

## Counting the poor versus monitoring the floor: Understanding alternative perceptions of progress against poverty

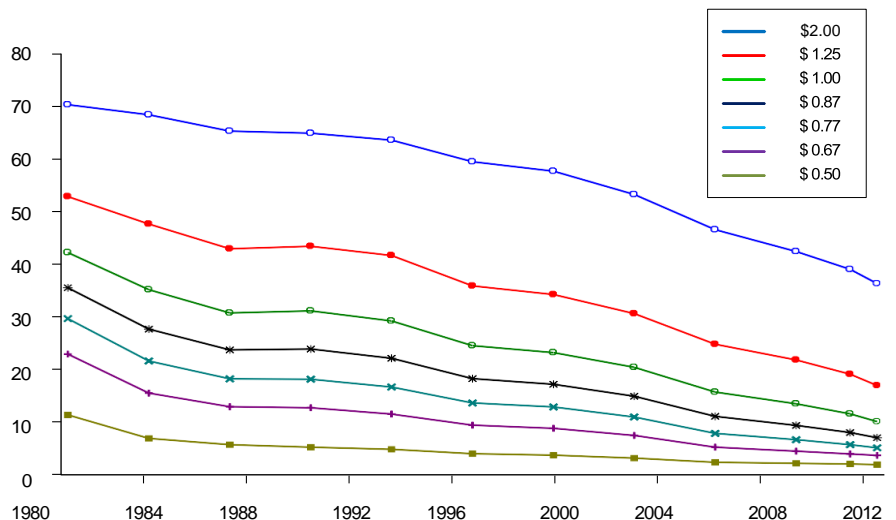
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### Introduction

One hears very different views within the development community on the question as to whether the world's poorest are participating in the benefits of economic growth.<sup>1</sup> One view is reflected in John F Kennedy's famous aphorisms that 'a rising tide lifts all boats,' or claims that 'growth is good for the poor' (Dollar and Kraay 2002) and that the poor are 'breaking through from the bottom' (Radelet 2015). However, other observers appear to tell a very different story. For example, on launching the *Millennium Goals Report* (United Nations 2011) UN Secretary-General Ban Ki-moon said that: 'The poorest of the world are being left behind. We need to reach out and lift them into our lifeboat.' Something like this alternative view is heard often in the development community.<sup>2</sup>

So we appear to have two very different perceptions on progress against poverty. Ostensibly it would seem that truth is closer to the former view. Empirical research has indicated considerable progress against poverty when one counts the numbers of people living below a wide range of poverty lines, including lines well below the international line of \$US1.25 per person per day in 2005 prices. Figure 1 gives the percentage of the population of the developing world living below various poverty lines over a 30-year period from 1981 (each line is fixed in real value over time and across countries.) The evidence indicates falling incidence and depth of absolute poverty in the developing world over recent decades. And the extent of that progress is correlated with overall growth rates (Ravallion 2016). Nor is it clear what research findings can be identified to support the view that the poorest are being left behind. Where is the evidence? One hears such claims so often that one might be tempted to suspect that this is a case of proof by repeated assertion. However, it would be overly hasty to conclude that those who think that the poorest are being left behind are simply ill-informed. We also need to acknowledge that something important is missing from the numbers generated by counting poor people over time, as in Figure. If overall economic progress is not to 'leave the poorest behind' then it must, in due course, raise the lower bound to the distribution of permanent consumption in society. That lower bound can be called the *consumption floor*. The counts of poor people can fall without the floor rising.

Figure 1: Percentage of the population of the developing world living below each line



The most widely-used poverty measure, the ‘headcount index’ attaches no value to success in raising the lowest level of living. Those with the lower observed consumption or income are given higher weight in assessing an individual’s deprivation for the subset of poverty measures that penalise inequality among the poor. These are also cases of the counting approach, whereby one counts individual deprivations. There is no assurance that any of the measures using the counting approach give adequate weight to progress in raising the floor. Indeed, in most measures, the weight on the individual deprivation measure is the corresponding population density, which may well be quite low for the poorest.

