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SABINA ALKIRE

How are people poor?

Measuring global progress toward zero poverty
and the Sustainable Development Goals



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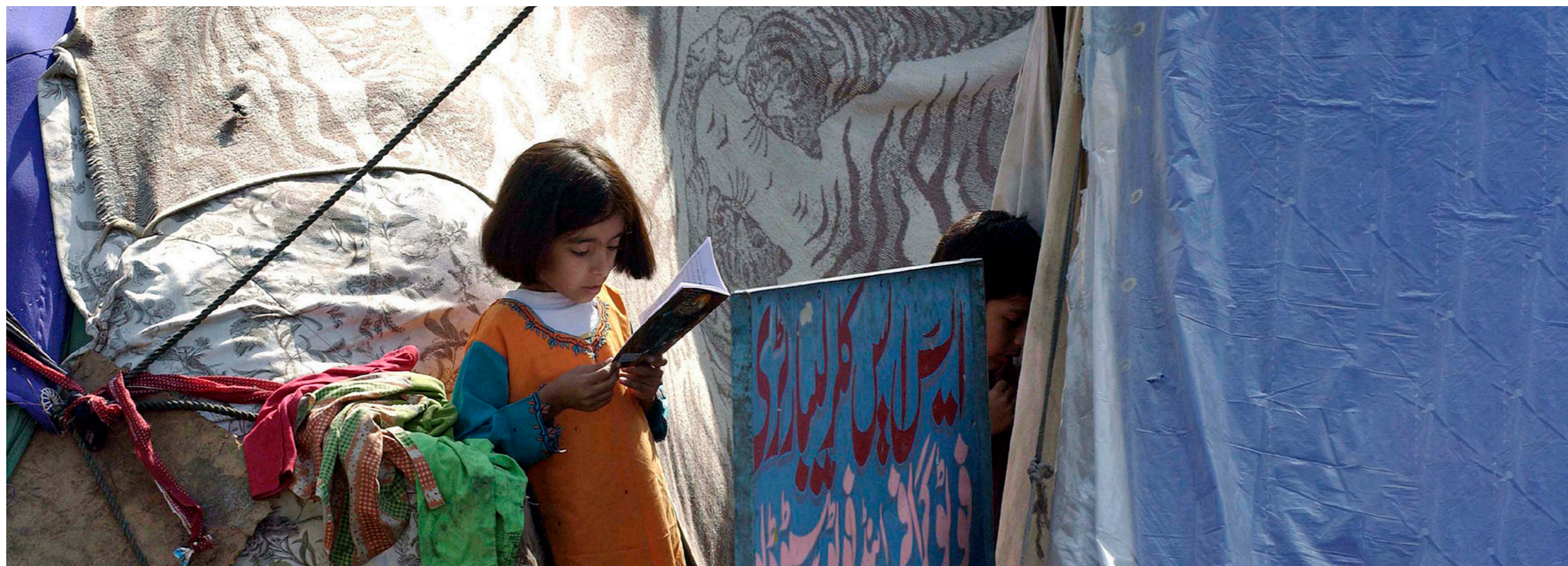
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Foreword

The limits of income-centric measures of poverty and the need to move towards a multidimensional approach to poverty has been increasingly recognised in academic and policy circles. UNU-WIDER has been a pioneer in advocating the relevance of multidimensional poverty measures as reflected in the early publications by the institute that were authored by Amartya Sen, Martha Nussbaum, Jean Dreze, and others. These publications as well as the work of other scholars contributed to the Human Development Index, which was one of the earliest attempts to capture non-monetary dimensions of deprivation. We were delighted that Sabine Alkire, one of the leading proponents of the multidimensional approach to poverty measurement, agreed to give the twenty-first UNU-WIDER Annual Lecture on How Are People Poor?

Each year the WIDER Annual Lecture is delivered by an eminent world-class scholar or policy maker who has made a significant and widely recognized contribution in the field of development. The Lecture is a high point in the Institute's calendar and Dr Sabine Alkire, who has made major contributions to the measurement of multidimensional poverty, is a perfect addition to the esteemed list of lecturers UNU-WIDER has presented since the series started in 1997.

Sabina Alkire directs the Oxford Poverty and Human Development Initiative (OPHI), a research centre within the Oxford Department of International Development, University of Oxford. For many years, Dr Alkire has worked on a new approach to measuring poverty and wellbeing that goes beyond the traditional focus on income and growth. This multidimensional approach to measurement includes social goals, such as health, education, nutrition, standard of living, and other valuable aspects of life. She has devised a new method for measuring multidimensional poverty with her colleague James Foster (OPHI and George Washington University) that has advantages over other poverty measures and has been adopted by the Mexican government, the Bhutanese government in their Gross National Happiness index, and the United Nations Development Programme. She has been one of the leading flag-bearers of Amartya Sen's capability approach. Indeed, through her work, Dr Alkire has shown the relevance of the capability approach to the Sustainable Development Goals (SDGs) agenda of the United Nations.

Dr Alkire argues in her lecture that multidimensional measures of poverty can capture the many deprivations in income, health, and education that poor individuals in developing countries face. In her lecture, she provides powerful and intuitive examples of how the multidimensional poverty index (MPI) may work in practice, and shows that with the availability of microdata for an increasingly number of low-income and middle-income countries, trends in the MPI can be tracked for many developing countries over time. Finally, she shows that multidimensional poverty measures can offer a powerful tool to policy makers in the Global South to monitor progress in the SDGs. As we move to the 'business end' of the Leave No One Behind agenda, with just over a decade to go in the SDG implementation time-line, it is imperative that concrete policy actions are taken both globally and nationally so that UN member countries can make substantial progress in reducing multidimensional poverty in all its aspects, and especially for the most vulnerable populations in the world.

**Kunal Sen, Director
UNU-WIDER, Helsinki**



About the author

Sabina Alkire is Director of the Oxford Poverty and Human Development Initiative (OPHI) – a research centre within the Department of International Development, University of Oxford – where she works on a new approach to measuring poverty and wellbeing that goes beyond the traditional focus on income and growth.

With her colleague James Foster (OPHI Research Associate and Professor of Economics at George Washington University), she devised this new method for measuring multidimensional poverty, which has distinct advantages over existing poverty measures. The approach has been adopted by the Mexican government, the Bhutanese government in their Gross National Happiness Index, and the United Nations Development Programme.

Professor Alkire's broad research interests include multidimensional poverty measurement and analysis, welfare economics, Amartya Sen's capability approach, the measurement of freedoms, and human development.

1

Introduction



Ending acute poverty is a matter of ethical importance and human urgency. It is a collective priority within and across nations and, most of all, for protagonists of poverty reduction. It is so because, despite fantastic gains, far too many continue to live in abject, dangerous, and harsh conditions, unable to shape lives with meaning and dignity.

Miguel Székely's words well capture the motivation for improving statistics and measurement: their link to action. 'A number', he writes, 'can awaken consciences; it can mobilize the reluctant, it can ignite action, it can generate debate; it can even, in the best of circumstances, end a pressing problem' (Székely 2005, own translation).

This lecture steps back from many of the complexities of measurement and focuses on one aspect: poverty measurement. The value added and limitations of monetary poverty measures are well known (World Bank 2017). But a live question is whether we are able to use multidimensional poverty measures to expose a relevant, if limited, skeletal structure of poverty in such a way that clarifies the task of taking public action to address key aspects of poverty.

Naturally, the fundamental commitment is to poverty eradication, not to any particular skeletal arrangement. So, this lecture explores how a multidimensional structure of poverty measurement may, if well implemented, be of some use in eliminating poverty. The work presented here is not solely my own. The measurement methodology was developed with James Foster, a leading, precise, powerful, and powerfully disciplined mind across the field of poverty and inequality measurement. All empirical applications have been undertaken with researchers, students, and co-workers whose brilliance, care, and determination are nothing short of inspirational.¹

¹ This lecture draws particularly on Alkire and Robles (2017), Alkire and Santos (2014), and on work in progress by Nicolai Suppa.



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In 1993, Amartya Sen published an article entitled ‘Capability and Well-Being’ in which he wrote,

Turning to poverty analysis, identifying a minimal combination of basic capabilities can be a good way of setting up the problem of diagnosing and measuring poverty. It can lead to results quite different from those obtained by concentrating on inadequacy of income as the criterion of identifying the poor. The conversion of income into basic capabilities ... can go with varying levels of minimal adequate incomes. (Sen 1993: Chapter 3)

The income-centred view of poverty in isolation, he argued, may be misleading in some respects.

That paragraph now seems prescient. Sen’s claim as to the persistent relevance of non-monetary dimensions of poverty stands, empirically validated by extensive microdata analysis which was not available in 1993, as well as by participatory insights from studies such as *Voices of the Poor*, longitudinal and ethnographic studies, and social movements.²

This conceptual articulation by Amartya Sen recognized implicitly the importance of measures of poverty to guide public action. Statistics on different dimensions of well-being had gained public prominence with the release of the Human Development Index (UNDP 1990) and received renewed attention with the Stiglitz, Sen, and Fitoussi Commission (Stiglitz et al. 2009) as well as fora focused on statistical capacity building and the ‘data revolution’.

But until recently, Sen’s insights and other work on multidimensional poverty were, in a sense, marginal. With the advent of the Sustainable Development Goals (SDGs), multidimensional poverty appears to be graduating from the margins, although it is not yet certain how the emerging focus on interconnections across SDGs will evolve.

Clearly, development is now framed multidimensionally, with the SDGs being an integrated and indivisible balance of three dimensions: economic, social, and environmental. Turning to poverty, the second sentence of the pivotal document of the SDGs, *Transforming Our World: The 2030 Agenda for Sustainable Development*, reads, ‘We recognize that eradicating poverty in all its forms and dimensions is the greatest global challenge and an indispensable requirement for sustainable development’ (UN 2015b). Here, poverty is definitively recognized as having multiple forms and dimensions, and those forms include extreme poverty – the measure of US\$1.90/day –

² See, for example, Drèze (2017), Drèze and Sen (2013), and Narayan et al. (2000).



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as one particularly high-profile component of a wider concept of poverty, but not the only one.

This shift in emphasis is sustained throughout the SDGs, with the phrase ‘many forms and dimensions of poverty’ recurring seven times in *Transforming Our World* (UN 2015b). The first goal of 17 (‘End poverty in all its forms everywhere’) conveys breadth and accords priority to poverty reduction. Goal 1 has a number of targets, of which the first (1.1) is to end US\$1.25/day income poverty. Complementing it, Target 1.2 out of 169 targets is to ‘reduce at least by half the proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions’. And other targets refer to other non-monetary aspects of poverty. How did this emphasis on multidimensional poverty emerge?

The discussions leading up to the SDGs highlighted the importance of multidimensional measures and understandings. For example, in the UN Secretary-General’s report in December 2014, while trying to set a positive and ambitious tone for the SDGs, Secretary-General Ban Ki-moon argued that poverty measures should reflect the multidimensional nature of poverty (UN 2014a). Also in December 2014, the UN General Assembly statement spoke of the need to develop complementary measurements that better reflect the multidimensionality of poverty and well-being (UN 2014b). Turning to financing, the Addis Ababa Accord of 2015 called on the UN and international financial institutions to develop measures of progress that recognize multidimensionality (UN 2015a). In sum, Amartya Sen and many participatory studies articulate poverty multidimensionally. The SDGs call for reducing poverty in all its dimensions and call for better multidimensional numbers. The policy interest is clear. But how should that space for better measures be filled?

We might turn naturally to the indicators of the SDGs, although we could equally well consider the African Union’s Agenda 2063 (African Union Commission 2015). The SDG indicators were approved in July 2017 – a list of over 230 distinctive indicators proposed by the UN Statistics Commission. Their proposal clearly echoed what has become a pivotal phrase within the SDGs of the need to: (1) leave no one behind; (2) have measures that can be disaggregated; (3) break down siloes; (4) have policies that are integrated, multi-sectoral, and indivisible; and (5) recognize the priority of eradicating poverty in all its forms and dimensions. Still, the list of indicators of the SDGs leaves the definition of multidimensional poverty measures (1.2.2 which is the third of the 232 indicators) to countries.

What would multidimensional measures do? Clearly, they would look across different dimensions, perhaps including or perhaps supplementing monetary measures. They would also reflect the priority of poverty reduction, using different SDG indicators that reflect its dimensions and merit the distinctive priority given to poverty alleviation. Given the interlinkages across SDG indicators, it is also useful to observe that a multidimensional measure that draws on different indicators for the same household at the same time will organically reflect interlinkages by its very structure. And clearly a multidimensional measure would need to be disaggregated in order to identify who was being left behind in multiple indicators at the same time, as well as track over time whether groups were catching up or being left behind.

Beyond all of these more measurement-focused desiderata is a need for a measure to inform multi-sectoral policies, such as resource allocation, planning, targeting, coordination, monitoring, and evaluation.³

³ See the OPHI (2019) *Handbook on National Multidimensional Poverty Indices*, which documents how countries already are doing this.



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If we think of what measures should fill this space, *Monitoring Global Poverty: Report of the Commission on Global Poverty*, which was issued by a commission established by the World Bank and chaired by the late Sir Tony Atkinson (World Bank 2017), is an obvious document to consult. In the opening lines of this report, commonly called the Atkinson Commission Report, Atkinson recognizes the controversy surrounding the task of monitoring global poverty, however it is defined, and acknowledges that some will consider the exercise to be futile. It may seem simply too demanding to find measures of poverty that are relevant globally or that can be measured with adequate precision for the task. The report, however, states that this is not a view he shares and not one that underlies the report. The report aims to set forth how global poverty trends can be measured. The focus is not on precisely identifying the number of people or their level of poverty but on accurately measuring trends over time. It is understood that trends must be measured and portrayed not just as a point estimate but with standard errors, recognizing both sampling errors and the many kinds of non-sampling or 'total' errors that affect the data used to make these estimations.

Monitoring Global Poverty has three parts: 'I. Monitoring Extreme Poverty' (which is the monetary section), 'II. Beyond Goal 1.1: Complementary Indicators and Multidimensionality', and 'III. Making it Happen'. Part II, of interest here, scrutinizes non-monetary indicators that the World Bank might use to monitor global poverty, what characteristics they should have, and by what principles they should be designed, as well as suggesting what dimensions and methods should be used.

