known as the “Pritchett test”).

The idea that evidence generated by RCTs could be important for development could have only emerged in a context in which ‘dollar a day’ poverty was regarded as an important

development objective and in which identifying “cost effective interventions” that reduced poverty was regarded as an important research agenda (independently of investigating the correlates and determinants of poverty).

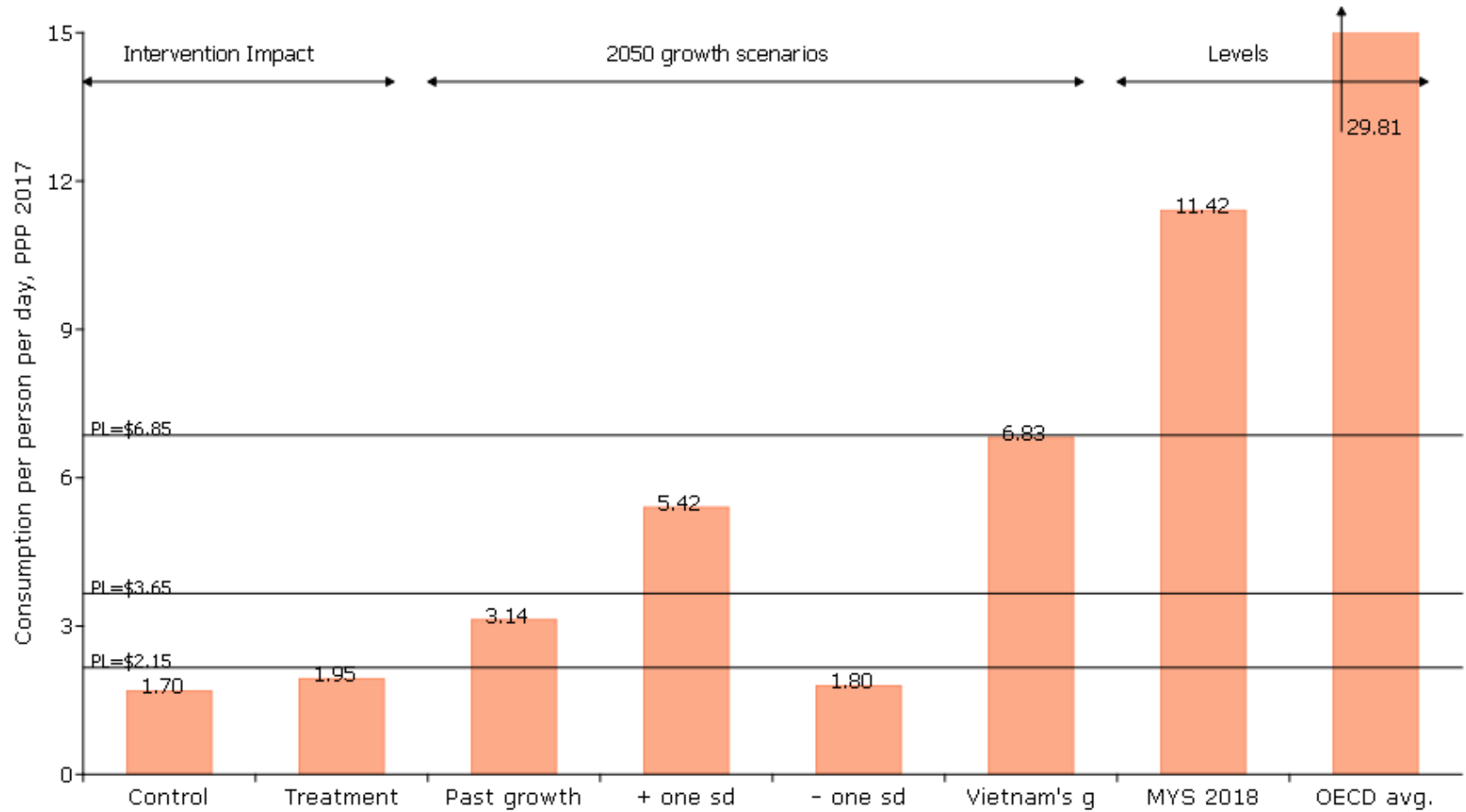
Take as example two recent papers that appeared not only in a top economics journal but in the top journals across all sciences: *Science* (Banerjee et. al. 2015) and *Nature* (Bossuroy, et. al. 2022).