Figure 2 below illustrates the difference. Each panel gives two cumulative distribution functions (CDFs).<sup>3</sup> In each case, the upper CDF is the initial one and the lower CDF is for a later date. As drawn, no standard measure of poverty will show an increase. The drop in the incidence of poverty at the indicated poverty line is similar in panels (a) and (b). In (a), the counting approach can reasonably claim that many of the poorest have been reached even though the floor has not risen, so some people still remain living at the same very low level. In panel (b), the same reduction in the poverty rate has come with a rising floor—implying that the poorest are not left behind.

The following section reviews the arguments that can be made for focusing more on the level of the consumption floor in assessing progress against poverty. The paper then provides an overview of the findings from my recent research attempting to measure the level of the floor and its evolution over time.

### Arguments for focusing on the consumption floor

Moral philosophers have long argued that justice is only served when every individual is covered by its precepts—none are left behind. An application to distributive justice

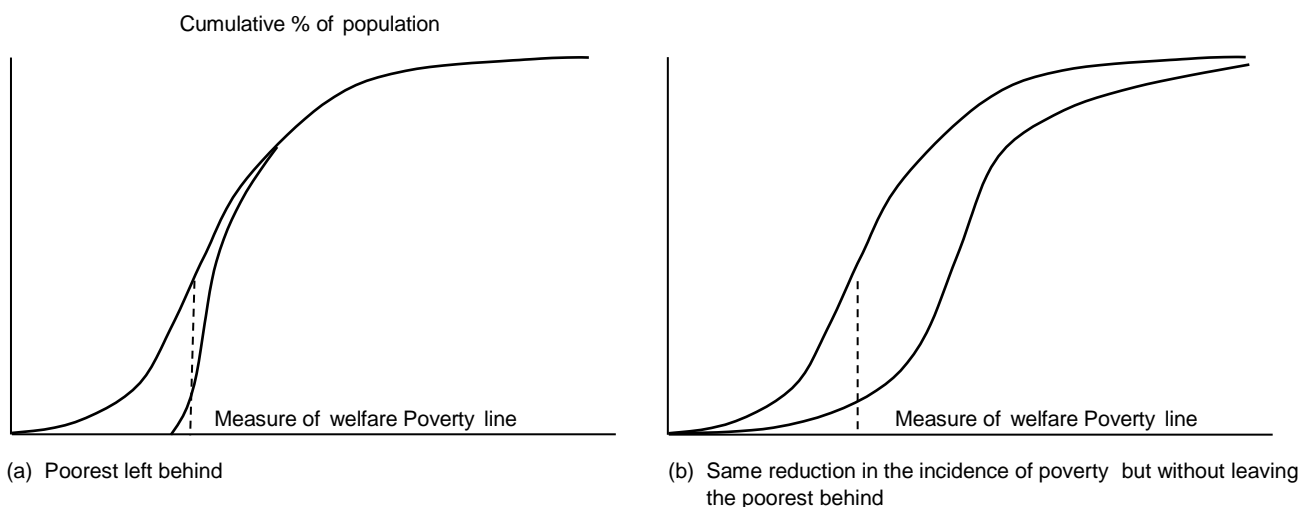
assesses a society’s economic progress by its ability to enhance the economic welfare of the least advantaged, following the two principles of justice proposed by Rawls (1971). First, each person should have an equal right to the most extensive set of liberties compatible with the same rights for all. Second, subject to that constraint, social choices should only permit inequality if it is efficient to do so—that a difference is only allowed if both parties are better off as a result; this is what Rawls called the ‘difference principle’. Rawls’s difference principle is often interpreted as ‘maximin’—to maximise the minimum level of welfare. Hammond (1976) showed that a generalised lexicographic version of maximin (dubbed leximin in the literature) can be derived from a set of axioms including a requirement that reducing the disparities in welfare between the rich and the poor is socially preferred, other things being equal.<sup>4</sup>

The idea of raising the consumption floor also has deep roots in thinking about development and social policy. In a famous example, in 1948 Mahatma Gandhi (1958) was asked: ‘How can I know that the decisions I am making are the best I can make?’ He answered:

I will give you a talisman. Whenever you are in doubt, or when the self becomes too much with you, apply the following test. Recall the face of the poorest and the weakest man whom you may have seen, and ask yourself if the step you contemplate is going to be of any use to him. Will he gain anything by it?