Atkinson was one of the progenitors of discussions about social indicators in Europe and recognized the need for broad engagement in terms of the process of indicator design and the transparency by which the final indicators are justified. And so, in developing complementary measures to a US\$1.90/day global poverty measure, he recommended a number of different principles. One was that a non-monetary measure or set of measures should be truly global, covering not only developing countries, but also high-income countries and vice versa. He specified later how that could be done in ways that accord with the aspirations of different country blocs by using the same indicator or dimension but with different cut-offs. Also, the indicator itself had to be transparent; it had to identify the essence of a problem, so we could understand if an increase in the indicator was good or bad. And the definition had to be generally valid and have a clear normative interpretation about the changes over time, and also be robust and statistically validated, so that there is a literature

about its definition and construction. The global indicators also needed to somehow be in accord with national data and national measures, so that there would be a conversation between the global and the national measures, which would perhaps be more active than it had been in the past. Furthermore, if a dashboard of different indicators was to be used, the dashboard should somehow be balanced so that the component indicators were roughly equal in importance and spanned the issues of interest. Finally, in order not to tax the data producers too much, he recommended, in as far as is possible, designing complementary measures that use existing data, or where they must be extended, to do so using existing instruments or administrative data.

2.1 Measuring overlapping deprivations

Coming out of *Monitoring Global Poverty* (World Bank 2017) were two recommendations pertaining to the structure of multidimensional poverty measures. The first was recommendation 18: The World Bank should establish its own requirements about measuring a small, parsimonious set of complementary indicators that included a measure of overlapping deprivations, and make sure that these indicators were fully represented in the international statistics system. So, where the SDGs have great breadth with 232 indicators, this report also advocated parsimony in order to ensure that some high-visibility indicators received special attention. Indeed, the report has a draft proposal of the dimensions to consider: nutrition, health status, education, housing conditions, access to work, and personal security (for example, from violence).

That is already a step forward, a step that draws on an expansive literature ranging from studies of the dimensions of poverty and *Voices of the Poor* (Narayan et al. 2000) to studies of the dimensions of the quality of life from the Stiglitz et al. (2009) report and many other data exercises across Europe about appropriate social indicators. But the Atkinson Commission Report continued to ponder what a dashboard with these six component indicators would overlook. What would be missing was the joint distribution of deprivations, that is, the ability to see who is deprived in several dimensions at the same time. Do those with low levels of education also suffer from poor health? Do those who are at risk of violence also have a lack of access to work?

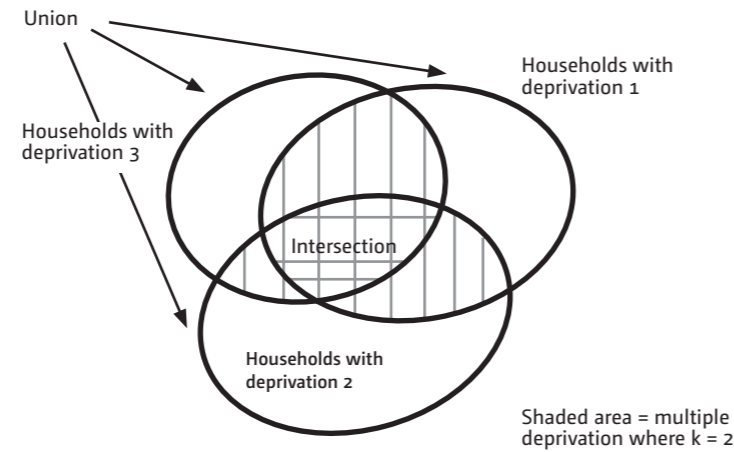
This need for an understanding of the interrelationships or interlinkages across dimensions motivated the report's recommendation for a measure of overlapping deprivations. For those in Europe, this will be very familiar. Consider the Venn diagram

of three different deprivations, as shown in Figure 1. It depicts who is deprived only in one indicator – the outer clear circle – who is deprived in two of the three indicators at the same time, and who is deprived in all three. This reflects a counting approach that counts the number of deprivations a person has. It is very simple and intuitive, but it conveys information that a dashboard of isolated indicators cannot.



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Figure 1: The overlapping of deprivations



Note: The ovals shows households suffering deprivations 1, 2 or 3. The union includes all households suffering one or more deprivations; the intersection shows households suffering all deprivations. The striped area, which includes the intersection, shows all households with 2 or more deprivations.

Source: World Bank (2017).

2.2 A counting approach

The next recommendation of the report, therefore, was that a multidimensional poverty measure based on the counting approach should be developed and reported. The report specified that it was not proposed that the multidimensional poverty measure include a monetary poverty dimension:

There are a number of national multidimensional poverty measures that are official statistics ... among them Chile, Costa Rica, Honduras, Pakistan, Mozambique and so on do not include an income dimension, and these are the model of this recommendation and not, for example, Mexico which does include income at 50 per cent of the weight. (World Bank 2017: 170).

In terms of methodology, the recommendation envisaged a counting approach, implemented in terms of the adjusted headcount ratio, which is the methodology that extends the Foster – Greer – Thorbecke index into multidimensional space that we have had the privilege to develop and work on (Alkire and Foster 2011). It has two partial indices: the percentage of people who are poor, or the incidence of poverty (H) and the average share of deprivations (or percentage of possible deprivations) that poor people experience, which is the intensity of poverty (A). The product of those two partial indices, incidence, and intensity, is the adjusted headcount ratio, often known as a multidimensional poverty index (MPI).

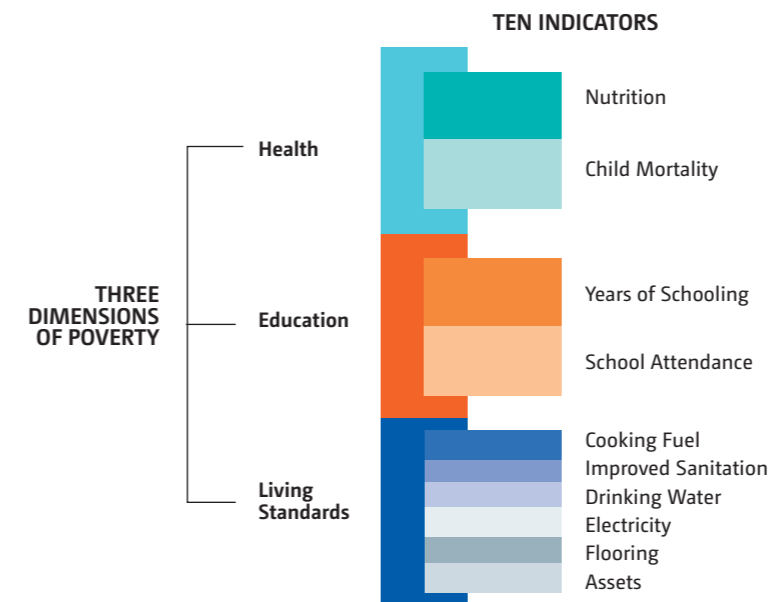


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To illustrate the methodology, consider the global MPI, which has implemented the adjusted headcount ratio using existing data and been updated regularly since 2010.⁴ This implementation does not have all of the dimensions that were recommended in the Atkinson report due to data restrictions internationally. But it shows what is possible, using a consistent set of indicators for over 100 developing countries that includes nutrition, health, education, and living standards (but not work or security).

The global MPI was co-developed with the UNDP Human Development Report Office for a launch in 2010 for the 20-year anniversary of the *Human Development Reports*. It sought to measure acute multidimensional poverty directly in over 100 developing countries. The ten indicators for which sufficient data were available for its construction are shown in Figure 2.

Figure 2: The global MPI structure 2017



Source: Alkire and Robles (2017).

⁴ The WIDER lecture, given in October 2017, covered the then-current global MPI 2017. In 2018, the global MPI structure was revised to better align with the SDGs, and every MPI estimation was updated and released by UNDP and OPHI. See Alkire and Jahan (2018) and Alkire et al. (2018).



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3.1 Deprivation profiles

To gain some appreciation of the intuitiveness of this measure, imagine that you are deprived: if any member of your household is malnourished; if a child has died in your household; if no one has completed five years of schooling; if a child is not attending school up to the age at which that child would complete grade eight; if you lack clean cooking fuel, improved sanitation, safe drinking water, and electricity; if your floor is dirt, sand, or natural; or if you do not own one of a small set of assets such as a radio, television, telephone, refrigerator, bicycle, or motorcycle.

From these indicators, remembering the Venn diagram, one constructs the deprivation profile of each person or each household that shows the indicators in which they are deprived at the same time. The global MPI indicators partially reflect SDGs 1, 2, 3, 4, 6, 7, and 11. Naturally, they are not perfectly comparable. In some countries' datasets, not all of the assets are present. Some country datasets only provide nutritional data for children and not for women or for men. And some do not have all ten indicators. So, comparability is not perfect: differences are thoroughly documented but do exist.

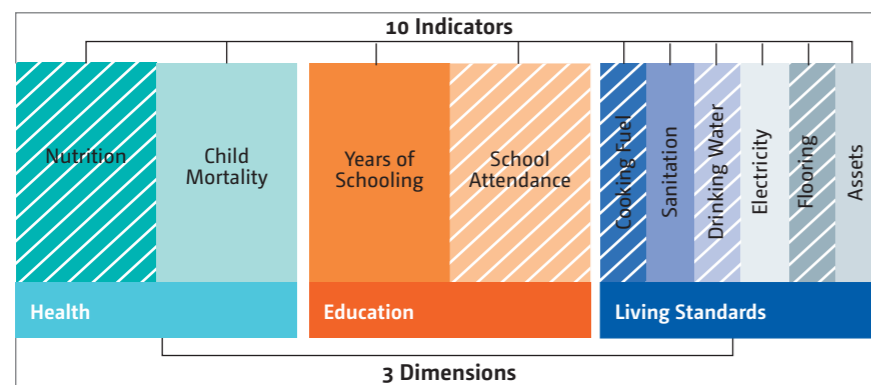
So how is this information used to build a multidimensional poverty measure? Consider three-year-old Nahato from Uganda and the deprivations she experiences, as shown in Figure 3. Her house has a dirt floor, but there is a solar lamp, so she has access to electricity. She is one of 10 children of her mother Nambubi, who is 38 years old. There are deprivations in school attendance, because some of her elder siblings have not been able to attend school as it costs US\$2.75 for four months of schooling. The global MPI is unable to include indicators measuring work, violence, or access to healthcare due to data limitations, although these things are vitally important. It does capture undernutrition, which affects Nahato's family, as well as indoor air pollution from solid cooking fuel and a lack of access to safe water. The poverty measure also overlooks many important cultural or relational aspects. For example, Nahato and her siblings are outgoing and self-confident. Sometimes at night, they dance together to music from a radio shared between neighbours. Clearly, the ten indicators of the global MPI do not include many relevant deprivations as well as attainments. But it does measure a subset of indicators that arguably cover important facets of people's lives and their struggles.

Having constructed the deprivation profile for Nahato and her family, the next step is to identify who is poor. This is done by setting a poverty cut-off in which a person is identified as MPI poor if they are deprived in one-third or more of the weighted indicators. The dimensions are weighted equally, and equal weights are also fixed across indicators within dimensions – which are depicted visually by the breadth of the indicators in Figures 2 and 3. Nahato is deprived in 50 per cent of weighted indicators, so she is poor.

The adjusted headcount ratio, or MPI, is computed by multiplying the percentage of people who are poor, because they are deprived in one-third or more of the dimensions, by the average intensity of poverty. Nahato's deprivation score was 50 per cent and the average deprivation score, or intensity, in Uganda is 52.5 per cent. The MPI, thus, provides the headline. It also has strong properties like the ability to be able to be broken down by indicator, which is of vital use for policy, as we will see.

The measurement methodology is presented here with a very light touch and in an informal way. For those who wish a more formal treatment, there is extensive documentation. In particular, reflecting on the Atkinson Commission's requirements, there are standard errors and confidence intervals, statistical inference about the levels

Figure 3: Nahato's deprivation profile



Source: Alkire and Robles (2017).

and trends of poverty, and robustness tests for the cut-off and the weights. And there is clarification on the axiomatic properties that the measure satisfies (Alkire et al. 2015).

3.2 Data sources and coverage

What does this look like when it is implemented? In the 2017 global MPI, we used Demographic and Health Surveys (DHS) for 55 countries, Multiple Indicator Cluster Surveys (MICS) for 38, the Pan Arab Population and Family Health Survey (PAPFAM) for three, and national surveys for seven countries. In 2017, new datasets were available for 25 countries (Alkire and Robles 2017). The 103 countries cover 5.4 billion people. There is good population coverage in sub-Saharan Africa with 96 per cent of the population covered, East Asia and the Pacific with 95 per cent, and South Asia with 94 per cent. The MPI countries cover 99 per cent of the people living in low- and lower-middle-income countries and 92 per cent of the population across all middle-income countries. Thus, the global MPI is focused on developing countries. Strictly speaking, it is not a global measure, because it barely includes high-income countries.

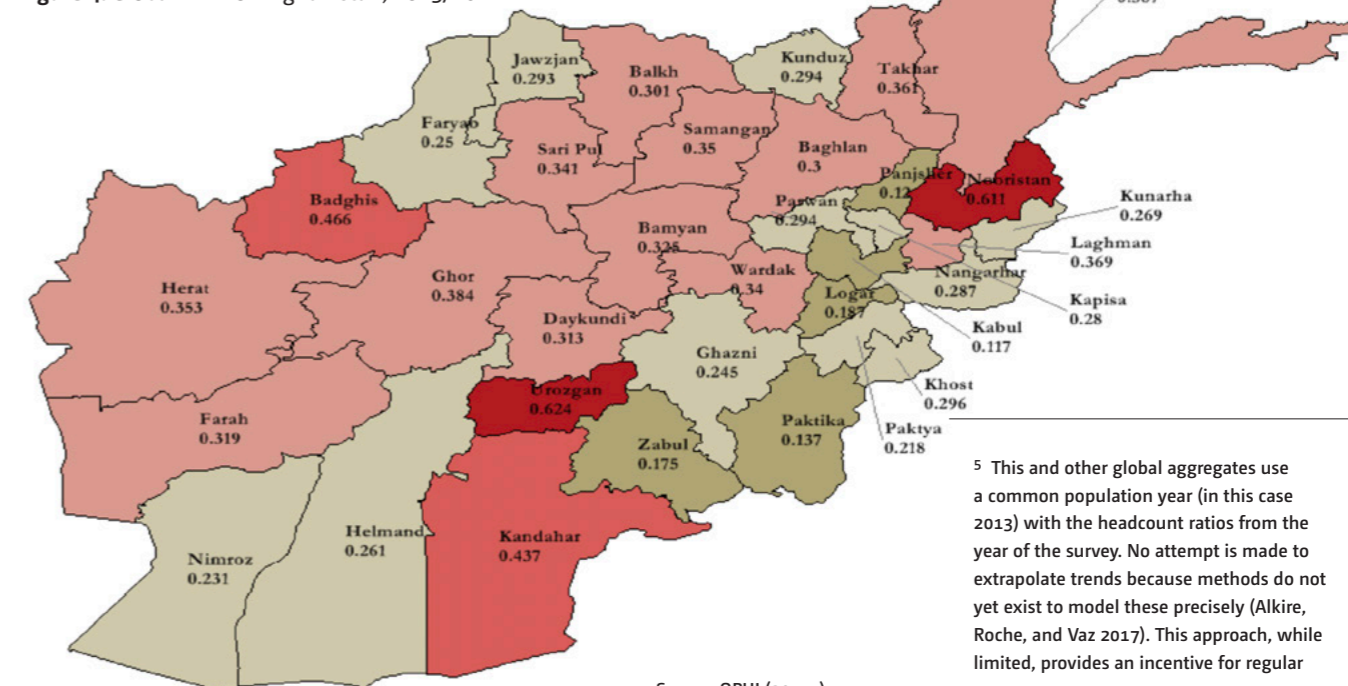
3.3 Levels of multidimensional poverty

The value added of a global MPI – with all the caveats already presented – is that it can sketch a global picture of non-monetary poverty based on the joint deprivations of poor persons in over 100 countries. For example, 1.45 billion people across 103 countries are identified as being multidimensionally poor.⁵ It also shows where multidimensionally poor people wake up in the morning. A billion of them, 72 per cent, are in middle-income countries, 48 per cent in South Asia, and 36 per cent in sub-Saharan Africa.