The *Science* paper does a RCT evaluation of implementing a similar, multi-faceted, “graduation-style,” livestock asset transfer program targeted to the chronic poor in six countries. This paper has been touted to claim there is “gold standard” evidence that this type of program can be cost-effective at raising incomes as, after two years of implementation in year three the “intention to treat” estimate was gains in non-durable household consumption. The gains were quite modest as, averaged across the five countries in which the program worked (in one country the livestock mostly died and the impact on incomes was negative) the year three gain in non-durables consumption was P\$344 per household, which, assuming an average family size of 4 was a gain in consumption of 23 cents per person per day. The program was costly. Across the five countries the average cost of the program per household was P\$4,545. Assuming the year 3 gains persisted forever the internal rate of return of the program costs was 7.4 percent, which is positive, but hardly stunning. This massive research project (the paper had nine authors) is interesting only to the extent one thinks the question of producing sustained, even if very modest, consumption gains to targeted very poor households is a practically interesting question.

The *Nature* paper evaluated the impact on household consumption of various treatment arms added to existing targeted cash transfer program in Niger. The “full program” of a capital grant plus a “psycho-social” intervention raised the per capita consumption from the control group level of \$1.7 pppd to \$1.95 pppd. The “psycho-social” intervention was found to be particularly cost-effective as, while it had a modest impact it was, as an incremental addition very low cost: “Overall, the arms with psychosocial interventions were the most cost-effective, highlighting the value of including well-designed psychosocial components in government-led multi-faceted interventions for the extreme poor.” (Bossuroy et. al. 2022).

Believing this intervention has a “poverty” impact however depends completely on addressing only the low-bar ‘dollar a day’ poverty line. If one adopts the highest of the World Bank’s poverty lines (which again, is itself penurious as an upper global poverty line) then the treatment gain of 25 cents pppd is only a 20th of the gap from \$1.7 to \$6.85. So whether this intervention does or does not reduce “poverty” to any significant degree depends on entirely on a, more or less, arbitrary choice of which poverty line to adopt.

Figure 7: Impact of the “full” treatment intervention (capital grants plus psychosocial) compared with growth scenarios and gap to the levels of “just” developed countries or the OECD



Source: Author's calculations with World Bank PIP data

The magnitudes of the impacts of these interventions compared to those induced by growth differentials reinforce, rather than challenge, Lucas's point. Data from the World Bank's PIP on the growth of the (real, PPP) consumption of the second decile (so this is not GDP per capita and is not the mean but rather the growth of the poorer households) over the 116 countries with survey data for episodes longer than 15 years show average growth was 2.49 ppa and the standard deviation of growth across countries was 2.16. The "consequences for human welfare" of these differences in growth rates are staggering compared to the gains from a cost-effective intervention. If Niger's control group grows from its level of \$1.7 to 2050 at Niger's, about average, past pace (2.4 ppa) plus one standard deviation (hence to 4.56 ppa) its level of consumption rises to \$5.42 versus \$3.14. The gain from this hypothetical (but feasible) accelerated growth over 26 years (2024 to 2050) is 9 times larger than the gain from a programmatic intervention. And if Niger were to grow at a slow pace (one s.d. below the mean) and only progress from \$1.70 to \$1.80 versus rapid growth (one s.d. above the mean) and growth from \$1.70 to \$5.42 implies the gap in outcomes across potential growth outcomes is 14.5 times larger than the treatment impact $(5.42 - 1.80) / .25 = 14.48$. The question of "what, exactly?" could be done to have faster rather than slower growth is massively more consequential for human wellbeing than the question of the design of a targeted transfer program.

