Measuring Human Progress: Challenges and Prospects

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Empowered lives.
Resilient nations.

The ultimate aim of economic and social policy is to improve the lives of people, and to enhance their choices and capabilities. Since measuring human progress facilitates this goal, it has been an abiding interest of all Human Development Reports since 1990. Measurement is a challenging task, however, fraught with myriad statistical and real world complexities. The first global *Human Development Report* in 1990 presented the human development index (HDI) as an alternative to gross domestic product (GDP). It became a measure of human progress more related to the lives of people. As eloquently expressed by Robert Kennedy, GDP "measures everything ... except what makes life worthwhile."

For more than 20 years, the HDI and its family of human development indices have helped guide policy discussions. The Human Development Report Office has tried to innovate as new and better data sets become available, and respond to new measurement challenges, including to best incorporate sustainability and equity. The indices have gone through many alterations and improvements. The 2010 *Human Development Report* presented important methodological changes to the HDI as well as a new set of indices capturing inequalities and deprivations in human development.

As part of a larger community of thinkers and actors working to improve the measurement of human progress, the Human Development Report Office has sought to contribute to global discussions on measures of economic and social progress. In recent years, these have significantly expanded through the availability of new data and methodologies, including subjective measures of human well-being. The Organisation for Economic Co-operation and Development's Better Life Initiative is among the efforts to better capture what is important to people. They have been significantly influenced by the Stiglitz-Sen-Fitoussi Commission, which concluded in 2009 that a broader range of indicators about well-being and social progress should be used alongside GDP.

As the Commission on the Measurement of Economic Performance and Social Progress indicated, "interest in alternative or complements to GDP resumed progressively during the 90s,"[1] a process led in many aspects by the Human Development Report Office with the HDI. According to the Commission's report, there were 2 synthetic indicators of social progress in 1990, climbing to about 30 in 2001-2002. Today there are more than 50 indicators capturing the social, environmental, economic and psychological aspects of people's lives.[2]

In the measurement of human progress, national accounts systems play an important role. They work in tandem with relevant international agencies to harmonize public statistics at the international level, a critical aspect for any international comparisons.

This paper will present a brief discussion on different issues related to measuring progress, with a special focus on the human development indices, and their validity from policy and conceptual perspectives. It includes some key aspects highlighted by a prestigious group of academics, practitioners and policy makers who participated in the Human Development Report Office Conference on Measurement of Human Progress on 26 January 2012.

Measures of Human Development

Since its launch, the HDI has been a useful tool of analysis for governments, the media and civil society, who employ it to evaluate and contrast human development achievements across nations, regions and groups, and over time.

The creation of the HDI emerged from the tension between two approaches: one, seeking to develop a statistically pure, scientifically perfect measure, and the other, looking for a less pure, but effective measure, especially relevant to advocacy and policy-making. The creators of the HDI followed six basic principles:[3] (1) to

measure the basic purpose of human development—to enlarge people's choices; (2) to include a limited number of variables for simplicity and manageability; (3) to present a composite index rather than a plethora of separate indices; (4) to cover both social and economic choices; (5) to be sufficiently flexible in both coverage and methodology in order to allow gradual refinements, once better alternatives became available; and (6) to be viable despite a lack of reliable and up-to-date data series.

From the HDI's inception, it was explicitly recognized that the concept of human development is larger than what can be measured by the index. This creates certain policy challenges, since there may be situations where HDI progress may mask deterioration in other key aspects. For example, political repression, crime and pollution could be on the rise at the same time that the HDI moves upward. This means that the Human Development Report Office must regularly update its methodologies and indicators, as well as try out different indices to better capture certain aspects of human development. Several of the indices introduced in 2010 are still experimental, given their many methodological and data challenges.

Ever since the HDI was published, it has attracted critiques that generally centre on two areas: first, how to define human development, and to observe and measure its components and determinants, and second, how to aggregate different indicators to obtain a commonly accepted single index of human development to rank countries and measure improvements over time.

In light of valid and valuable critiques, the 2010 *Human Development Report* refined the HDI by changing both the indicators and its functional form. These changes have generated a mixed reaction, in which many critics have concentrated on the implicit trade-offs posed by the new functional form. Additionally, the change of indicators has created difficulties in disaggregating the index within countries by regions, provinces, ethnic groups, etc.. Lack of available sub-national data on the new indicators (particularly those related to education) may limit the usefulness of the HDI as a tool for some aspects of policy analysis.