Moreover, disaggregation is straightforward for a direct measure like the MPI. Such disaggregation is necessary for the SDGs, which are focused on leaving no one behind. For example, within Afghanistan (Figure 4), we can see that poverty ranges from 25 per cent in Kabul to 95 per cent in Urozgan or 94 per cent in Nooristan (OPHI 2017a).

However, policy traction comes not just from knowing the level of poverty, but also its composition.

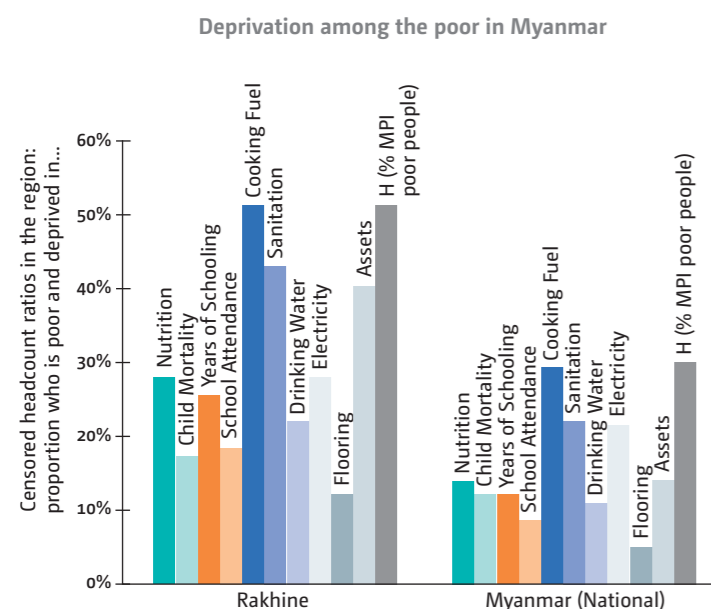
Figure 4: Global MPI for Afghanistan, 2015/16



Source: OPHI (2017a).

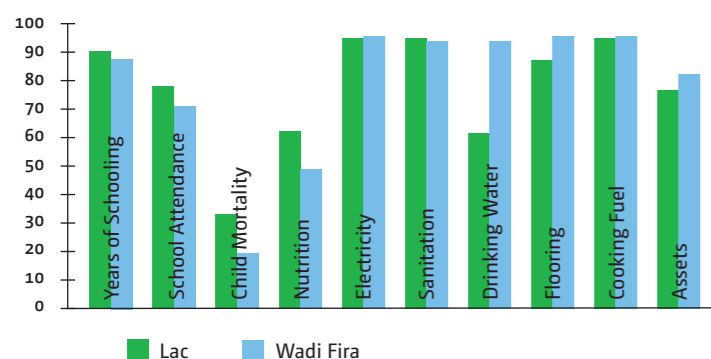
⁵ This and other global aggregates use a common population year (in this case 2013) with the headcount ratios from the year of the survey. No attempt is made to extrapolate trends because methods do not yet exist to model these precisely (Alkire, Roche, and Vaz 2017). This approach, while limited, provides an incentive for regular surveys.

Figure 5: Intensity of poverty in Myanmar, 2016



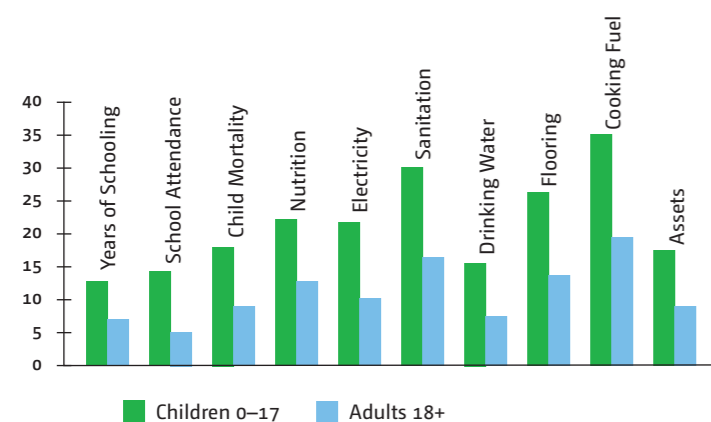
Source: Alkire and Robles (2017).

Figure 6: Deprivation by indicator for Lac and Wadi Fira, 2015



Source: Alkire and Robles (2017).

Figure 7: Child disaggregation of global MPI, 2017



Source: Alkire et al. 2017a.

3.4 Composition of multidimensional poverty

The Rakhine district of Myanmar, where the Rohingya genocide is underway, is the poorest district of Myanmar (OPHI 2017c), and roughly 50 per cent of people are poor, whereas nationally the average is around 30 per cent. Yet the composition of poverty for the Rakhine is not dissimilar to that of Myanmar nationally, although it is higher and has more extensive deprivations in nutrition in particular (Figure 5). One can similarly compare the composition of poverty in any subnational group with the national profile.

The MPI might seem useful only if there are large disparities in poverty levels. However, consider two regions in Chad, where, on average, 87 per cent of people are poor (OPHI 2017b). In Lac and Wadi Fira, 98 per cent and 99 per cent of people are poor. In such circumstances, what is the value added of having a multidimensional measure? Figure 6 shows the composition of poverty. In Lac (green), rates of child mortality and nutrition are higher. In Wadi Fira, deprivations in water are singularly difficult. So, the policies needed to confront multidimensional poverty, even in very high poverty regions, may be somewhat distinct. Given that there are resource constraints, the MPI can add value.

The global MPI 2017 is broken down into 988 subnational regions and by other groups as well. One group of interest is persons living with a disability, and DHS now have incorporated disability status questions of the Washington Group on Disability Statistics into their surveys. In Uganda, 76 per cent of people who live with disability in their household are poor, as compared to 69 per cent of those without (Pinilla-Roncancio and Alkire 2017).

Another key group is children. Disaggregating by age, we find that 48 per cent of the 1.45 billion people who are multidimensionally poor are children under 18 years of age (Alkire et al. 2017a). Furthermore, children are over-represented even given their demographic presence in the population. Most poor children, 84 per cent, live in South Asia and sub-Saharan Africa. More than half of poor children live in four countries: India, Pakistan, Nigeria, and Ethiopia. Again, we can see that, compared with adults, children are more deprived in absolutely every indicator of the MPI (Figure 7). So, age disaggregation, even when it draws from a household deprivation profile – and we might want linked individual child poverty analysis or measures – can elicit useful information.

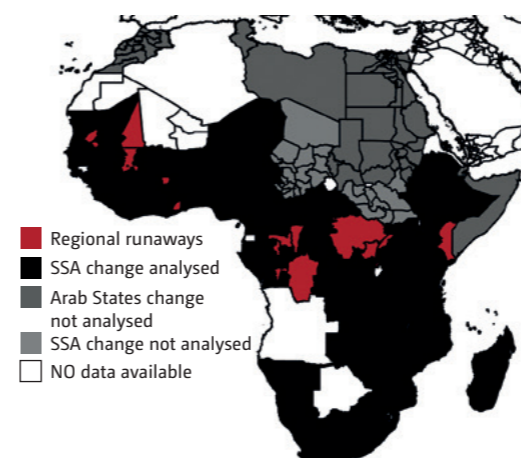
3.5 Tracking changes over time

Following that brief overview of the global MPI, the question arises: Is tracking such a structure over time, imperfect as it is, useful for the SDGs' target of cutting poverty by half, or ending poverty in all its dimensions?

To answer this requires the data to be rigorously harmonized in every detail. For example, Côte d'Ivoire's 2005 survey did not have nutrition, so in 2011/12 this indicator is dropped in order to maintain a comparable set of indicators. Sierra Leone's dataset did not have male malnutrition in the first period in 2008, so it is dropped from the 2013 survey in order to make rigorous comparisons. The Central African Republic data lacked data mobile phones in their asset basket in 2000, so this indicator is dropped from the 2010 MPI when it is harmonized for comparisons over time.

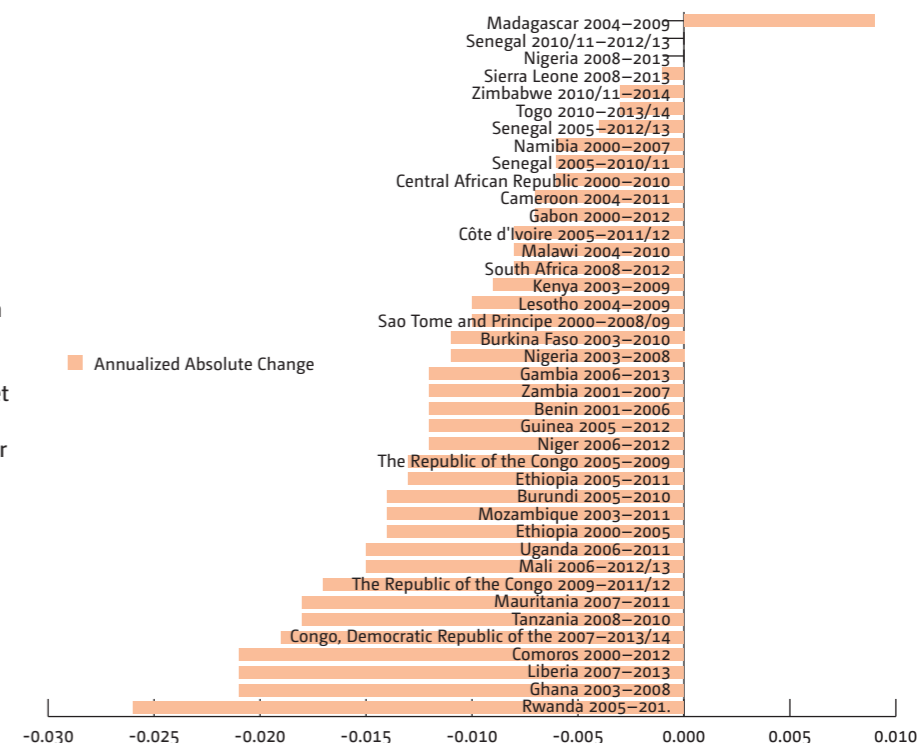
Thus a very rigorous harmonization is required to prepare data for analysis over time, but then, again allowing for inter-country differences, comparative analysis can be illuminating. Consider, for example, a study of 35 African countries and 234 subnational regions (Alkire et al. 2017b). Figure 8 shows their absolute speed of reduction, with Rwanda being the fastest in absolute terms, followed by Ghana, Liberia, Comoros, the Democratic Republic of the Congo, and Tanzania. The relative reduction is shown in Figure 9, with South Africa reducing its MPI the fastest relative to its starting level in 2008. Figure 10 shows the subnational regions that reduced MPI even faster than Rwanda, which was the fastest country, from 2005 to 2010, to reduce MPI. The red regions are runaways, positive outliers in the fight against poverty. It would be useful to know what went right in those regions.

Figure 10: Fastest reduction by subnational region



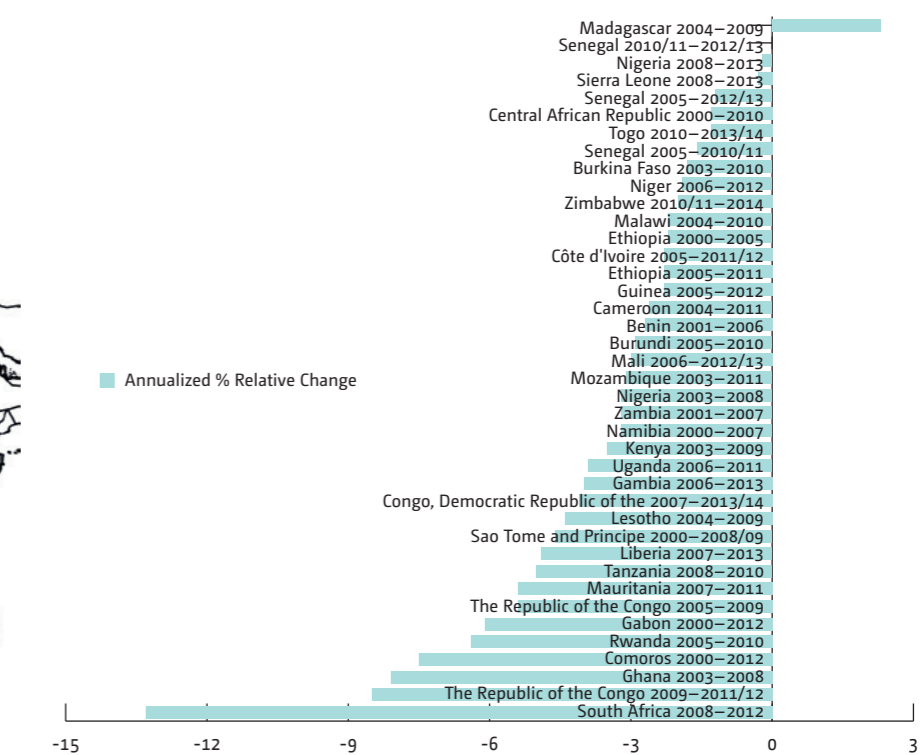
Source: Author's calculations based on Alkire et al. (2017b).

Figure 8: Absolute change in global MPI



Source: Author's calculations based on Alkire et al. (2017b).