The spirit of Gandhi’s talisman was echoed (in somewhat dryer terms) 65 years later in a report initiated by the UN on setting new development goals, which argued that: ‘The indicators that track them should be disaggregated to ensure *no one is left behind* and targets should only be considered “achieved” if they are met for all relevant income and social groups.’ Endorsing this view in the UN report, Kevin Watkins (2013) refers explicitly to Gandhi’s talisman, and argues that ‘As a guide to international cooperation on development, that’s tough to top’.

Figure 2: Same reduction in the poverty count but different implications for the poorest



Source: Ravallion (2016b)

The widespread concerns that a growing economy will leave the poorest behind have led to social policies that strived to support consumption levels above the biological minimum. Indeed, this has long been a guiding principle in rich and poor countries alike. One motivation for the laws establishing statutory minimum wage rates that first appeared in the late 19th century is that they raise the consumption floor.<sup>5</sup> Social policies have often aimed to guarantee a minimum income. An early example was the Speenhamland System of 1795 introduced by the justices of Berkshire, which guaranteed local working-class residents a basic income indexed to the price of bread.<sup>6</sup> There have also been advocates of the idea of a ‘basic-income guarantee’—a fixed cash transfer to every adult person; see, for example, Van Parijs (1995) and Raventós (2007). The International Labor Organization (2012) has recommended a comprehensive ‘Social Protection Floor’, comprising ‘*nationally defined sets of basic social security guarantees*’ spanning health, schooling and income security. One of the UN’s recently ratified Sustainable Development Goals is to:

Implement nationally appropriate social protection systems and measures for all, including floors, and by 2030 achieve substantial coverage of the poor and the vulnerable.

This is more than wishful thinking. In the new millennium, mainstream development policies across the developing world have come to embrace a range of direct interventions, variously called antipoverty programs, social safety nets, and social assistance; here I call them social safety nets (SSN’s).<sup>7</sup> A good working definition is: ‘Social safety nets are non-contributory transfers designed to provide regular and predictable support to targeted poor and vulnerable people’ (World Bank 2014:xii). Their common feature is the use of direct income transfers to poor families. While this was rare in the developing world prior to the mid-1990s, today almost every country has at least one SSN program (ibid). The new SSN programs have mainly been in the form of conditional cash transfers and workfare schemes (ibid). The compilation of survey-based estimates of SSN coverage spanning 2000–10 in the World Bank’s ASPIRE database indicates that the share of the population receiving help from SSN programs is growing rapidly. The term safety net even evokes (at least implicitly) the idea of a floor.

Raising the consumption floor is a common explicit motivation for SSN programs; examples include the two largest programs to date in population coverage, namely China’s *Di Bao* program and India’s *National Rural Employment Guarantee Scheme*. The *Di Bao* program makes transfers aiming to bring all urban residents up to locally determined *Di Bao* lines (Ravallion 2014b). The *Rural Employment Guarantee Scheme* in India aims to guarantee up to 100 days of work per household per year doing unskilled manual labor at stipulated minimum wage rates (see, for example, Dutta et al. 2014). The latter program can be interpreted as an attempt to enforce the minimum wage rate in an informal economy.

