

# Development by Numbers – A summary

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How good are the numbers? In this short paper I summarize my review paper on the data quality in the most important databases on economic development.<sup>2</sup> Doing development by numbers suffers from three data quality challenges – availability, reliability, and accuracy. The challenges are not always equal. A user of a bathroom scale can attest to this. If you are asked to assess your own weight, the *availability* of this measurement is of primary importance. A single data point might do. But, if you are interested in knowing whether you are losing or gaining weight, we need two data points or more. But here a second challenge appears. When doing a comparison of two data points or more, the reliability of the scale matters. We all know that a bathroom scale could be off by a kilo or two. The measure is not valid, or it has low *accuracy*. We accept this, as we are expecting that our bathroom scale is providing us with a supply of consistent measurements, and even if the scale is slightly miscalibrated it might be *reliable*. This means it is predictably inaccurate, and you could still tell whether you are losing or gaining weight. However, if you wanted to compare your weight with that of your friends, it is important that the scales used are all giving accurate information. If you and your friends are using scales that give the weight with unpredictable levels of inaccuracy, comparisons become hazardous. Unfortunately, numbers in development are riddled with all of these challenges, and needs to be treated with outmost caution. The full paper guides you through the availability, reliability and validity problems of the most important numbers in development: GDP, Poverty Headcounts, Purchasing Power Parities, Population and different indicators relating to the MDGs and SDGs. Here we will discuss briefly some of the issues that relate to measuring poverty.

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Arguably the most visible of the Millennium Development Goals has been 1A - halving of the proportion of people in poor countries living in extreme poverty. The key challenge is that we know very little about poverty rates in the developing world. So, arguably when it was announced that we had, in fact, achieved this goal, it was more indicative of the PR department being ahead of the knowledge department than it was of an actual improvement. Remind yourselves, that the starting point is that we need two data points in order to analyze a trend. Additionally, the more spread apart these data points are, the less we know about the trend and what happened in between those points.

In the paper I grade 38 countries of 82 developing countries as having extreme and or moderate poverty data deprivation,<sup>3</sup> which means having no data or just one data point. So it is fair to say that for 38 of the countries, the data is not there, or simply inadequate to estimate a trend. Further 10 countries have two data points but they are more than 5 years apart. Thus, depending on one's

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<sup>2</sup> This is a summary of the paper [Development by Numbers – A primer](#)

<sup>3</sup> Using the same methodology as Serajuddin, U., Uematsu, H., Wieser, C., Yoshida, N., & Dabalen, A.L., 2015. 'Data deprivation: another deprivation to end', World Bank Policy Research Working Paper no. WPS 7252

judgement, the poverty data are inadequate for slightly less or slightly more than half of the low income countries in the world. A recent World Bank study found that only 27 of 48 countries in Sub-Saharan Africa had at least two comparable surveys from 1990 to 2012 to measure poverty.<sup>4</sup> For the remaining 21 we simply do not have data to say anything about trends in poverty.

Availability is only a part of the problem though. For the poverty data we do have, validity and reliability of the numbers is also a cause for concern. Outdated, missing census data and lack of resources may cause sampling problems when conducting the survey. It is challenging to define the most basic terms, such as the 'household' and then to apply these standards uniformly through time and space. The surveys suffer from design challenges owing to definitions, seasonality, method of data collection, and the length of recollection survey. Small changes in design can have large outcomes on the measured levels of poverty.<sup>5</sup> Finally, these measurement problems at country levels are compounded at the global level when these are expressed in international dollars using purchasing power parity (PPP). When base years for the PPP have been changed hundreds of millions of people have jumped in and out of poverty.<sup>6</sup> For years when no poverty data points are available, scholars may guess at changes in poverty levels using even less reliable GDP numbers to extrapolate.<sup>7</sup>

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Overall, when it comes to studying development, our knowledge based on numbers is doubly biased, we know little about poor countries and even less about the people who live in them. It is hardly a new problem. One of the pioneers in the study of economic development, Dudley Seers was considerably pessimistic about the rewards of instituting national accounting for the purpose of international comparisons of income and economic development.<sup>8</sup> "In the hands of authorities, such international comparisons may yield correlations which throw light on the circumstances of economic progress, and they tell us something about relative inefficiencies and standards of living, but they are very widely abused. Do they not on the whole mislead more than they instruct, causing a net reduction in human knowledge?"

However, this has not stopped us from relying more and more on these same numbers. The UN Secretary-General's Independent Expert Advisory Group on a Data Revolution for Sustainable Development put forward its strategy for the Sustainable Development Goals with the title 'A World That Counts'.<sup>9</sup> The report laid out a grand ambition. It recognized that currently "whole groups of people are not being counted and important aspects of people's lives and environmental conditions are still not measured." From that acknowledgement came a startling next step with the report declaring that, "[n]ever again should it be possible to say, 'we didn't know'. No one should be invisible. This is the world we want – a world that counts." One can understand this enthusiasm,

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<sup>4</sup> World Bank, 2016. Africa Research Newsletter. February.

<sup>5</sup> See chapters in Morten Jerven, 2015. Measuring African Development Past and Present. Routledge: Abingdon. Jerven, M. & Johnston, D., 2015. Statistical tragedy in Africa? Evaluating the database for African economic development. Routledge: Abingdon. These are also available as papers in special issues published in the Canadian Journal of Development Studies and the Journal of Development Studies. B gb

<sup>6</sup> Deaton, A. 2010. 'Price indexes, inequality, and the measurement of world poverty.' The American Economic Review 100.1: i-34, Dyksta, S., Kenny, C., & Sandefur, J., 2014. 'Global Absolute Poverty Fell by Almost Half on Tuesday', Center for Global Development Blog, 2 May 2014

<sup>7</sup> Morten Jerven, 2015. Africa: Why Economists Get It Wrong. Zed Books: London.

<sup>8</sup> (1952-53, p. 160)

<sup>9</sup> Independent Expert Advisory Group on a Data Revolution for Sustainable Development, 2014. A World That Counts: Mobilizing the data revolution for sustainable development <

<http://www.undatarevolution.org/report/>>

though with some reservations. There are serious limits to what can be known, and which issues can be resolved, through counting. Restricting the production of knowledge and the design of governance in global development to numbering and counting may have serious pitfalls. Counting is not the same as knowing and, though this might be implicitly acknowledged, the practical needs of policymakers and researchers may tempt us to overemphasize the quantifiable.

The purpose of 'Development by Numbers' is to guide data users to take a critical approach to evaluating the availability, reliability, and validity of the most prominent numbers used in development studies. The main take away is that data users should not accept a downloaded number at face value as 'evidence'. When confronted with secondary data in the international databases, data users need to conduct basic source criticism and ask "who made this observation?"; "under what conditions was this observation made?"; and "is there any reason to think that the observation is biased?" The paper offers the reader a consolidated piece from which to understand the problems that emerge from an overreliance on numbers in development. Some of these problems owe to a lack of capacity, while others stem from methodological challenges. However, some of these problems are indicative of the interests and incentives that emerge around the use of these numbers, and it is important to understand this dynamic as well.