Figure 9: Relative change in global MPI



Source: Author's calculations based on data from Alkire et al. (2017b). 15

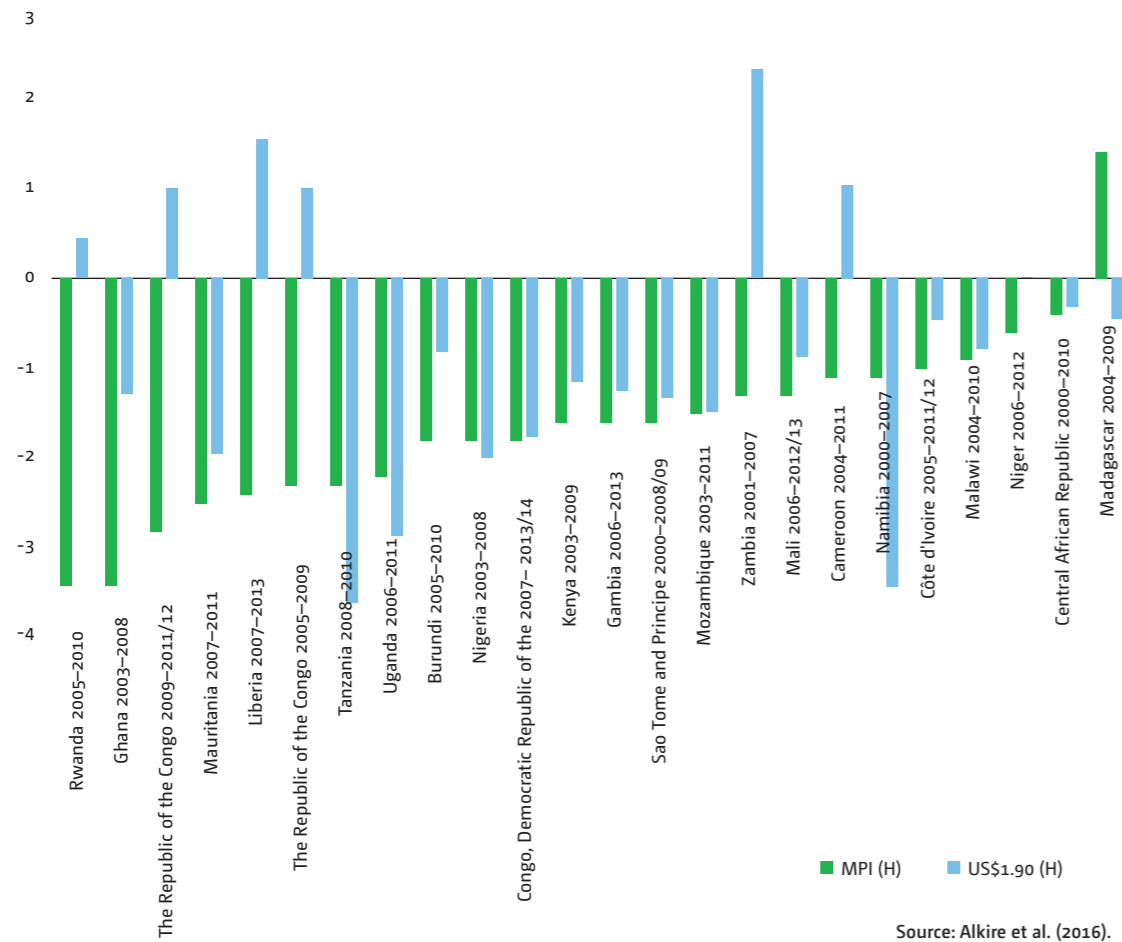
Another insight comes from comparing trends in MPI reduction with those of reduction in US\$1.90/day extreme monetary poverty. In Figure 11, the US\$1.90/day trend is green, and the blue is reduction in the MPI headcount ratio. The trends are distinctive for the two indicators. So, there is a value in measuring the trends of each separately, because they do not necessarily mirror each other.

Alongside changes in poverty measures, it is vital to consider changes in the



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Figure 11: Annualized changes in MPI vs. US\$1.90/day



Source: Alkire et al. (2016).

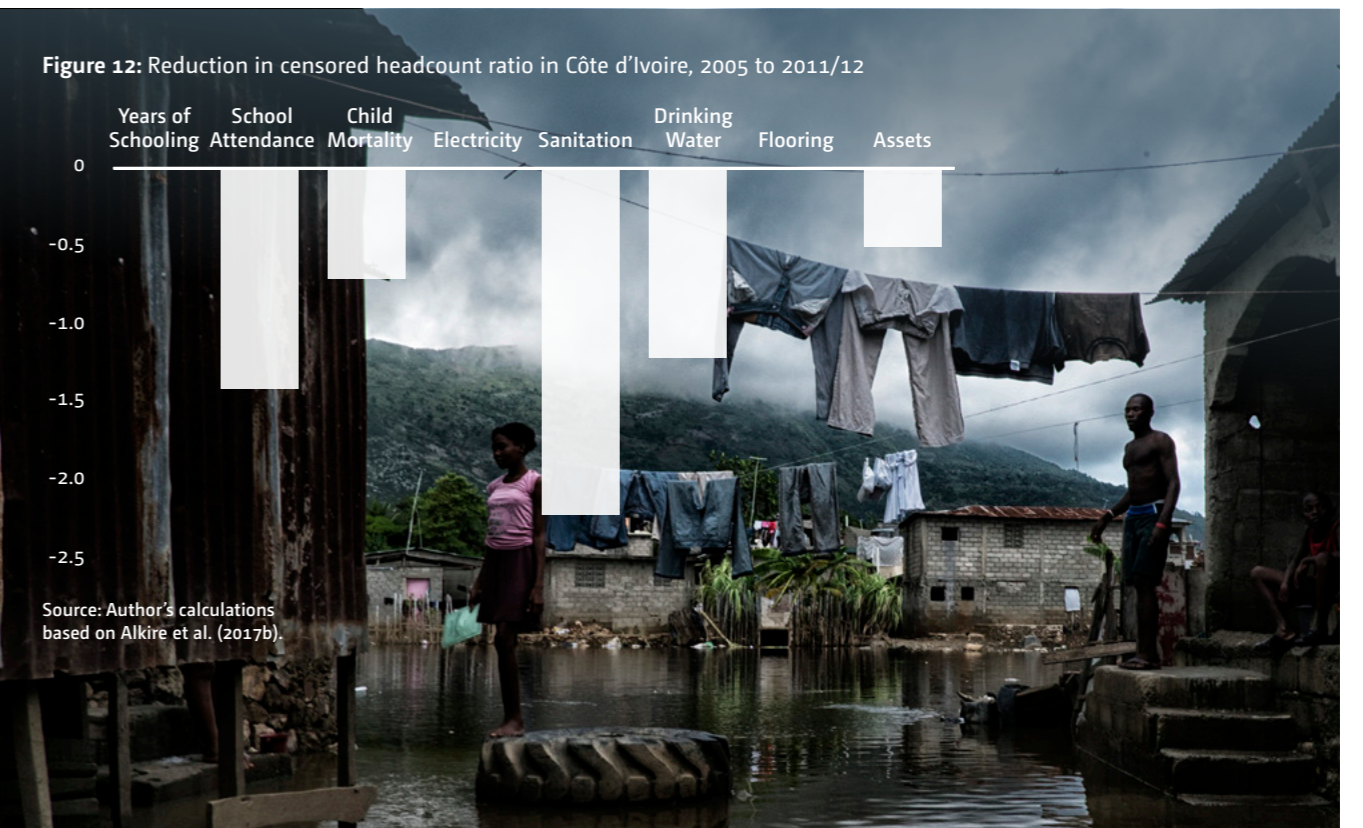
number of poor people. For example, Côte d'Ivoire reduced multidimensional poverty statistically significantly at 1 per cent, but the number of poor people increased from 10.7 to 10.9 million, as shown in Table 1. Among the 30 countries in Africa that significantly reduced poverty, in 18 of them population growth was so fast that the number of poor people increased, even as the level of poverty decreased.

Another interesting angle for policy is to observe the indicator changes that drove progress. Figure 12, from Côte d'Ivoire, shows significant reductions in the share of children out of school, in child mortality, inadequate sanitation and drinking water, and in lack of assets. It was changes in these five indicators that drove the national results. We can also, of course, break this down subnationally to see what was driving the change in each region.

Table 1: Côte d'Ivoire's reduction in MPI, 2005 and 2011/12

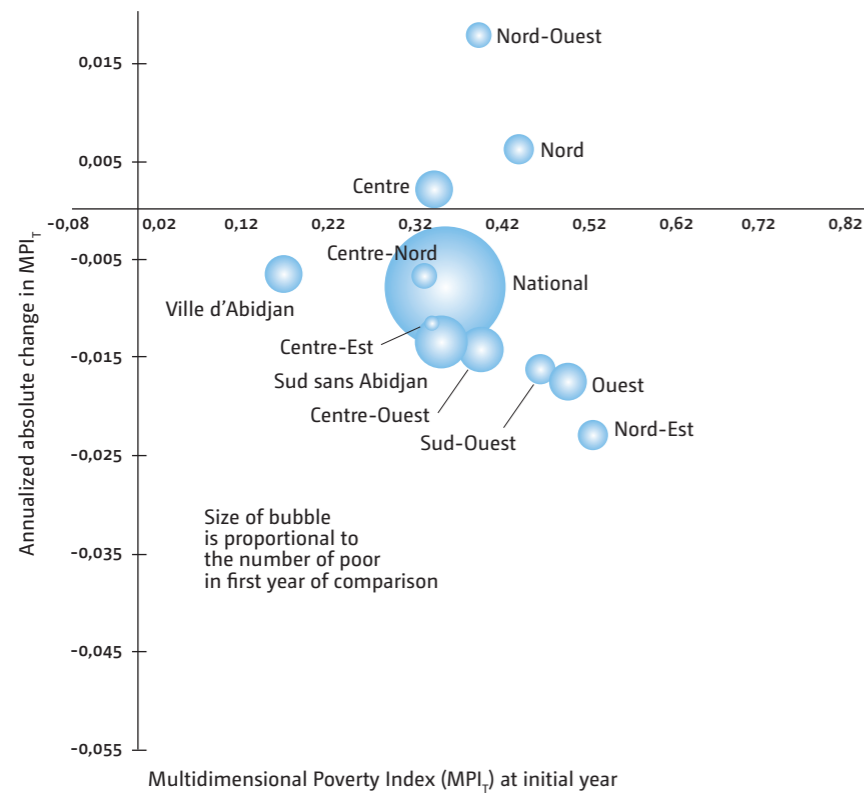
	2005		2011/12		Change is significant at 1%
	Level	Std Error	Level	Std Error	
MPI – Poverty	0.420	(0.007)	0.343	(0.009)	***
H – Incidence	61.5%	(1.4)	55.2%	(1.1)	***
A – Intensity	57.4%	(0.7)	55.1%	(0.4)	***
Number of poor (million)	10.7		10.9		

Source: Author's calculations based on Alkire et al. (2017b).



Source: Author's calculations based on Alkire et al. (2017b).

Figure 13: Annualized absolute change in MPI in Côte d'Ivoire by subnational region

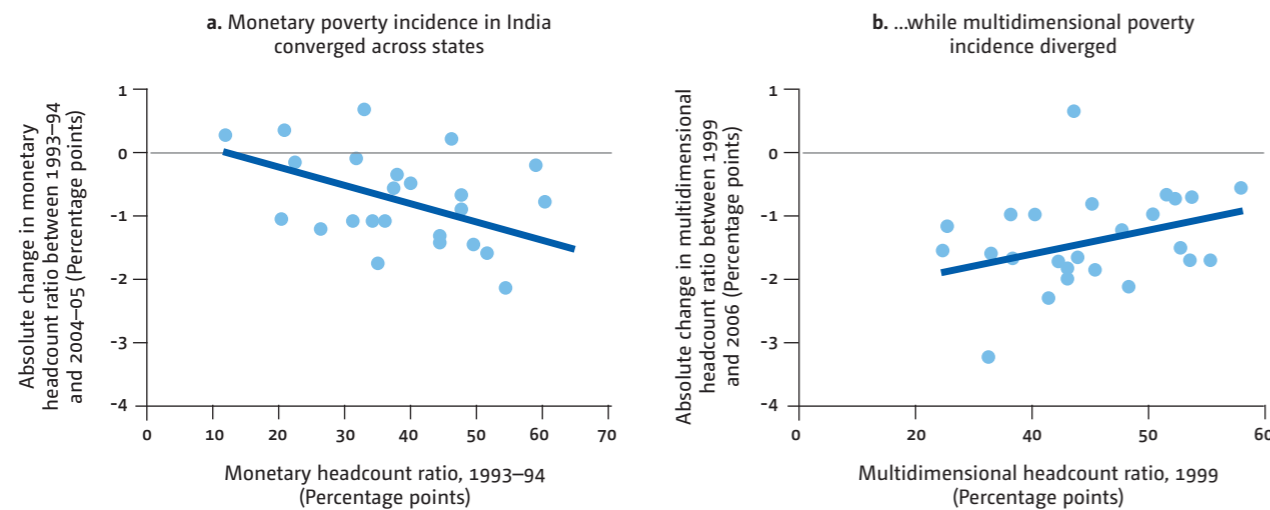


This is how the headline measure MPI, with H and A, depicts trends and can track progress, yet can also be a tool to see how that progress happened, perhaps to incentivize change in the next period. In terms of leaving no one behind, when MPI, H, and A are disaggregated, they identify which regions are the poorest areas, and when data over time are available, one can see if the poorest areas reduced poverty the fastest. In Côte d'Ivoire, Nord-Est is the poorest region. On the horizontal axis of Figure 13, the poorest are on the right-hand side. The vertical axis is a race to reduce poverty the fastest, and Nord-Est is winning. It is catching up. This is a positive story in terms of leaving no one behind. In eight of the countries covered, the largest reductions in MPI occur in the poorest subnational regions.

There is also a question of whether the trends subnationally match the trends in US\$1.90/day poverty nationally. In India 1999–2006, for example, we see a positive pattern with monetary poverty reduction, as shown in Figure 14. These are the regions again with the poorest on the right-hand side, and with the lowest dots reducing poverty the fastest. We see that, on the left-hand plot, which is monetary poverty, the poorest region reduced monetary poverty the fastest. But on the right-hand plot, it shows that

Source: Author's calculations based on Alkire et al. (2017b).

Figure 14: Monetary and multidimensional poverty reduction in India



Source: World Bank Group (2016). 6



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multidimensional poverty reduction in the poorest regions was the slowest. The biggest gains were in Tamil Nadu, Andhra Pradesh, Kerala, and other states of India that were not the poorest to begin with. This divergence in subnational patterns is quite important and again calls for monetary and non-monetary indicators to be measured separately and for their trends to be compared. This finding was taken up and republished in the Global Monitoring Report 2016 (World Bank 2016).