The fact that SSN coverage is expanding gives hope that the floor is rising. Of course, whether this is happening in practice is another matter. To assess whether we are seeing progress against poverty consistently with the Rawlsian approach, one needs to define and measure the

consumption floor. It is widely acknowledged that there is a need to focus on more than the growth rate of the overall mean, and descriptive tools such as the growth incidence curve of Ravallion and Chen (2003) have clearly helped. However, there has been little effort to study the growth rate of the lower bound of the distribution of levels of living, even though that lower bound has received much attention in social policy discussions, social choice theory and moral philosophy. The next section will summarise findings from the first attempt to measure the consumption floor in Ravallion (2016a).

The concept of the floor has played a role in positive economics. Early ideas in classical economics of the subsistence wage can be interpreted as the wage rate required to assure that the biological floor is reached for a typical family. Famously, Malthus (1806) argued that the economic dynamics of population growth assures that the unskilled wage rate stays at the subsistence level; any temporary increase (decrease) in the consumption of working-class families in a neighbourhood of the floor would induce population growth (contraction), which will return consumption to the level of the floor. The idea of a floor has been a feature of development models since Lewis (1954).

The idea has continued to play a role in modern economics. It has been built into demand models, such as the widely-used linear expenditure system. The idea is found in modern theoretical treatments of the problem of determining the optimal population size. For example, Blackorby and Donaldson (1984) proposed that social welfare increases with a larger population if and only if the extra people have a level of consumption above a critical minimum.

The idea is also found in modern dynamic models, as discussed in Azariadis (1996) and Ben-David (1998). There are also arguments on the production side, whereby the existence of a floor generates a low-level non-convexity in production possibility sets. Various theoretical arguments have been made along these lines. The essential idea is that worker productivity and/or access to credit (given default chances) suffer when a person’s consumption is close to the floor, as in the models found in Mirrlees (1975) and Banerjee and Newman (1994).

Under certain conditions, low-level non-convexities (such as from thresholds) can also generate dynamics with multiple equilibria in which the low-level attractor among a set of steady-state equilibria is identified as a poverty trap, as in Galor and Zeira (1993). For example, unless nutritional intakes rise above basal metabolic rate it will be impossible to maintain any physical work effort. The existence of such thresholds can explain why some people may be stuck at the floor; the dynamic adjustment in response to small transient gains will push them back to the floor in due course. It can also explain why limited coverage and low transfers can entail that SSN programs are ineffective in raising the floor. Only with a sufficiently large gain will the poorest be able to attain a growth path toward their preferred long-run equilibrium. By the same token, even someone living comfortably at their preferred stable equilibrium can end up destitute after a sufficiently large negative shock. Thus there can be large social returns to a sufficiently comprehensive social protection policy.

## Assessing progress for the poorest

Given the prominence of the idea of a consumption floor in moral philosophy, social policy and economics, it is of interest to see how one might make the idea operational with the available data—to quantify the expected level of the floor and how it has evolved over time, as a complement to prevailing counting approaches.

Estimating the level of the consumption floor is not easy. I have proposed a method of doing so in Ravallion (2016a), which can be implemented with readily available data. The approach is conceptually distinct from the received counting approach to poverty measurement. Here the counting approach includes the ‘higher-order’ measures that have been developed in the literature, such as the Foster-Greer-Thorbecke (FGT) (1984) class of measures. These are essentially counting approaches where poorer people get higher weight in the counts.<sup>8</sup>

The proposed approach to estimating the level of the floor recognises that there are transient consumption effects in the observed survey data. However, the data are assumed to be reliable enough to assure that it is more likely that the person with the lower observed consumption is living at the floor than anyone else. The key assumption is that the probability of being the poorest person falls as a power function. Then the expected value of the floor can be derived as a function of standard poverty measures. For example, if the probability falls linearly up to the upper bound then the ratio of the squared poverty gap to the poverty gap relative to that bound—two readily-available FGT measures of poverty—emerges as the key (inverse) indicator for assessing progress in raising the floor. This method implies that the consumption floor today that is