Participants at the 2012 Conference on Measurement of Human Progress reiterated the fact that the power of the HDI is to communicate and create consensus. Several participants were concerned about the use of a geometric mean for the HDI, since it entails a potentially distorted trade-off among dimensions. It was argued that an important factor contributing to this is the normalization of the different dimensions (particularly of life expectancy and gross national income or GNI), which biases the implicit trade-off among indicators. This distortion particularly affects the poorest countries, because the indicators become disproportionately dependent on the minimum values.

There was also a call for increased consistency in the aggregation method of the education index with respect to other indices, since this is the only dimension with two indicators. Participants welcomed the revision of the indicators for the education index; the literacy indicator is losing meaning, since many countries have reached the upper limit.

They also emphasized that the 2010 changes to the HDI entail new challenges for policy makers, since the increased complexity of the index makes the interpretation of the HDI more difficult. While they reiterated that the HDI fails to capture important aspects of human development, the focus of the Human Development Report Office in recent years has been on refining the measurement of existing indicators, rather than on the inclusion of new dimensions.

The general consensus of the participants was that the HDI should be kept simple and stable, since this is a better way to convey a useful measure of human progress to policy makers. This implies that the Human

Development Report Office should take sufficient time before making any significant changes to the new HDI formulation.

Measures of Inequality

Although there is controversy about the meaning of equality in development outcomes, given the differences in the talents, choices and decisions of individuals, there is agreement on the need for equality of opportunity. This implies that people should not suffer from conditions that surround us exogenously.[4] In other words, circumstances at birth should not matter for a person's chances in life. Equity is at the core of the human development approach, which intrinsically embraces the value of social justice.

The first attempt to adjust the HDI according to income distribution was made in the 1991 *Human Development Report*. But this just integrated inequality in the income dimension, whereas there are differences in lifespan between and within population subgroups, as well as in schooling.[5]

Recognizing these limitations, the 2010 report introduced the inequality-adjusted HID (IHDI). Directly comparable to the HDI, it reflects inequality in each dimension of the HDI for a large number of countries. It has desirable statistical properties for cross-country estimates and enables the combination of data from different sources.

The IHDI accounts for inequalities in life expectancy, schooling and income by 'discounting' each dimension's average value according to its level of inequality. The IHDI will be equal to the HDI when there is no inequality across people, but falls below the HDI as inequality rises. In this sense, the HDI can be viewed as an index of 'potential' human development (or the maximum human development that could be achieved without inequality), while the IHDI is the actual level of human development (accounting for inequality). The difference between the HDI and the IHDI measures the 'loss' in potential human development due to inequality.

Gender inequality is one source of inequality that poses a major barrier to human development. The Human Development Report Office's previous efforts to capture gender disparities entailed the gender-related development index or GDI (which considered inequalities by gender in the HDI dimensions) and the gender empowerment measure or GEM (which focused on political participation, economic participation, and power over economic resources or 'income gaps'). Both the GDI and the GEM provoked debate about the importance of gender issues, but at the end were dropped due to criticisms about their validity as gender disparity indices. For example, assumptions made for deriving earned income shares relied heavily on labour force participation data and gender differentials in earnings from sectors that represent a small fraction of the working population in many developing countries.

The gender inequality index (GII), introduced as another experimental measure in 2010, includes aggregate data on educational attainment, economic and political participation, and female-specific health issues. It accounts for overlapping inequalities at the national level, and is thus an important advancement over existing global measures of gender equity.

Participants at the 2012 measurement conference suggested that the applicability of the Atkinson measure for education and health to the IHDI should be further revised. Some discussants also advised focusing on improving the GDI and GEM, given shortcomings in the GII. While the GEM can be easily corrected by using income shares, the GII is extremely complex and hard to interpret, mixing the analysis of well-being with that of empowerment, and gender equality achievements with gender gaps.

Measures of Poverty

Measurement of poverty varies from a single indicator to complex composite indexes. While there is an ongoing debate about the usefulness and accuracy of a single indicator, more and more research is dedicated to developing composite indices of poverty.

In 2010, the Multidimensional Poverty Index (MPI) was introduced. It recognizes that the dimensions of poverty go far beyond inadequate income. Money-based measures are obviously important, but deprivations in other dimensions and their overlap also need to be considered, especially because households facing multiple deprivations are likely to be in worse situations than the level of well-being suggested by income poverty measures.