So, studying changes over time, using a multidimensional measure that is imperfect, but which covers a good proportion of low-income and lower-income countries, can net important insights. Another key area of study is how change happened: patterns of reduction by indicators. Statistically significant reduction in every MPI indicator, for example, occurs in nine countries and even among these the rate of indicator reduction varied. In terms of the SDG aim to cut by half poverty in all its dimensions, there were two countries – Gabon and Comoros – that more than halved their MPI during a 12-year period. Nepal also achieved this from 2006 to 2014. Thus, it appears possible within 15 years to halve the global MPI from very different starting points.

In sum, this skeletal structure of poverty measurement may be useful in tracking trends over time – useful to gauge the speed at which change occurred, and, perhaps more importantly, to feed back information to policy actors on how change happened, in order to catalyse and accelerate the further reduction of poverty.

Online Resources:
All the global MPI 2017 data are freely accessible in Excel files online, and methodological notes detail the treatment of each country's dataset. Three poverty lines are reported, reflecting vulnerability, poverty, and severe poverty. In addition, a destitution measure is reported that implements ultra-poor indicators. There are 706 million people who are destitute, meaning that they fall short in 1/3 of the weighted ultra-poverty indicators such as severe malnutrition or open defecation or no household member completing even one year of schooling. The online MPI data tables also include the indicator-level details and disaggregations by age, rural-urban, and subnational area (as well as standard errors, confidence intervals, and the retained sample). Strictly harmonized data for intertemporal comparisons is available in a separate table. For any particular country, a Country Briefing PDF visually displays the core information for that country. And for those seeking infographics, an interactive data bank is available for selecting and clipping images.

<https://ophi.org.uk/multidimensional-poverty-index/>

⁶ The graphic is based on Alkire and Seth (2015).

4

Global MPI in dialogue

Having explored one application of multidimensional poverty, a natural question arises: Is information in the global MPI duplicated by other indicators? Perhaps it is redundant, because its insights are the same as the US\$1.90/day poverty measure or as for indices such as the Global Peace Index (IEP 2017), Human Development Index (UNDP 2015), and the Social Progress Index (Social Progress Imperative 2017). Is there any value added from the global MPI, considering not only its structure but also its results? We first explore that question empirically, and subsequently document methodological differences.

4.1 Comparison with US\$1.90/day measure

First, we turn to the US\$1.90/day, which is a necessary complement to the global MPI. The global MPI uses the DHS and MICS that do not cover consumption or income poverty, so it is impossible to obtain a global measure with nutrition and consumption in it. There is also a serious question of whether the volatility of household consumption data mean that the consumption aggregate is not an accurate proxy of

that household's monetary level, hence their consumption poverty, over the last year. Of the 103 countries covered by the 2017 global MPI, there are \$1.90/day data for 86 of those countries. In 10 countries the MPI and US\$1.90/day measures come from surveys fielded in the same year. In 24, the US\$1.90/day numbers are more recent. In 52, the MPI numbers are more recent. There are MPIs without US\$1.90/day measures in 2017 for some countries like Afghanistan, Algeria, Egypt, Myanmar, South Sudan, and Yemen. And there are also US\$1.90/day estimations for some countries that lack global MPIs including Chile, Costa Rica, Iran, Malaysia, and Venezuela.

In a sense, the US\$1.90/day and global MPI measures complement each other. While there are some differences in terms of their country coverage, the number of countries is by and large similar for both measures. Figure 15 depicts countries' respective poverty levels. The height of each bar is the headcount ratio of multidimensional poverty, and the black dot is the headcount ratio of US\$1.90 a day poverty for the same country. Clearly both measures mainly agree on the low poverty countries. There is quite a bit of divergence in poverty levels across the poorer countries. Even considering the 5 per cent confidence intervals for the MPI headcount ratios, the two measures are clearly distinct.

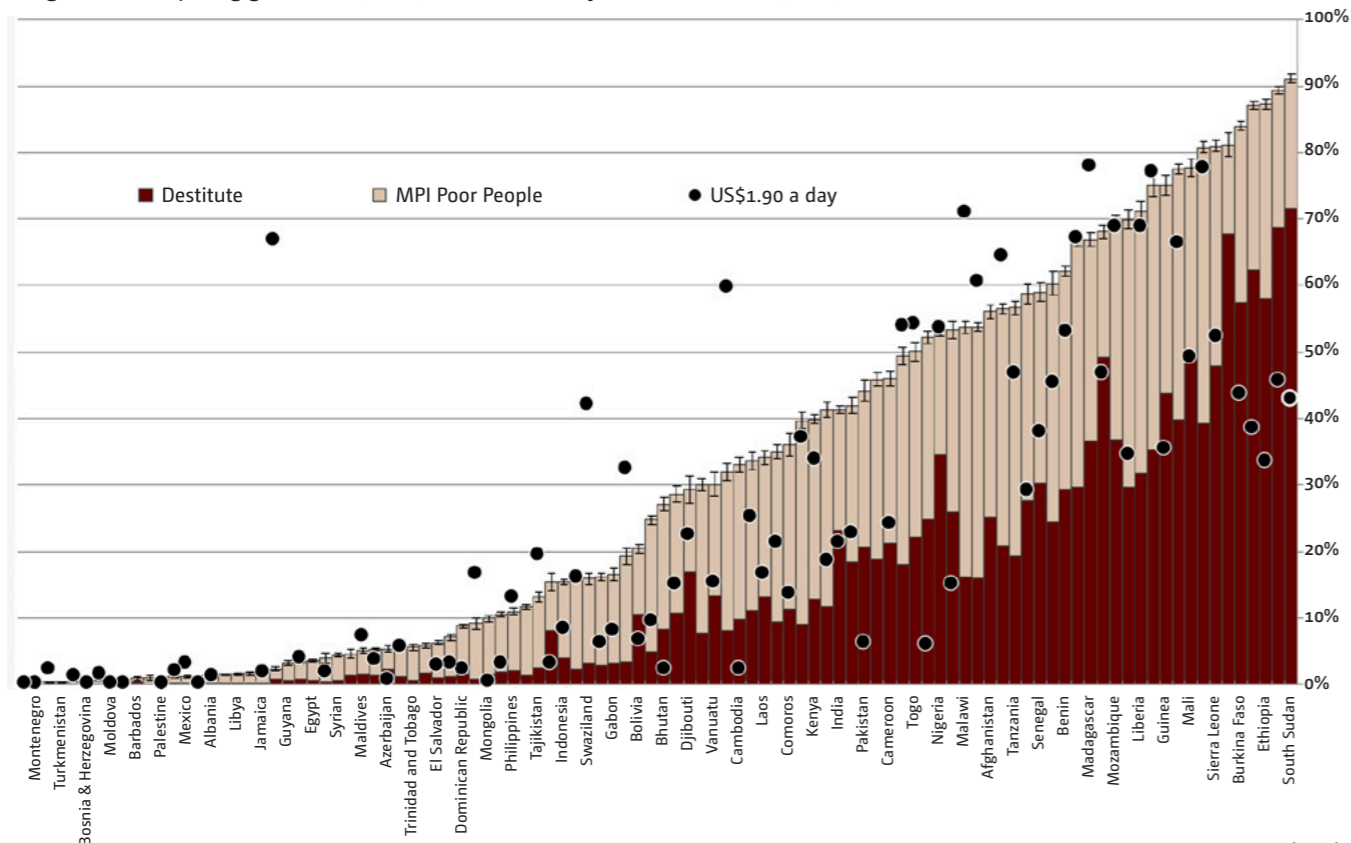
4.2 Comparisons with composite indices

Are composite indices, perhaps, already conveying much the same information? This empirical question is first considered and, following it, the structure of composite indices is differentiated from the structure of the MPI.

Methodologically, bivariate correlations at best describe empirical associations, not causation. High correlations may reflect a causal effect between the variables, or reverse causation, or an omitted variable bias, or methodological artefacts. Low or zero correlations, when in contrast to theory, also invite study. Thus, correlation is mainly a point of departure for further analysis. Still, robust correlations (those that at a minimum rule out methodological artefacts, country fixed effects, and other crude sources of spurious correlations) such as the Easterlin paradox, years of schooling and economic growth, or economic growth and poverty reduction, have served in the literature as stylized facts motivating further research. For example, Harrison and McMillan (2007) asked, on the basis of a scatter plot, why a predicted relationship between globalization and poverty in aggregate cross-country data was not apparent: was it due to heterogeneity in the effects of trade reforms on the poor, or to the low quality of cross-country poverty data, or because growth gains from trade have been wiped out by adverse distributional trends? Bourguignon et al. (2010) pondered, on the basis of scatter plots, whether growth necessarily affected non-monetary Millennium Development Goal indicators. In order to refine understandings of the relationship between income and democracy, Acemoglu et al. (2008) use a widely observed simple correlation between phenomena, progressively refine it, then probe correlation between trends, not merely levels, of the variables.⁷

In the field of multidimensional poverty measurement, many studies have documented the extensive mismatch between the level and trend of single indicators that are associated with different poverty-related indicators, so there is no need to rehearse that extensive literature here.⁸ Thus far, scant consideration has been paid to different composite indices that reflect somewhat relevant or overlapping aspects of

Figure 15: Comparing global MPI (2017) and US\$1.90/day headcount ratios (2013)



Source: Alkire and Robles (2017).

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⁷ Other interesting papers in this line include Michalopoulos and Papaioannou (2013) on regional development and ethnic-political centralization.

⁸ This extensive literature is reviewed in Alkire et al. (2015: Chapters 1 and 4).



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poverty and well-being. If there were a clear and established authoritative measure of multidimensional poverty, correlations might be used to cross-validate a new measure. As there is not, and as the other indices are differently structured, and reflect well-being or a combination of variables rather than poverty, the present exercise is more limited. It seeks merely to observe apparent regularities across multivariate indices, as a starting point towards assessing robust correlations or diagnosing relationships for further probing and possible research. In particular, none of the included measures is designed to capture the same theoretical construct as the global MPI – acute multidimensional poverty that reflects the joint distribution of deprivations.

4.2.1 Global Peace Index

One of the best documented and most rigorous indices is the Global Peace Index, or GPI, (IEP 2017), which contains 23 indicators of violence or fear of violence, as shown in Table 2. The GPI is clearly of interest because the global MPI lacks personal security, which was one of the dimensions of great interest in 2010, and one recommended by the Atkinson Commission Report (World Bank 2017). The GPI's qualitative and quantitative indicators are banded, weighted, and then aggregated. There are also robustness tests, and extensive methodological documentation. The 23 components do not overlap with the indicators that comprise the global MPI. Empirically, the measures diverge. They clearly complement each other but the correlation is very low for the 95 countries for which we have data on both measures, as shown in Figure 16.

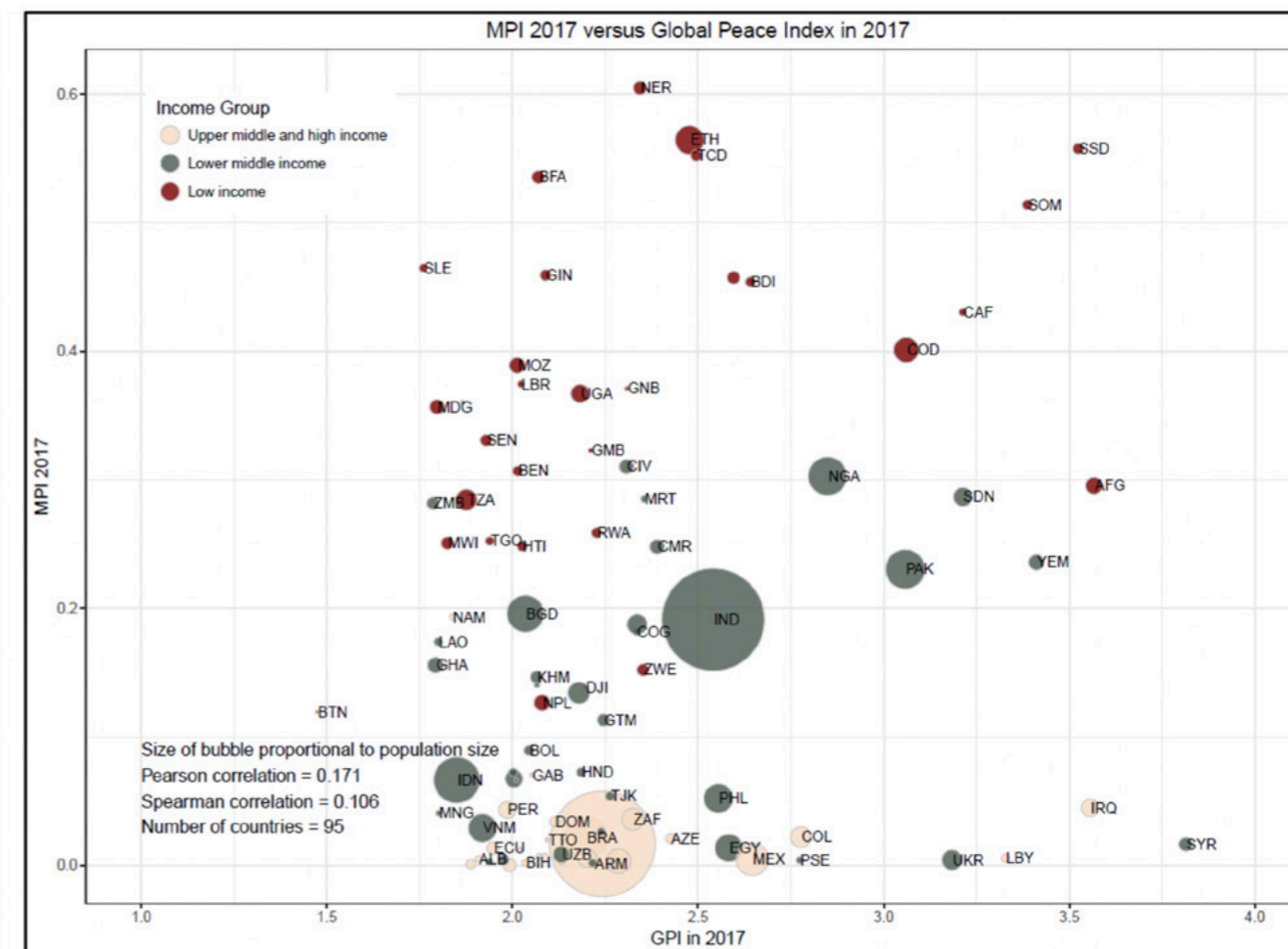
23 Components of the Global Peace Index

Perceptions of criminality	Deaths from internal conflict
Security officers and police rate	Internal conflicts fought
Homicide rate	Military expenditure (% GDP)
Incarceration rate	Armed services personnel rate
Access to small arms	UN peacekeeping funding
Intensity of internal conflict	Nuclear and heavy weapons capabilities
Violent demonstrations	Weapons exports
Violent crime	Refugees and IDPs
Political instability	Neighbouring countries relations
Political terror	Number, duration and role in external conflicts
Weapons imports	Deaths from external conflict
Terrorism impact	

Table 2: Components of the Global Peace Index

Source: Author's illustration based on IEP (2017).

