

Can we Accurately Project MDG Indicators?

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The Millennium Development Goals (MDGs) are global, in the sense that they are to be reached by the whole world, not by countries individually. True commitment to MDGs has led many to ask the questions: will my country reach all or some of the MDG targets by 2015? Are we on track?

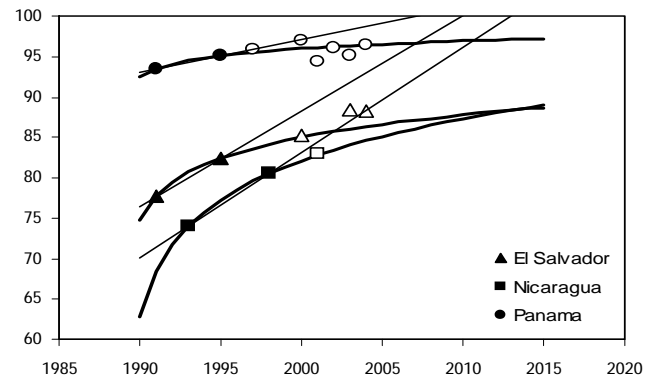
To answer the above questions we need projections of MDG indicators. Due to lack of data or technical skills, the answer to the above questions has frequently relied on simple linear projection of indicators for two or more points in time. However, the results obtained can be excessively optimistic because a linear projection implies the assumption that further improvements will be achieved at the same absolute rate as past improvements were. This is not a realistic assumption.

The case of primary education yields a fair illustration of the problem. The net attendance ratio is usually the share of the 6 to 11 years-old population attending primary school. There is a challenge that threatens the improvement of attendance: it is easy to increase it when departing from very low levels, but there is a level from which further improvements require great investments and much effort. Often, the expansion of primary schooling begins by, not surprisingly, reaching the easy to reach—then the growth pace of attendance is progressively reduced. Higher efforts and investments are needed to sustain growth as attendance increases. For example, some children not attending might live in remote areas, where there are neither schools nor teachers or not even roads. Enabling them to attend primary school will require much more effort than for children living in urban areas.

Projections should take this into account, but linear trends ignore it. The figure shows the net attendance ratio for three Central America countries for some points in time. A linear projection was made for each country considering just the two initial points. According to these projections, the three countries would reach a net attendance of a 100 per cent by 2015. However, the net attendance ratios of posterior years (the unfilled markers) show that the projection was rather optimistic. The net attendance ratio of Panama grew linearly in the next two periods, but then it started to float around 95 per cent. In El Salvador and Nicaragua, the observed value of the indicator is lower than the predictions of the linear projections. The dynamics of the indicator in those countries corroborates the axiom that further improvements are harder to achieve—particularly in Panama, where a high level of attendance had already been reached.

When dealing with “positive” indicators, those for which the more the better, concave functional forms, such as a logarithmic trend,

Net Attendance Ratio in Primary Education



Source: Inter-American Development Bank, *Equity and Social Indicators – EQxIS* (www.iadb.org/xindicadores).

would better represent the fact that the higher the level, the harder will be to reach further improvements. Logarithmic trends for each country based only on the two initial points in time were also plotted in the figure. According to these projections, none of the three countries would reach a net attendance ratio of a 100 per cent by 2015. In the cases of Panama and Nicaragua, it is obvious that the logarithmic trend predicted almost perfectly the dynamics of the indicator. For El Salvador the logarithmic trend resulted in a slightly pessimistic projection: its predictions for 2003 and 2004 are below the observed values. However, predictions are closer to the observed values than those of the linear trend.

Herein we showed a caveat of linear projection of MDG indicators. Often, simple projection techniques based solely on indicators for two or more points in time are all that can be done to assess whether a country is on track to achieve the MDGs. Even if this is the case, linear projections should be avoided. Elsewhere (Osorio, 2008) we present some simple alternatives to projecting MDG indicators in situations of scarcity of data. However, these should not replace more rigorous approaches to projection when there is availability of good data and technical expertise.

Projections are important because policy makers can make informed assumptions about countries, or groups within countries, whether they are on or off track in meeting the MDG targets. Therefore, projections must be as accurate as possible. But one should bear in mind that projections, no matter how complex, are not forecasts: they will give clues, but not definite answers on whether a country will reach the MDG targets by 2015.

Reference:

Osorio, R.G. (2008) "Alternatives for projecting MDG indicators", *Technical Paper Series*, No. 2. Brasilia, International Poverty Centre (IPC). Available at: <http://www.undp-povertycentre.org/pub/IPCTechnicalPaper2.pdf>.