In depth

Measuring post-2015 development performance

The role of national and international data producers

Effective measurement will be a key precursor to managing and meeting the post-2015 development goals. As the international community meets to thrash out the framework for monitoring these goals, we must take stock of lessons learnt from the Millennium Development Goal (MDG) process. This paper highlights one lesson: the persistent differences between the MDG indicator estimates from national governments and those from international agencies. It investigates the extent, nature, and implications, of these differences. Crucially, it considers the reasons behind these differences and what this means for attempts to monitor progress towards the Sustainable Development Goals (SDGs).

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About Oxford Policy Management's *In depth* series

Our *In depth* publications aim to share detailed learning and analysis from our practical experiences working with governments, funders, practitioners, and partners to achieve lasting, positive change through policy reform.

Background

Key points

- International and national estimates for development indicators can vary widely and may give very different policy signals

- These differences owe more to different approaches and sources than different definitions or poor data transmission

- Different approaches to producing estimates reflect the differing priorities of national governments and international agencies

- Both datasets are valid and useful for different purposes – they should therefore be presented together to allow for comprehensive assessment of progress towards development goals

The post-2015 development agenda negotiations represent a crucial window to build on the momentum of – and address some of the criticism aimed at – the expiring MDGs. These eight goals and 60 indicators set the benchmark for tracking national development outcomes, providing a useful focal point for policymaking in key areas from poverty to maternal health. With 17 proposed goals and more than 100 accompanying targets, their successors, the SDGs, look set to be even more ambitious. As the international community meets to work out the finer details of the SDG indicators, the focus will be on ensuring they are clearly defined, actionable and – perhaps most importantly – measurable.

All analysts are aware that statistical estimates can differ from source to source[1] Experience with the MDGs shows that estimates published by the international agencies tasked with reporting MDG indicators[2] often differ from those published by national statistical offices. This raises a series of important questions - how often and to what extent do these differences occur, what are their implications and, crucially, what should this mean for how we approach the monitoring of the SDGs?

Monitoring the MDGs: lessons

Lack of coherence between international and national data has been a long-standing issue. As early as 2005 the UN Statistical Commission was receiving complaints about the life expectancy estimates in the Human Development Report and the UNFPA report on the State of the World Population[3]. Following the expression of similar concerns, the UN Statistical Division (UNSD) with support from DFID, developed a project to improve dissemination of data and metadata on the MDG indicators.

One of the outputs of this project was CountryData (http://data.un.org/countryData/) – a website that presents data and metadata for a sample of countries, their own estimates of their MDG indicators, and international agencies estimates of those indicators side by side.

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[1] http://www.theguardian.com/world/2014/oct/22/how-many-people-live-in-africa-fact-check

[2] See http://mdgs.un.org/unsd/mdg/List%20of%20MDG%20focal%20points.pdf for a list of official contacts

[3] Room paper on "Coordination and integration of Statistical Programmes" produced by the National Statistician of South Africa for the March 2005 session of the UN Statistical Commission.
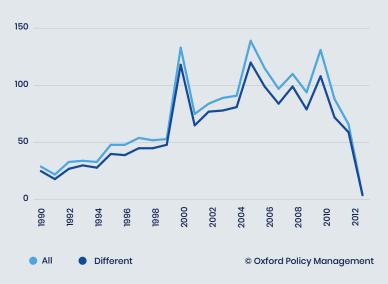
Analysis of the CountryData shows that discrepancies between data have not decreased over time. Indeed, for the eleven countries profiled on the website, the occurrence of differences between datasets actually appears to be increasing (Figure 1) — and, while the average size of these differences fell after 1994, their total sum did not fall (Figure 2).

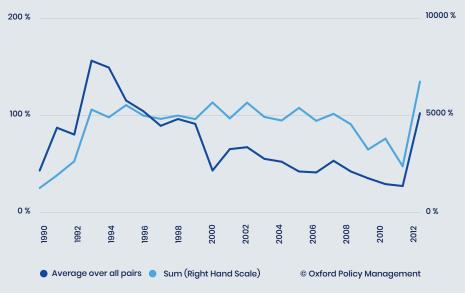The occurrence and size of differences varies widely between country and across sectors. The highest number of differences occurs in those datasets measuring education indicators, while the average size of differences is greatest for those indicators that measure progress towards combating diseases like HIV/AIDS, malaria, and TB. The datasets for countries including Laos and Palestine exhibit small differences only, whereas for Burundi and Vietnam the size of differences between data derived by national producers and international agencies is much larger.