Figure 16: Global MPI versus Global Peace Index, 2017

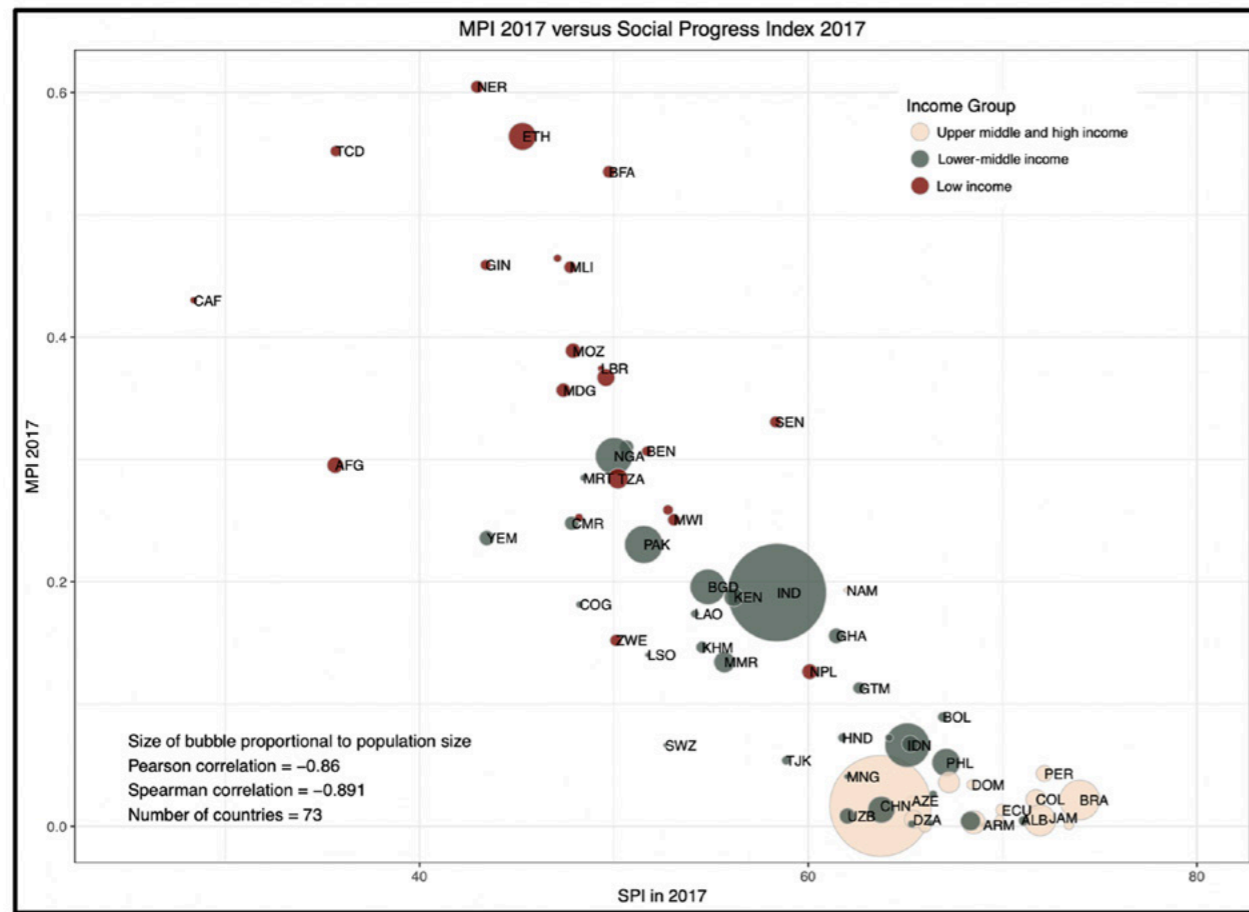


Source: Author's calculations based on Alkire and Robles (2017) and IEP (2017).

4.2.2 Social Progress Index

Another index is the Social Progress Index (Social Progress Imperative 2017), which includes three dimensions: human needs, foundations of well-being, and opportunity (Figure 17). There are four components within each dimension, and each component itself includes a number of indicators of different kinds. For example, for nutrition and basic medical care there is undernourishment, depth of food deficit, maternal mortality rate, child mortality rate, and death from infectious disease. This is quite a massive undertaking in terms of the numbers of indicators covering many similar domains as the global MPI (but not the same indicators), as well as additional indicators on opportunity, environmental quality, and personal safety. The relationship to the global MPI in terms of the country levels is higher for the 73 countries for which both indicators are available.

Figure 17: Global MPI versus Social Progress Index, 2017

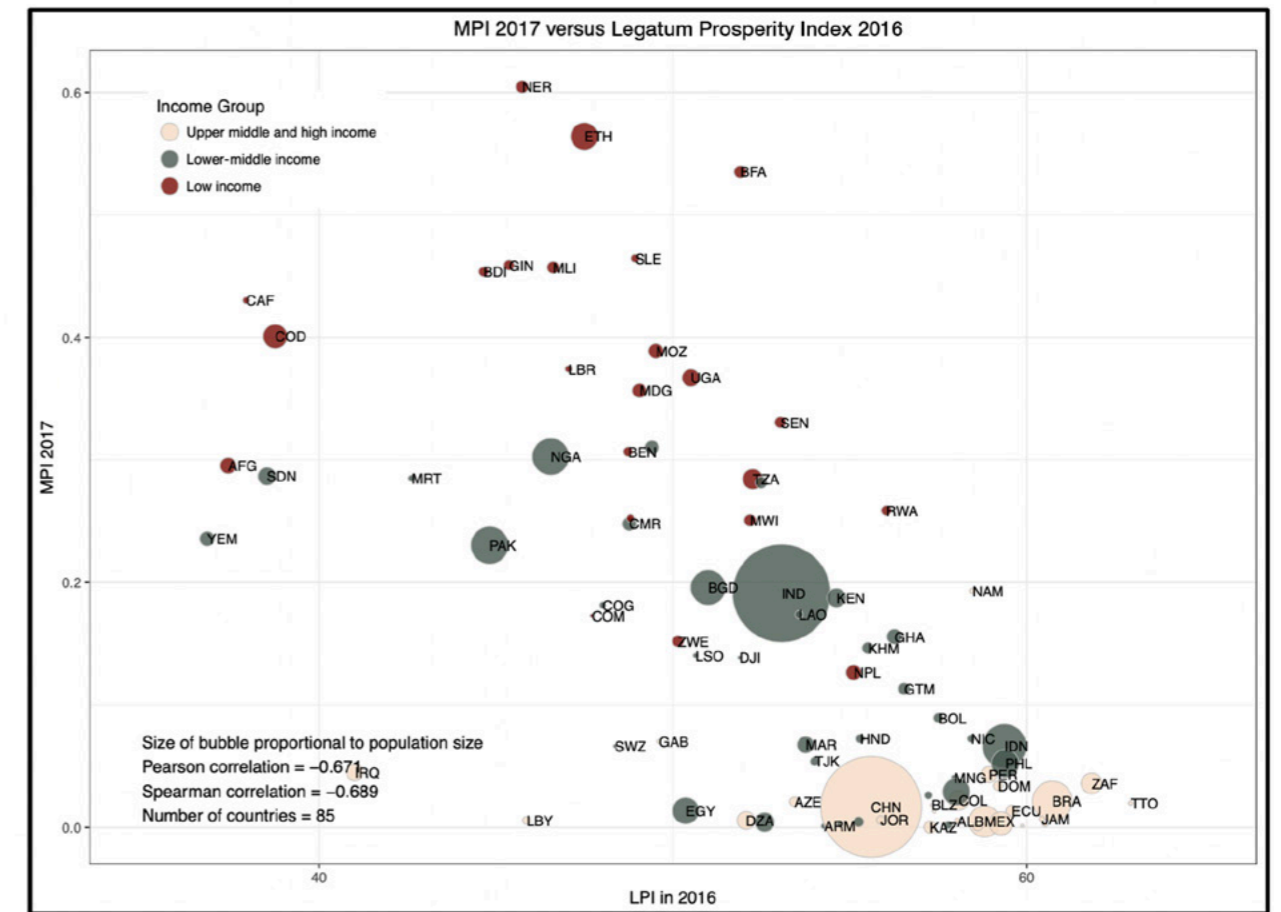


Source: Author's calculations.

4.2.3 Other composite indices

We could go on, but the relationships are not as strong, for example, with the Legatum Prosperity Index 2016 (Legatum Institute 2016) (Figure 18)⁹ or the Ease of Doing Business Index 2017 (World Bank n.d.) (Figure 19)¹⁰, because we might wonder whether countries with a strong business sector have a better environment in which also to redress poverty. The Fragile States Index (Fund for Peace 2017) (Figure 20) is important because half of the poor children live in fragile states, but interestingly there is not a strong association. The strongest association of the indicators is with the Human Development Index (UNDP 2015) (Figure 21), primarily through its education component and somewhat through its life expectancy component.

Figure 18: Global MPI versus Legatum Prosperity Index, 2016

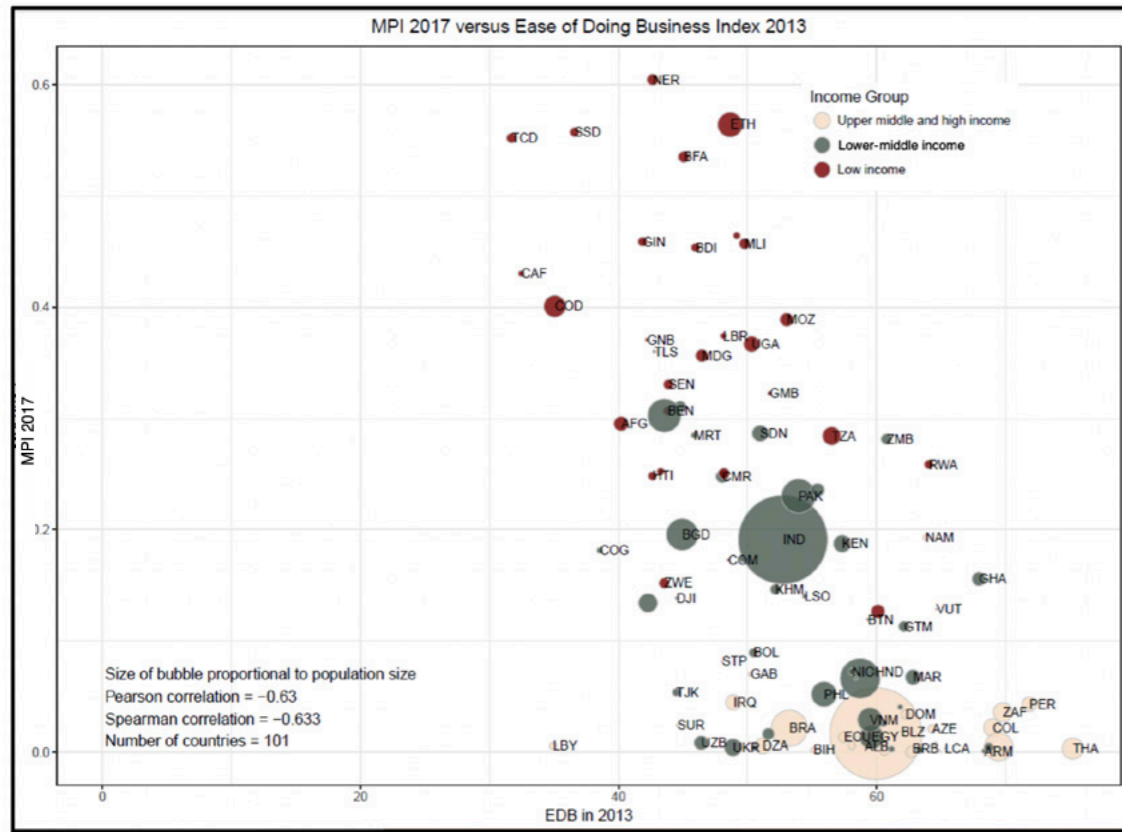


Source: Author's calculations.

⁹ Missing countries: Barbados, Bhutan, Bosnia and Herzegovina, Gambia, Guinea-Bissau, Haiti, Maldives, Myanmar, State of Palestine, Saint Lucia, Sao Tome and Principe, Somalia, South Sudan, Syrian Arab Republic, Timor-Leste, Turkmenistan, Uzbekistan, and Vanuatu.

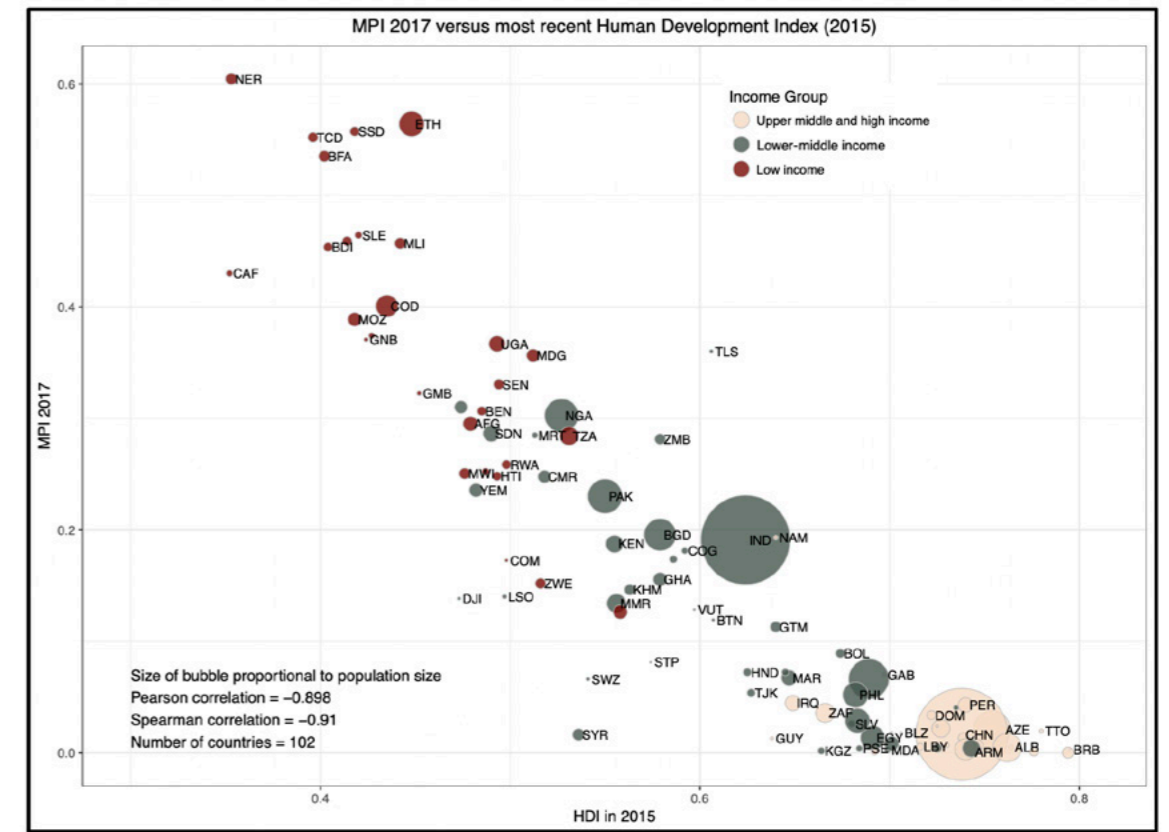
¹⁰ EDB does not include data for Saint Lucia and Vanuatu.