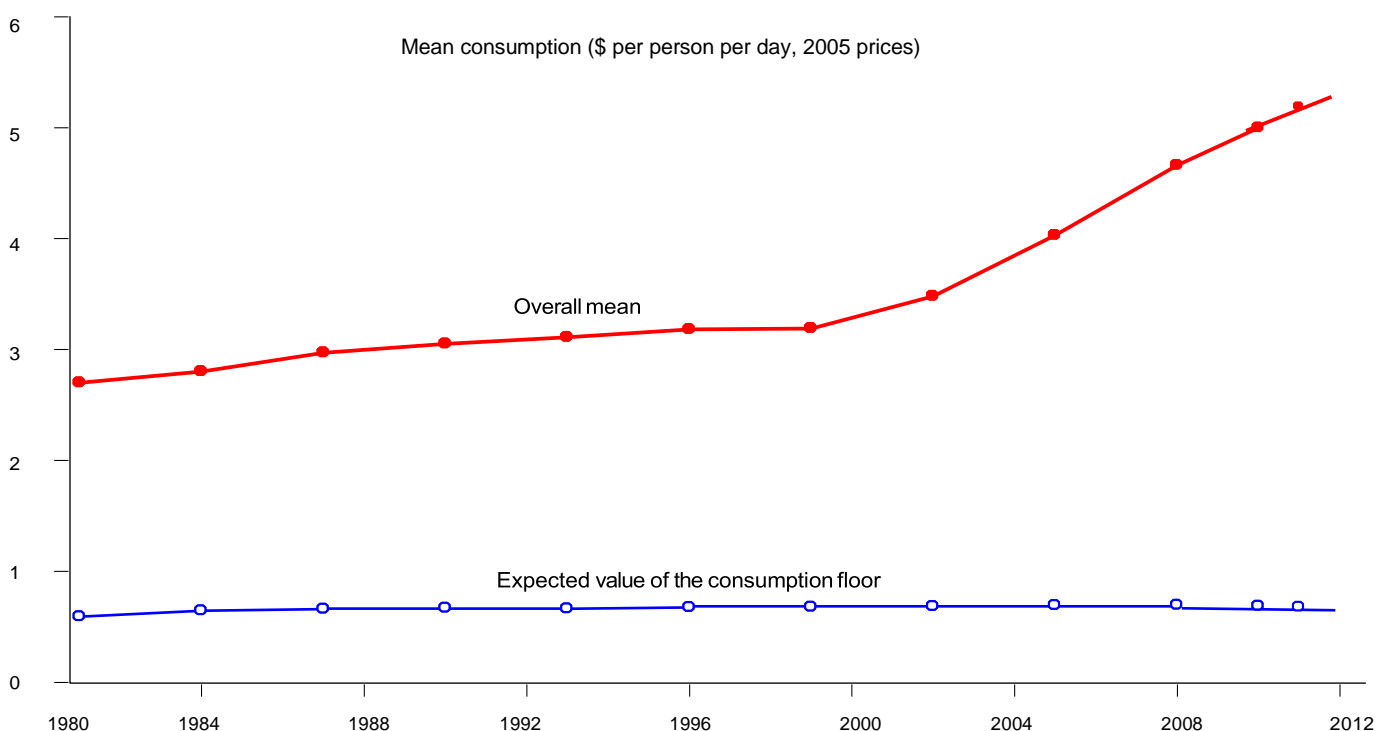
about half of the international poverty line of \$1.25 a day. This is probably close to the consumption of essential foods for those living around \$1.25 a day.

My principal empirical finding is that, while the counting approach shows huge progress for poor people, the Rawlsian approach of focusing on the floor does not. The distribution of the gains amongst the poor has meant that the expected value of the consumption floor has risen very little over the last 30 years. Figure 3 gives my preferred estimate over time for the developing world as a whole. It is evident that there has been very little progress in raising the floor despite the progress (accelerating since 2000) in raising the overall mean consumption.