Figure 1 | Count of all year/series pairs and those where values are different 1990–2012

● All   ● Different   © Oxford Policy Management

Source: http://data.un.org/countryData/. Chart note: a year/series pair is a point where the database contains data for the same series for the same year from both country and international sources

Figure 2 | Size of differences 1990–2012

● Average over all pairs   ● Sum (Right Hand Scale)   © Oxford Policy Management

Source: http://data.un.org/countryData/ N.B. Difference = (Country Data-International Data)/Country Data

Discrepancies matter

These differences are important because they can give widely different policy signals. Figure 3 illustrates a particularly striking example. It compares the under-five mortality per thousand live births in Ghana as presented in the international MDG indicators with those estimates published by the country itself. The international data, which is based on modelling work by UNICEF, the World Bank, WHO, and UNPD, shows a clear declining trend. However, the country's estimates, which are drawn directly from demographic, health, and multiple indicator cluster surveys, are much more ambiguous and may indicate a long term rise.

Figure 4 highlights another example. The chart shows estimates for the percentage of land covered by forest in Thailand from 1990-2010. This is one of the indicators for the environmental sustainability MDG and also has important implications for emissions reductions and land use policies. While the Food and Agriculture

Organisation uses an estimation approach that makes use of remote sensing, the estimates of the National Statistics Office are based on the Royal Forestry Department's reports. The international estimate shows a higher but falling level while the countries own estimates are consistently lower but rising. Again, policymakers presented with either set of data, in isolation from the other, would draw widely different conclusions around the country's progress towards MDG seven.
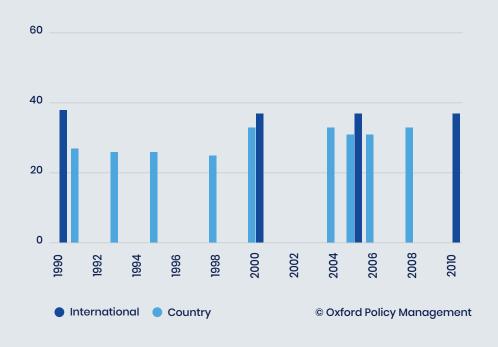
There is no suggestion that any of the data presented above is wrong and it is possible to imagine a user making a thorough investigation of the methodology of each estimate in each source, assessing the differences, and then choosing the data most appropriate to their needs. In practice, however, most users will only see a single source and those who do become aware of different estimates in different sources are likely to assume that at least one source must be mistaken.

Figure 3 | Under five mortality per 1,000 live births in Ghana

© Oxford Policy Management

Source: http://data.un.org/countryData/

Figure 4 | Thailand percentage of land area covered by forests

● International   ● Country   © Oxford Policy Management

Why do discrepancies arise?

Some causes of differences are well known within particular statistical communities: many education statisticians know that UN agencies will almost always use the UNFPA's population projections rather than a country's own when calculating indicators, for example. However, there has been surprisingly little wider systematic analysis of the reasons for discrepancies. Figure 5 shows the reasons for data differences recorded for the series on the CountryData website.

Surprisingly, different definitions of indicators turn out to be quite rare. Different choices about which sources or estimation methods are much more important in explaining the differences observed. Furthermore, discrepancies are at least as prevalent for the countries with more developed statistical systems suggesting that this is not an issue that can be solved simply by "strengthening" statistical systems. National Statistics Offices and international agencies appear to be choosing to employ quite different approaches to measure the same indicators. Why?