Moreover, the goal of development is to achieve the productivity and standards of living of a developed country. Figure 7 shows the level of consumption of the second decile in Malaysia (which is a borderline "developed" economy) is P\$11.42 and the average second decile consumption in the rich industrial countries is P\$29.81 (putting that on the graph would make all other differences look tiny). This makes it clear the massive difference between "development" and targeted "anti-poverty" transfer programs as the 25 cent gain—though it may be *cost-effective* as an "intervention" reduces the gap between the control group in Niger and the typical poorer (second decile) person in the USA or EU by about 1 percent $(.25 / (21.9 - 1.70)) = .012$. The only path to the prosperity already enjoyed in the richer countries is inclusive growth of productivity (in the absence of discovering mineral wealth, which has its own challenges).

Three quick points about the symbiotic relationship in which low-bar poverty lines make questions answerable by RCTs seem of interest.

One, the need for RCTs to have statistical power makes interventions at the individual level methodologically attractive for academics seeking to publish papers. But this individuation, particularly when combined with "behavioral" interventions, this can make it seem as if the "cause" of poverty is the characteristics of decision making of the poor and the "solution" is to help "the poor" make better choices. This is both empirically false (the poor in the developing world are mostly poor because they live in poor (low productivity) places, which limits the choices they have, not because of the choices they make) and morally just awful.

Two, one rejoinder I have heard is that, yes, the wellbeing gains from growth are enormously larger than those from well designed projects or programs, but "we" (economists?) have the methods and tools to generate reliable evidence to help partners design (and implement) projects and programs (do "plumbing" in the metaphor of Ester Duflo ()) but "we" cannot generate useful and reliable advice about how to accelerated inclusive growth. That however, is,

at this stage, an entirely faith-based claim as both sides of the claim are dubious. That is, the claim RCTs produce evidence that is “reliable” across contexts (or has “external validity”) has already demonstrated to be false in a range of development applications (Pritchett 2023). And the claim that, as a general rule, RCTs are an effective tool to arrive at correct program design has also demonstrated to be demonstrably false in an array of cases (Nadel and Pritchett 2016). And, conversely, the claim that we currently lack knowledge adequate to giving advice about important topics seems like an argument for more research into that topic, not a reason to stop doing research in that domain. The argument against doing more research on economic development questions has to rely on claims that these questions *cannot* (not “are not”) be answered with adequate reliability to make them useful, which is a strong and completely unverified claim.

Third, when a positive explanation of the rise of RCTs in development economics is written I think the prior shift of development actors towards low-bar poverty lines and low-bar development goals like the Millennium Development goals will be seen as playing the major role. A common narrative, that the rise of RCTs was the result of technical advices or “discoveries” about the usefulness of RCTs for social policy is obviously false. The rise of RCTs in social policy in the USA happened in the late 1960s and 1970s and was well advanced long before they were used in development contexts. Moreover, the RCTs carried out in development were mostly of relying on techniques and approaches that were already well known for social policy impact evaluation the 1970s, adapted from approaches developed even earlier for agriculture and medicine. Development economists didn’t prioritize the use of RCTs because it was, correctly, perceived that questions about national development did not lend themselves to those techniques and it was the change in what were promoted as interesting questions that resulted in the expansion of RCTs.

As a method are not particularly useful to people—politicians, policy makers, government agencies, professionals in development organizations--who are doing development. They are however of great interest to those who want to do effective charity work. The insistence of the effective altruism movement on the use of rigorous evidence to judge the efficacy of philanthropic interventions has been overall a terrific thing. But we should expect the methods use to answer the questions: “I am a potential donor of a few thousand dollars, what are fundable activities that have rigorous evidence super high cost-effectiveness?” and the question “I am the President/Prime Minister or Minister of Finance of Pakistan, what should I (our government) do to promote the current and future wellbeing of the people of Pakistan?” to have radically different answers. No one should be surprised if the methods and range of evidence considered for the first question does not even begin to address the complexity of the second set of questions.