Another perspective on the issue is found in Figure 4. Here I give the absolute gain in measured consumption in the developing world over 1981–2011 by percentile, from the poorest (on the left) to the richest (right). Consistently with the lack of progress in raising the floor we see that the gains are close to zero for the poorest, but rising to quite high levels. This is also consistent with what we know about rising *absolute* inequality in the developing world, as discussed in Ravallion (2014a). (Absolute inequality refers to the absolute differences in the chosen welfare metric while relative inequality refers to the proportionate differences—the ratios).

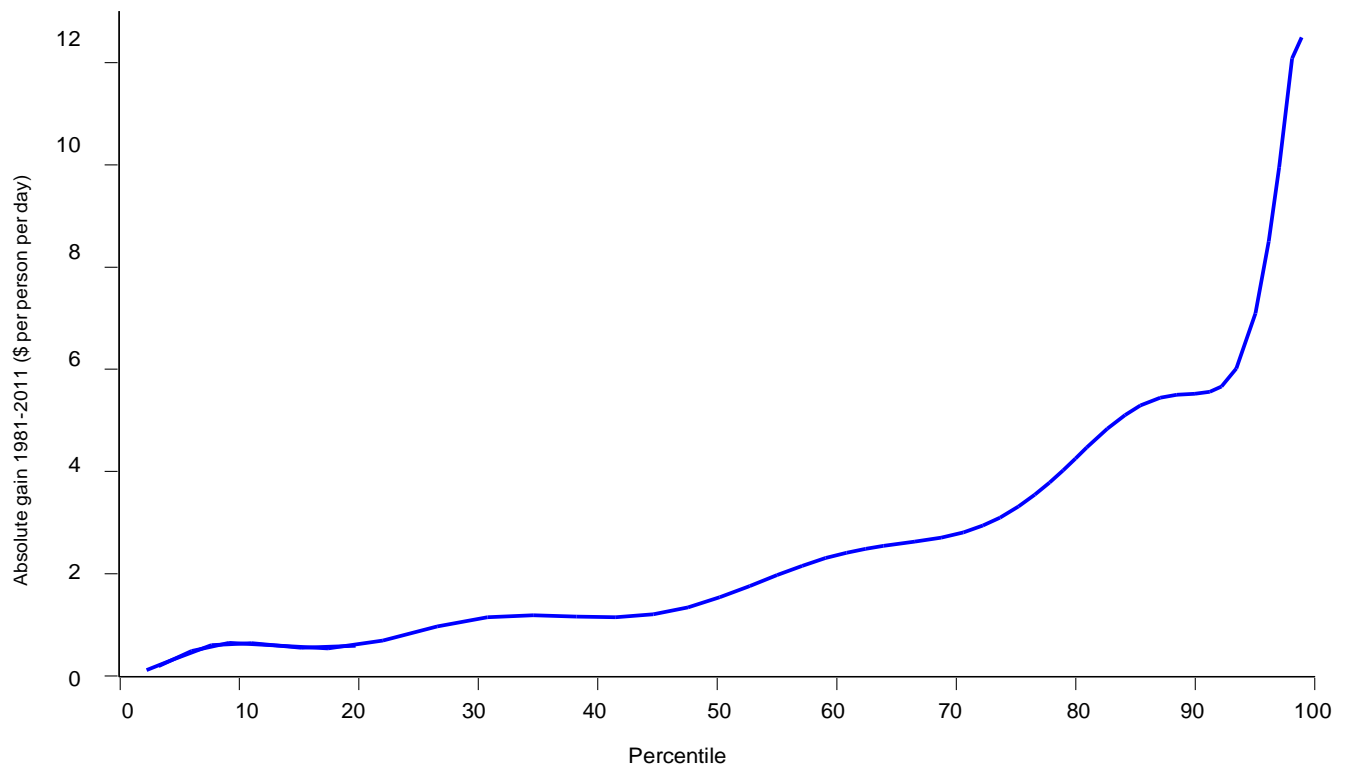
While policy makers would be ill-advised, in my view, to look solely at the level of the floor in a given society, it can be acknowledged that this has normative significance independently of attainments in reducing the numbers of people living near that floor. The argument here is not that progress against poverty should be judged solely by the level of the consumption floor, but only that the latter should not be ignored as we think about development goals and social policies going forward.