Figure 19: Global MPI versus Ease of Doing Business Index, 2013



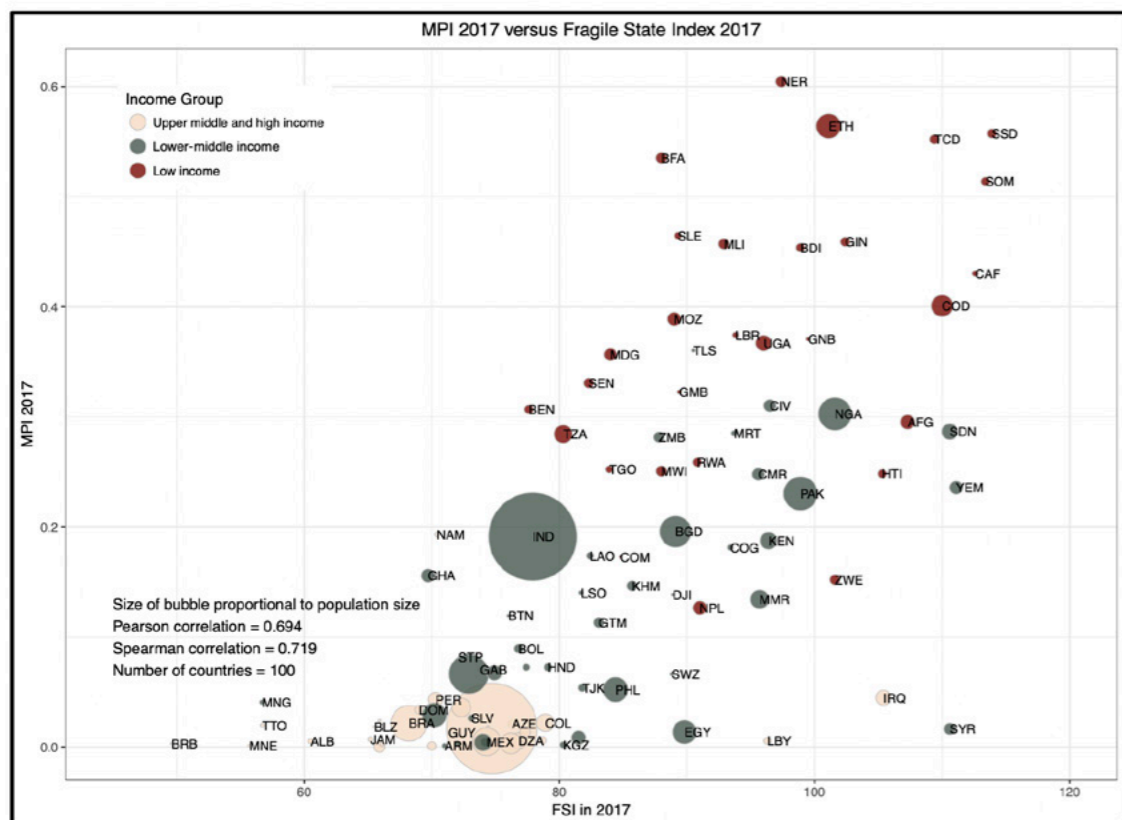
Source: Author's calculations.

Figure 21: Global MPI versus Human Development Index, 2015



Source: Author's calculations.

Figure 20: Global MPI versus Fragile State Index, 2017



Source: Author's calculations.



4.3 Value-added of the global MPI

Apart from the fact that correlations are limited for the most part, what would be the value added of having a multidimensional poverty measure alongside these other composite indicators? First of all, recall that the MPI reflects people's overlapping deprivations in different indicators (Figure 1). That is, a counting-based measure requires aggregation first across indicators for the same person or household. Then the weighted deprivation scores are aggregated across households. That is a different order of aggregation from these composite measures. A composite measure like the Global Peace Index, Human Development Index, Social Progress Index, or the others, first aggregates across all people. This means these indicators draw from different survey instruments, and from different years. They can combine data for different base populations – children, adults, whole populations, past or future lives. However, this means that they do not reflect the joint distribution of deprivations.

For example, in a society like that in the left matrix of Figure 22, in which deprivations are spread across four people, or a society like the right matrix, in which one person has all the deprivations, if the marginal numbers are the same, the Human Development Index or any composite index would have the same value. They will never reflect the jointness of deprivations. In contrast, counting-based measures will always capture the fact that, in society 1, each person is deprived in 25 per cent of the indicators, but in society 2, three people are non-poor, and one person is deprived in 100 per cent of the indicators. Furthermore, the MPI can be broken down, after identification, by indicator, or framed as HxA: so, the headline index is associated with an information platform of statistics that provide intuition. It can also be readily disaggregated by age, subnational region, rural-urban, and other features – a feature that often eludes composite measures. True, counting-based measures are limited by requiring all the data to be from the same data source, and by requiring a common unit of analysis, whether it is the individual or the household. But when this information is in place, they may be unpacked in many ways.

Figure 22: Joint distributions of deprivation

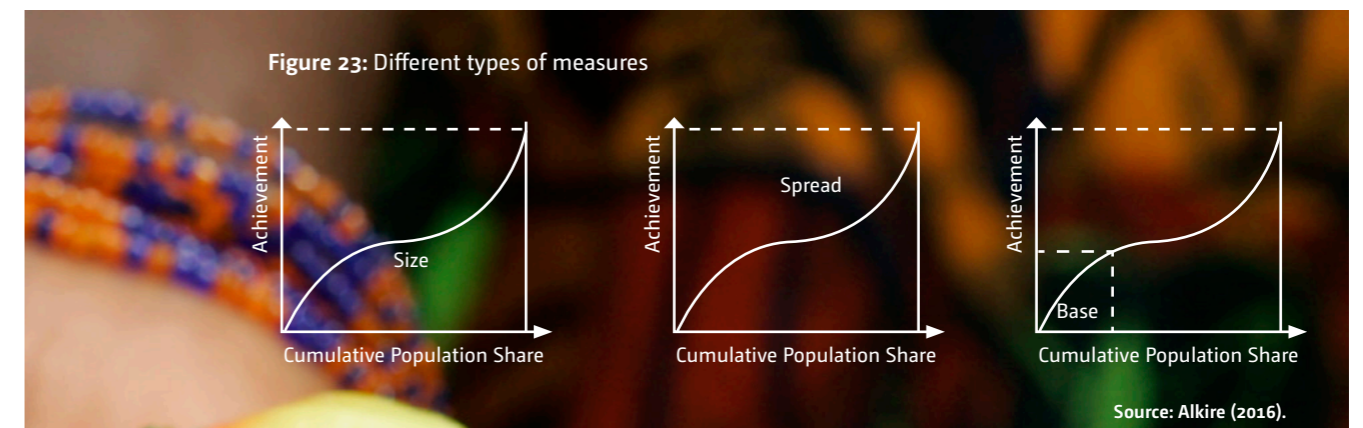
	Income	Education	Shelter	Water		Income	Education	Shelter	Water
1.	D	ND	ND	ND	1.	ND	ND	ND	ND
2.	ND	D	ND	ND	2.	ND	ND	ND	ND
3.	ND	ND	D	ND	3.	ND	ND	ND	ND
4.	ND	ND	ND	D	4.	D	D	D	D

Source: Author's illustration.



A second observation is the need to have very clear understandings of definitions of the main different kinds of measures that summarize information on a population (Foster et al. 2013). One might think of an indicator of well-being, which existentially essentially measures the size of a distribution – GDP, or income per capita, for example. This would be different from an inequality measure, which essentially measures the spread of the distribution – such as Gini coefficient, or the Atkinson Inequality measure. A poverty measure, following Sen (1976) – an absolute poverty measure – would first identify everybody who is poor, and then, focusing only on them, aggregate their information across the population in order to have a poverty measure. Such a poverty measure reflects the base of a population. It is quite useful to distinguish these measures. Yet some composite indicators combine different kinds of measures – well-being, inequality, and poverty – and may also include other statistics perhaps that do not relate to people but relate to small arms or to the environment, or to past lives, like numbers of homicides.

Considering the SDG indicators in this framework, one can observe that over 60 of the 232 SDG indicators are poverty-related in structure. They identify a condition, identify the people who experience that condition, then aggregate across the population to create the SDG indicator. It might be interesting to look at those SDG indicators and think about how to summarize at least a subset of them into an overall measure that is consistent, and perhaps using a counting methodology.



Source: Alkire (2016). © UN Photo / Evan Schneider

Other distinctions between composite measures and counting-based multidimensional poverty measures may be pertinent in some empirical applications. For example, another distinction between the global MPI, or a counting-based measure, and the composite indicators is that because the composite indicators are from different surveys, they may come from different years, which may make the final measures slightly more challenging to interpret. Furthermore, the frequency of updating various surveys may be different, which may make the measure not equally able to monitor policy outcomes for each indicator in a given time period, because some component indicators (for example those relying on census data) may not be updated.

Furthermore, the set of datasets used to contribute the indicators in composite measures may not be able to be disaggregated by the same populations. So, it is generally more challenging to disaggregate composite measures. Due to different sampling structures, it may be less possible to compute standard errors hence to complete the Atkinson report's call for going beyond point estimations. Also, the weights that would be affixed on a normalized 0 to 1 cardinal index component have a very different character than the weights that are fixed to the 0 to 1 deprivation of a woman like Nahato, and whether or not she is deprived in each indicator. In particular, the weights across normalized indicators in composite indices imply a marginal rate of substitutability between the indicators at different levels of achievement and across indicators (Alkire et al. 2011). Therefore, there seems to be some added value in having a counting-based structure for a poverty measurement as was recommended in the Atkinson Commission Report, even if some of the indicators are missing.



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4.4 Other counting-based measures

Other counting-based measures merit mention. For example, in 2014, UNICEF released a counting-based measure using the dual cut-off approach for children, the Multiple Overlapping Deprivations Analysis (MODA), which covered 40 countries using data from 2008 to 2013 (De Neubourg et al. 2013). The MODA also uses the adjusted headcount ratio. It comprises two distinct measures reflecting the poverty for two populations: children aged 0 to 4 and children aged 5 to 17. It is a tool for advocacy. So rather than a focus on policy, which requires an understanding of deprivations in each indicator and how to change these, the focus is on depicting child rights as indivisible. Therefore, all indicators within a dimension are aggregated using a sub-index that is based on the union approach, where a child is identified as deprived in that dimension if the child experiences a deprivation in any component indicator. The MODA identifies a child as deprived, for example, if they are not immunized in DPT, or if they have not had skilled birth attendance, or if both conditions obtain.

The use of within-dimensional union-based sub-indices generates a higher headcount ratio of poor children, which meets the purposes of advocacy. It does, however, lose information that would be essential for policy because the resulting indicator can only be broken down by dimension, not by indicator. If a child is deprived, policy strategies to fight child poverty need to know if the children need immunization or if they need a skilled birth attendant, or both. Further, in terms of incentives to reduce child poverty, if a child were poor and deprived in both DPT and birth attendance, and then becomes non-deprived in one indicator (e.g. DPT), then child poverty should be reduced. However, with a union-based sub-index, the reduction of one deprivation does not necessarily change poverty. Poverty is only affected when all deprivations that constitute one dimension are eradicated. Unfortunately, this means policy makers have a clear incentive to focus on the least-deprived children (those deprived only in one indicator within a dimension) first, as progress on the poorest children is hard to see.

4.5 Multidimensional measures and the SDGs

We have seen the landscape and the openness to multidimensional measures—that, in a sense, is moving from the margins to a space of its own and it is invited to do so. But where do such measures fit in the SDG reporting? If you look at the SDG Report 2017 on Goal 1, it includes US\$ 1.90/day measure updates and unemployment updates, as well as those on unemployment benefits and natural hazards (UN 2017). Those were the four indicators mentioned in this year's SDG report. There is a bit of disquiet with the silence around multidimensional measures, partly coming from countries that use national multidimensional poverty measures as official statistics. These countries are designing measures that are not comparable like the global MPI but that reflect their national development plans and that are implemented using their national data sources, which might include, for example, employment or internet access, violence, or environmental conditions, such as are relevant in those countries. They are comparable over time within the country for use and comparisons there.

Countries are using these national MPIs quite extensively to complement their monetary poverty measures and most have distinct monetary and MPI measures. These measures are sometimes used for budget allocation. For example, former President Solís in Costa Rica passed a presidential decree by which allocation subnationally now must reflect the level of multidimensional poverty as well as monetary poverty and population density (MPPN 2017). They are used for targeting marginal regions and marginal groups in a number of countries with an associated census instrument. They are also used extensively for policy coordination because the MPI gives a headline – one number – which reflects the work of many sectors. In a sense, it is a common goal politically speaking. Therefore, the different ministries can learn how to work together to move the dial on that common goal, and the minister of health also can realize, as was said in Colombia, how he needs the work of the ministers of transport or of water or nutrition to do their work so that he can do his.¹¹

Again, there is a strong emphasis on disaggregation. When Mexico launched its MPI for the first time, it disaggregated by indigenous status. Panama launched its national MPI in June 2017 and after disaggregating, found that in the Comarcas of Panama,



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over 90 per cent of people were poor whereas in other regions it was 4 per cent – a wide disparity in levels of poverty.

There is also an interesting set of initiatives around engaging the private sector by doing a business MPI, where they identify who within their employees are poor according to the national MPI and have interventions on their behalf.