Conclusion

To re-coin a phrase, I come not to praise the ‘dollar a day’ poverty line but to bury it.

This paper is part of a pair of papers.

The correct understanding of the ‘dollar a day’ poverty line was *always* (even in 1990) that the resulting poverty measure was moderately useful in emphasizing the “inclusive” part of “inclusive growth” (and the need to emphasize and incorporate the less well off in all of development efforts). In this view, ‘dollar a day’ was just one among many development mile markers (including other poverty lines). Progress in economic (and more broadly national) development should be “inclusive” in benefit incidence and hence lead to the reduction in ‘dollar a day’ poverty and gains in many other indicators of wellbeing (child health, malnutrition, living conditions, access to sanitation, etc.).

Over time, from 1990 onwards, for political and organizational reasons actors in the “donor” countries (this never originated from developing countries) stood this understanding of the goals of development on their head. “Ending poverty” with poverty defined by this low-bar threshold was taken to be, in and of itself, a major goal of economic development and of development organizations. One of many mileage markers got confused for the destination.

Whatever the technical, political, and organizational trade-off of costs and benefits in adopting ‘dollar a day’ poverty lines have been in the past, in 2024 and moving forward, either ‘dollar a day’ dies or development does. And economic and national development remains a huge priority for improving human wellbeing, so that choice should be easy.

People still think that “poverty reduction” and “inclusive growth” (or “share prosperity”) and near synonyms. But the archaic ‘dollar a day’ has, due to continued progress since 1990 become radically *exclusive*. An equal percentage, increase in consumption expenditures in the 13 largest developing countries benefits 4.5 billion people massively. A 10 percent increase brings about \$2.3 trillion in gains which nearly all accrues to people for whom the responsiveness of material wellbeing to consumption expenditure gains is high (far from zero). Yet the construal of “global poverty” as a measure based on a poverty line whose only justification was that it was the *lowest* a poverty line could be excludes from the “poverty reduction” objective the gains to 4 billion of those people. On the ‘dollar a day’ standard only \$58 billion of the \$2.3 trillion (2.5 percent) in gains from an equally distributed 10 percent expansion in consumption would accrue to the poor.

If “reducing poverty” is your global goal but you have defined “poverty” such that only 1 in 20 people in Pakistan counts at all in your measure (Table 1) and less than 3.4 percent of the gains from broad based growth accrue to the “global poor” on your measure—and hence the gains to all other Pakistanis count for literally zero—something has gone badly awry. You cannot sustain a global field of development on the measure that excludes 95 percent of Pakistanis—nor should you.

Fortunately, the solution to the problems raised by the dominant use of ‘dollar a day’ poverty as a goal is easy: just stop. One does not even need to stop using the measure of ‘dollar a day’ poverty, you just need to stop using it as the primary or exclusive measure. Report the “number of poor” and poverty rates and FGT poverty measures across a broader array of poverty lines.

The second part of the pair of papers is a paper, coauthored with Martina Viarengo ((Pritchett and Viarengo 2024), that asks: “if we take the property of any FGT measure of poverty seriously, that the gains from poverty reduction go to exactly zero above the poverty line, what is an upper bound global poverty line such that ‘zero’ is a tolerable approximation to wellbeing gains from consumption at that line?” That is, giving up ‘dollar a day’ doesn’t mean that the gains to millionaires or billionaires—or even the “one percent” in rich countries--have to be a public policy global priority or be counted as “poverty reduction.” That paper uses a variety of indicators of wellbeing and both aggregate and household data to estimate the elasticity of wellbeing with respect to consumption gains. With those empirical estimates we draw poverty lines at which material wellbeing on these indicators is either “high enough” and/or the elasticity is “low enough” that the analytical problems of poverty measures are *minimized* (rather than maximized, as they are with ‘dollar a day’). We show that using both low-bar and high-bar poverty lines can securely ground a development agenda.

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Appendix: Regressions for Elasticities

(tbc)