Figure 3: Mean consumptions for the developing world



Source: Ravallion (2016a).

Figure 4: Absolute gains by percentile 1981–2011



Source: Ravallion (2016a)

## Conclusions

The popularity and influence of the view that the poorest are left behind in growing developing economies begs for an empirical assessment of its validity. Prevailing ‘counting approaches’ to measuring poverty appear to tell a very different story. However, as this paper has argued, falling poverty measures assessed by the counting approach can be perfectly consistent with the poorest being left behind.

It is not the contention of this paper that traditional approaches should be abandoned in favour of an approach that assesses progress solely by how much the poorest person is gaining. But there is a case for believing that the counting approach misses something important. There are ethical foundations for this claim in moral philosophy. And the idea is found in the rationales for social policies.

Indeed, for a long time, and across countries at very different levels of development, social policies have often claimed that they aim to ensure a minimum level of living above any biological floor required for mere survival. Negative income tax schemes and (formally-equivalent) basic-income guarantees financed by progressive income taxes aim to raise society’s consumption floor above the biological minimum. And such efforts are not confined to rich countries; indeed, the two largest anti-poverty programs in the world today (in China and India) aim to raise the floor. In forming their views, casual observers may well focus on the observed level of living of those they deem to be the poorest. The evidence found in the literature does not appear to be consistent with this view. However, there is an important conceptual difference between focusing on counts of poor people versus focusing on the level of living of the poorest, in the spirit of Gandhi’s talisman or the

Rawlsian difference principle. Both perspectives are evident in past thinking and policy discussions. Both have been advocated as development goals, although the counting approach, as implemented in various poverty measures, has dominated the attention of economists and statisticians monitoring progress against poverty. Only when we recognise this conceptual difference in the approaches taken to measuring poverty can we understand why we hear very different answers to the question of whether the poorest have been left behind.

Success in assuring that ‘no-one is left behind’ can be monitored from existing data sources under certain assumptions. The approach used here recognises that there are transient consumption effects in the observed survey data, but it assumes that the data are reliable enough to assure that it is more likely that the person with the lower observed consumption is living at the floor than anyone else.

Drawing on the results from household surveys for developing countries spanning 1981–2011, one finds considerable progress against poverty using the counting approach. Whatever poverty line one uses over a wide range one finds an unambiguous reduction in absolute poverty by the counting approach. Mean consumption per capita in the developing world has been growing at around two per cent per annum over this period, and four per cent since 2000.

However, there appears to have been very little absolute gain for the poorest. The estimate of the mean value of the consumption floor is around half of the \$1.25 international poverty line. The bulk of the developing world’s progress against poverty has been in reducing the number of people living close to the consumption floor, rather than raising the level of that floor. In this sense, it can be said that the poorest have indeed been left behind.

## Notes

- 1 An overview of these debates, with an historical perspective, can be found in Ravallion (2016b, Ch. 2 and Ch. 8).
- 2 Other examples can be found in Ravallion (2016, Ch.8).
- 3 The CDF gives (on the vertical axis) the percentage of the population living below each income level on the horizontal axis. So if the point on the horizontal axis is the poverty line then the point on the CDF is the poverty rate, sometimes called the headcount index of poverty.
- 4 This idea is developed further in Fleurbaey and Maniquet (2011).
- 5 There are also well-known efficiency arguments, notably in non-competitive labour markets; for further discussion see Ravallion (2016b).
- 6 For further discussion of this and subsequent policies see Ravallion (2016b, Ch. 10).
- 7 Barrientos (2013) provides a good overview of this class of policies.
- 8 Note that the limiting case of the FGT index as their inequality aversion parameter goes to infinity is the lowest value level in the data. This is only the floor, as measured here, if one is certain that the lowest observed value is the lower bound to permanent consumption. It is argued below that this is questionable.

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