These countries are learning about using the MPIs – not necessarily the global MPI, although some countries like Nepal use the global MPI directly as their national MPI – to prioritize the SDGs in their context in ways that are poverty-related and that need the most emphasis. This community includes statisticians and the heads of statistics offices, as well as policy leaders. For example, in the High Level Political Forum, many countries mentioned multidimensional poverty in their Voluntary National Reviews.¹² Also, in the 2017 General Assembly, three side events on multidimensional poverty were organized, and they included the heads of states of Honduras, Bhutan, Mexico, Colombia, and Chile, the vice presidents of Costa Rica and Panama, the Administrator of UNDP, and a number of ministers and leaders trying to think through how multidimensional poverty measures can be a tool for prioritization and for joined-up planning in the SDG environment, as well as for monitoring groups at risk of being left behind.

Turning to SDG reporting, the question is what should be reported. This remains an unanswered question. Visiting the SDG indicator platform, the space is filled for 1.1.1.1 (the US\$1.90/day indicator) and for 1.2.1 (the national income poverty measures), but it is blank for multidimensional poverty (1.2.2). This is interesting. It is because countries are custodian agencies, of the 232 indicators, for only one indicator: 1.2.2. There is at this point no way for countries to enter their data. It is a pause because this will be corrected, but in that pause there is a question of what should be reported.

Should it be a comparable MPI like US\$1.90/day? There would be some arguments for saying that that would be useful. For example, the target is to reduce by half the proportion of men, women, and children living in poverty in all its dimensions. A comparable measure would make that target of halving poverty coherent. It might identify an unacceptable level of poverty and seek to bring it down. But Target 1.2 also includes the clause 'by national definitions'. Furthermore, it is important in the SDG environment that indicators be nationally owned and nationally constructed. Also, when countries come to design their national MPIs, like their national income poverty measures, they are different because they reflect different priorities, aspirations, and datasets.

¹¹ See Zavaleta and Angulo (2017) for more on Colombia's example.

¹² See OPHI (n.d.) for a thorough description of each country's reference to multidimensional poverty.



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There could be a case for having two indicators of multidimensional poverty. This is what was done in the case of monetary poverty. The first SDG indicator is a comparable monetary poverty measure (SDG indicator 1.1.1), and the second is a national monetary poverty measure (1.2.1). However, the door for SDG indicator adjustments closed. Yet even so, as the Atkinson Commission Report articulated, there is a need for a very strong conversation between national measures and comparable measures, a need for a greater understanding of how they relate to each other and of how the relative priorities that each embody can synergize with each other.

This summary of the SDG indicators concludes a trajectory of reflections. We began by considering the conceptual need for multidimensional measures that complement a monetary measure, drawing on Amartya Sen's work. We then looked at Miguel Székely who, like Mahbub ul-Haq who oversaw the development of the HDI, recognized the importance of numbers to incite policy action. And, we looked at how the SDGs require and invite multidimensional measures of poverty. Overall, this lecture shared one potential structure – skeletal structure, if you will – of multidimensional poverty, and also pointed out its weaknesses. Its weaknesses are largely due to data constraints; it does not have empowerment, violence, employment, or other priorities. At the same time, one cannot underestimate the public good provided by high quality DHS and MICS surveys. Disaggregation would not be possible without those data that are free and publicly available. We considered whether it was duplicated by other measures, and found it was not. We also shared how the MPI – that clearly aligns with the SDG priorities – relates to the SDG indicator framework, and why it cannot as yet be reported.

One final observation addresses the future. If we look at the more up-to-date data for 100 countries and 5 billion people, we can ask: what might be possible in the near future in terms of improving the global MPI? To address this question, we looked across 31 indicators in some depth. To our interest and perhaps disappointment as well, there is not a huge margin for change at present given the data that exist, especially if changes must cover at least 75 countries and 3.5 billion people. But we could combine stunting with undernutrition; we could use age- and gender-specific body mass index; we could add roof and walls to the flooring indicator. So, some improvements were made subsequently (see Alkire Kanagaratnam and Suppa 2018). There is also a very strong need to continue to explore better ways of merging geospatial data with survey data or otherwise extending the datasets in minor high-impact ways.

Turning to the lovely image of Edgar Leslie that 'T'aint no sin to take off your skin and dance about in your bones' (Donaldson and Leslie 1930), this lecture tried to take a sense of free curiosity into the sober matter of poverty measurement. It explored whether multidimensional poverty measures could describe the skeletal structure of poverty in a way that might better evoke understanding and ignite action. This exercise was very incomplete. It must be complemented by policy, analysis, participatory community engagement, private sector interventions, and other tasks that comprise the real work of reducing poverty. But the question that was raised is whether an improved multidimensional poverty measurement methodology – limited as it is – might clarify the task and the priorities of reducing a small set of deprivations that are interlinked catalytically. An affirmative answer was suggested.

Tony Atkinson closed the Atkinson Commission Report with words that articulate the value of thinking about measurement, even though it is but one phase in the journey towards policy and analysis. They are words that bear repeating, and remembering:

The estimation of the extent of global poverty is an exercise in description ... as Commission member Amartya Sen has written, 'description as an intellectual activity is typically not regarded as very challenging.' However, as he goes on to say, 'description isn't just observing and reporting; it involves the exercise – possibly difficult – of selection ... description can be characterized as choosing from the set of possibly true statements a subset on grounds of their relevance.' Understanding the choices underlying the monitoring indicators, and their full implications, is challenging. There will be differences of view ... but it is hoped that the ensuing debate will bring together all those concerned and provide a basis for action to tackle one of the gravest problems facing the world today. (World Bank 2017: 197)



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- Acemoglu, D., S. Johnson, J.A. Robinson, and P. Yared, P. (2008). 'Income and Democracy'. *American Economic Review*, 98(3): 808–42.
- African Union Commission (2015). *Agenda 2063: The Africa We Want. Popular Version*. Addis Ababa: African Union Commission.
- Alkire, S. (2016). 'Measures of Human Development: Key Concepts and Properties'. OPHI Working Paper 107. Oxford: Oxford Poverty and Human Development Initiative, University of Oxford.
- Alkire, S., and J. Foster (2011). 'Understandings and Misunderstandings of Multidimensional Poverty Measurement'. *Journal of Economic Inequality*, 9:2 289–314.
- Alkire, S., J. Foster, and M.E. Santos (2011). 'Where Did Identification Go?'. *Journal of Economic Inequality*, 9(3): 501–05.
- Alkire, S., J.E. Foster, S. Seth, M.E. Santos, J.M. Roche, and P. Ballon (2015). *Multidimensional Poverty Measurement and Analysis*. Oxford: Oxford University Press.
- Alkire, S., and S. Jahan (2018). 'The New Global MPI 2018: Aligning with the Sustainable Development Goals'. HDRO Occasional Paper. New York, NY: United Nations Development Programme (UNDP).
- Alkire, S., C. Jindra, G. Robles, and A. Vaz (2016). 'Multidimensional Poverty in Africa'. OPHI Briefing 40. Oxford: Oxford Poverty and Human Development Initiative, University of Oxford.
- Alkire, S., C. Jindra, G. Robles, and A. Vaz (2017a). 'Children's Multidimensional Poverty: Disaggregating the Global MPI'. OPHI Briefing 46. Oxford: Oxford Poverty and Human Development Initiative, University of Oxford.
- Alkire, S., C. Jindra, G. Robles, and A. Vaz (2017b). 'Multidimensional Poverty Reduction among Countries in Sub-Saharan Africa'. *Forum for Social Economics*, 46(2): 178–91.
- Alkire, S., U. Kanagaratnam, and N. Suppa (2018). 'The Global Multidimensional Poverty Index (MPI): 2018 Revision'. OPHI MPI Methodological Note 46, Oxford: Oxford Poverty and Human Development Initiative, University of Oxford.

¹² There are good discussions of the Mirrlees model in Atkinson and Stiglitz (1980: chapter 13) and Boadway (1998). Also see the more recent comprehensive treatment of optimal taxation in Kaplow (2008).



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- Alkire, S., and G. Robles (2017). 'Global Multidimensional Poverty Index 2017'. OPHI Briefing 47. Oxford: Oxford Poverty and Human Development Initiative, University of Oxford.
- Alkire, S., J.M. Roche, and A. Vaz (2017). 'Changes over Time in Multidimensional Poverty: Methodology and Results for 34 Countries'. *World Development*, 94(Supplement C): 232–49.
- Alkire, S., and M.E. Santos (2014). 'Measuring Acute Poverty in the Developing World: Robustness and Scope of the Multidimensional Poverty Index'. *World Development*, 59: 251–74.
- Alkire, S., and S. Seth (2015). 'Multidimensional Poverty Reduction in India between 1999 and 2006: Where and How?'. *World Development*, 72: 93–108.
- Bourguignon, F., A. Bénassy-Quéré, S. Dercon, A. Estache, J.W. Gunning, R. Kanbur, S. Klasen, S. Maxwell, J.-P. Platteau, and A. Spadaro (2010). 'Millennium Development Goals: An Assessment'. In R. Kanbur and M. Spencer (eds), *Equity and Growth in a Globalizing World*. Washington, DC: World Bank.
- De Neubourg, C., J. Chai, M. de Milliano, and I. Plavgo (2013). 'Cross-Country MODA Study: Multiple Overlapping Deprivation Analysis (MODA). Technical Note'. Innocenti Working Papers 2012–05. Florence: UNICEF Office of Research.
- Donaldson, W., and E. Leslie (1930). *T'aint No Sin (To Dance Around in Your Bones)*.
- Drèze, J. (2017). *Sense and Solidarity: Jholawala Economics for Everyone*. Ranikhet: Permanent Black.
- Drèze, J., and A. Sen (2013). *An Uncertain Glory: India and its Contradictions*. London: Allen Lane.
- Foster, J.E., S. Seth, M. Lokshin, and Z. Sajaia (2013). *A Unified Approach to Measuring Poverty and Inequality: Theory and Practice*. Washington, DC: World Bank.
- Fund for Peace (2017). *Fragile States Index 2017*. Available at: <http://fundforpeace.org/fsi/> (accessed 20 June 2017).
- Harrison, A., and M. McMillan (2007). 'On the Links Between Globalization and Poverty'. *The Journal of Economic Inequality*, Springer: Society for the Study of Economic Inequality, 5(1): 123–34.
- IEP (2017). *Global Peace Index 2017: Measuring Peace in a Complex World*. Sydney: Institute for Economics & Peace.
- Legatum Institute (2016). *The Legatum Prosperity Index 2016*. London: Legatum Institute.
- Michalopoulos, S., and E. Papaioannou (2013). 'Pre-Colonial Ethnic Institutions and Contemporary African Development'. *Econometrica*, 81(1): 113–52.
- MPPN (Multidimensional Poverty Peer Network) (2017). 'Using the MPI to Determine National Budgets in Costa Rica'. *Dimensions*, 4: 14–18. Oxford: Oxford Poverty and Human Development Initiative, University of Oxford.
- Narayan, D., R. Chambers, M.K. Shah, and P. Petesch (2000). *Voices of the Poor: Crying Out for Change*. Oxford: Oxford University Press.
- OPHI (2017a). 'Afghanistan Country Briefing'. *Multidimensional Poverty Index Data Bank*. Oxford: Oxford Poverty and Human Development Initiative, University of Oxford.
- OPHI (2017b). 'Chad Country Briefing'. *Multidimensional Poverty Index Data Bank*. Oxford: Oxford Poverty and Human Development Initiative, University of Oxford.
- OPHI (2017c). 'Myanmar Country Briefing'. *Multidimensional Poverty Index Data Bank*. Oxford: Oxford Poverty and Human Development Initiative, University of Oxford.
- OPHI (2019). *Handbook on National Multidimensional Poverty Indices*. Oxford: Oxford Poverty and Human Development Initiative, University of Oxford.
- OPHI (n.d.). 'Multidimensional Poverty in the Voluntary National Reviews'. Available at: <http://ophi.org.uk/voluntary-national-reviews/> (accessed 18 November 2018).
- Pinilla-Roncancio, M., and S. Alkire (2017). 'How Poor are People with Disabilities around the Globe? A Multidimensional Perspective'. OPHI Research in Progress 48a. Oxford: Oxford Poverty and Human Development Initiative, University of Oxford.
- Sen, A. (1976). 'Poverty: An Ordinal Approach to Measurement'. *Econometrica*, 44(2): 219–31.
- Sen, A. (1993). 'Capability and Well-Being'. In M. Nussbaum and A. Sen (eds), *The Quality of Life*. Oxford: Clarendon Press.
- Social Progress Imperative (2017). *2017 Social Progress Index*. Available at: <https://www.socialprogress.org/> (accessed 20 June 2017).
- Stiglitz, K., A. Sen, and J.P. Fitoussi (2009). *Report by the Commission on the Measurement of Economic Performance and Social Progress*. Paris: CMEPSP.
- Székely, M. (2005). *Números que Mueven al Mundo: La Medición de la Pobreza en México*. Mexico City: Miguel Angel Porrúa.
- UN (2014a). *The Road to Dignity by 2030: Ending Poverty, Transforming All Lives and Protecting the Planet*. Synthesis Report of the Secretary-General on the Post-2015 Agenda (4 December). New York, NY: United Nations General Assembly.
- UN (2014b). *Operational Activities for Development of the United Nations System*. General Assembly Resolution A/RES/69/238 (19 December). New York, NY: United Nations General Assembly.
- UN (2015a). *Addis Ababa Action Agenda of the Third International Conference on Financing for Development*. New York, NY: United Nations.
- UN (2015b). *Transforming Our World: The 2030 Agenda for Sustainable Development*. A/RES/70/1. New York, NY: United Nations.
- UN (2017). *The Sustainable Development Goals Report 2017*. New York, NY: United Nations.
- UNDP (1990). *Human Development Report 1990*. United Nations Development Programme. New York, NY: Oxford University Press.
- UNDP (2015). *Human Development Index*. Available at: <http://hdr.undp.org/en/content/human-development-index-hdi> (accessed 30 June 2017).
- World Bank Group (2016). *Global Monitoring Report 2015/2016: Development Goals in an Era of Demographic Change*. Washington, DC: World Bank. doi: 10.1596/978-1-4648-0669-8. License: Creative Commons Attribution CC BY 3.0 IGO.
- World Bank (2017). *Monitoring Global Poverty: Report of the Commission on Global Poverty*. Washington, DC: World Bank. doi: 10.1596/978-1-4648-0961-3. License: Creative Commons Attribution CC BY 3.0 IGO.
- World Bank (n.d.). *Ease of Doing Business Index*. Available at: <https://data.worldbank.org/indicator/ic.bus.ease.xq> (accessed on 18 November 2018).
- Zavaleta, D., and R. Angulo (2017). 'National Roundtable and Dashboard for Poverty Reduction in Colombia'. MPPN Policy Briefing 45. Oxford: Oxford Poverty and Human Development Initiative, University of Oxford.

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