Figure 5 | Count of number of times differences between the estimates for the same series were ascribed to particular reason and also overall proportion of discrepancies

	Different age groups	Different data sources	Different definitions	Different methodologies	Different source type*	Un-identified	Under investigation	Total	Proportion of discrepancies**
Burundi	1	11	2	12	7	8	0	41	97%
Cambodia	0	10	2	10	3	1	7	33	91%
Ghana	0	1	0	1	0	0	15	17	82%
Laos	1	8	2	9	7	1	0	28	73%
Liberia	0	4	1	3	1	1	1	11	80%
Morocco	0	7	3	5	1	1	1	18	100%
Palestine	0	5	1	11	1	1	1	20	87%
Rwanda	0	9	1	10	7	0	0	27	79%
Thailand	1	7	1	9	8	0	4	30	86%
Uganda	0	0	0	1	3	1	7	12	88%
Vietnam	1	11	1	13	6	0	3	35	96%
	4	**73**	**14**	**84**	**44**	**14**	**39**	**272**	**86%**

* e.g. use of survey rather than administrative data or vice-versa

** Calculated as the proportion of year/series pairs for MDG series that contain discrepancies

Table note: Calculated for MDG series only. Note that several reasons may be given for each series

Why choose different methodologies?

Although it is impossible to answer this question definitively we may obtain some insights by considering the choices that agencies and countries are faced with. Figure 3 provides a clue. Note that the UNICEF/World Bank/WHO/UNPD model provides an estimate for every year (and indeed for every country), and that the estimate varies smoothly from year to year. This is immensely useful for an organisation that has to report estimates annually for all its members: many models that use time series methods can produce a 'nowcast' for the current year without any new data. A small technical team can quickly produce comparable estimates for many countries. Contrast this with the survey data presented by the country. Naturally it is only available for certain years and there may be large jumps between surveys that will require a thorough knowledge of the country's circumstances to explain. However the source can provide users with estimates for different areas and social groups.

Clearly not all international estimates are models and not all the country estimates are surveys. It is also possible, but difficult, to create models that fully incorporate all survey estimates. However it is certainly true that agencies quite often use models and countries hardly ever use them.

Agencies and countries will also face different issues in deciding when and how to use administrative data. Consider the data on land area covered by forests in Figure 4. Surveying forest stocks is a complex discipline that is much more likely to be part of the training of staff in the Royal Thai Forestry Department than the National Statistics Office and it would be much more difficult for the NSO to challenge the estimates than it is for the FAO. On the other hand relationships between a ministry and an international organisation, between the World Health Organisation and the Ministry of Health for instance, might make the international organisation particularly inclined to use the Ministry's figures even where an alternative national data source is available.

Above all, the different approaches adopted by country statisticians and international data producers are likely to reflect the different ways in which they publish data. International agencies almost always publish estimates for many countries at once and want to tell a coherent story about inter-country differences so they must favour methods and sources that are available and comparable for many countries. National Statistics Offices on the other hand are mostly interested in tracking and explaining changes within their own country and reporting against national plans. Both priorities are just as valid but they are not likely to result in the same decisions about sources and methods.

Recommendations

It's clear that there are a number of legitimate reasons why international agencies and country authorities may choose different data sources and methods to produce their estimates. These reasons, and the differences arising from them, are not likely to go away. How then, can the alternative estimates co-exist without frustrating users and undermining trust in attempts to ensure effective, meaningful monitoring of the SDGs? We have the following suggestions:

- Estimates from different sources should be openly acknowledged and presented side by side with links to metadata wherever possible. The project to develop the CountryData website provides an example of one mechanism to achieve this.

- Users of SDG indicators should be educated to expect differences between international and national estimates in the same way that users expect that National Accounts estimates have been made by adjusting survey and administrative data to achieve coherence across the economy and over time. They should also be educated to expect revisions.

- Finally, international agencies should be recognised as producers of official statistics rather than simply repackagers and publishers of data produced by national governments. As such, they should be subject to the same quality assurance mechanisms recommended for NSOs. Specifically, they should be expected to follow the UN Principles of Official Statistics –which encompass a number of best practice concepts including the need for independence of statistical authorities, greater transparency, and external oversight – and should be assessed against these principals.

Conclusions

Data differences are not going away during the lifetime of the SDGs – because the differences in the NSO and international agency priorities for data series are not going away. It is therefore imperative that the framework for monitoring the SDGs currently being negotiated acknowledges the existence of both international agency and national estimates and attempts to prevent them undermining one another. Only then can we make sure we are tracking progress towards each of the goals in the most comprehensive, joined-up way.

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