The MPI can be a useful and, to some extent, powerful analytical tool to measure spatial distribution of poverty in one country. When it comes to cross-country comparisons, however, the MPI has a number of drawbacks that could significantly hamper its validity and relevance for policy analysis.

First of all, the number of indicators, and the aggregation and weighting of indicators for the MPI are quite subjective. Without a common unit of measure, and with the mixing of flows and stock variables, aggregation of very diverse indicators that range from child mortality to telephone ownership is hardly easy—or entirely acceptable. Second, the cost of calculating the MPI, in most cases due to lack of appropriate (including recent) data, may offset some of its clear advantages. The reactions from several countries where data was not used simply because it was unavailable have been quite strong. Further, surveys upon which the MPI is based are not designed for studying multidimensional poverty *per se,* so the choice of indicators is limited, and, in some cases, their quality is questionable.

Participants at the measurement conference highlighted other issues in measuring poverty. The great potential of the MPI to frame policy discussions at the country and local levels was highlighted. In the cases of Mexico and Morocco, participants considered the MPI very important for policy discussion, particularly at the local level. In Colombia, the MPI is an instrument of policy coordination.

A discussion on the aim of poverty measures suggested that they should provide incentives to politicians and policy makers to focus on poverty reduction and the multidimensionality of human development beyond mere GDP growth. The MPI has value in avoiding the existing bias of some of its indicators, such as the rural imbalance in measuring access to drinking water.

Finally, participants proposed calculating both the MPI, and a simpler and easier aggregate poverty measure updated for many countries, such as the human poverty index (HPI). The Human Development Report Office would calculate the HPI for all countries, and the MPI only for those with recent and comprehensive data.

Other Dimensions

A full picture of human development may require going beyond the dimensions of the HDI and the new family of indices. The current approach provides information on three different but interrelated aspects of human development: the average condition of people; levels of inequality; and levels of absolute deprivation. Achievements may need to be qualified by unsustainable production and consumption patterns, and the disempowerment of large groups of people around the world, among other factors.

The frontier for measuring human progress has expanded through the introduction of subjective measures of well-being. The main challenge now is to improve their measurement (including their representativeness and data quality) and to understand the linkages with objective measures. The recent events that became known as the Arab Spring, occurring in countries with relatively high human development, showed that economic growth and general human development progress may not guarantee smooth and adequate socioeconomic transformations. Subjective well-being indicators could be viewed as complementary measures to monitor 'social cohesion and atmosphere', formed by people's emotional responses, and sense of satisfaction in general and across different domains of life.

These kinds of subjective data present major shortcomings, however. As they are not a direct reflection of reality, they are very influenced by cultural patterns, expectations and aspirations, which make them susceptible to ambiguities of interpretation. These limitations seriously hinder the ability to do simple cross-country comparisons.

On the other hand, there are strong correlations between income levels and subjective valuations such as 'happiness', and in practice, objective data correlate in subjective ways with objective data. These interactions make subjective assessments a useful complement to objective measures, and a tool to understand existing policies, along with perceptions of them and their implications.

Given the significant demand for incorporating sustainability into the measurement of human progress, particularly through the Rio +20 agenda, the Human Development Report Office has started thinking about how to adjust human development achievements by sustainability considerations, following the framework of the planetary boundaries by Rockstroem[6] and the analysis done in the 2011 *Human Development Report*.

Final Remarks

This paper presents some key aspects related to the measurement of human progress, including trade-offs and challenges. It particularly focuses on the family of human development indices, and their validity from policy and conceptual perspectives. A great deal of discussion has already taken place around the new indices introduced in 2010; some has been reflected in the Human Development Report Office's series "Let's talk human development." This paper adds some of the main elements from the recent and very motivating discussion at the 2012 Conference on Measurement of Human Progress. It aims to feed into ongoing discussions to define the future of the human development indices, and their contribution to the development agenda and the measurement of human progress.

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[1] Commission on the Measurement of Economic Performance and Social Progress, 2009, "Survey of existing approaches to measuring socio-economic progress," p. 1.
[2] Commission on the Measurement of Economic Performance and Social Progress, 2009, "Survey of existing approaches to measuring socio-economic progress," p. 2.
[3] M. Ul Haq, 1995, *Reflections on Human Development, Oxford University Press,* Chapter 4.
[4] J. E. Roemer, 1998, *Equality of Opportunity,* Cambridge, Massachusetts: Harvard University Press.
[5] D. A. Hicks, 1997, "The Inequality-Adjusted Human Development Index: A Constructive Proposal," in *World Development, 25(8), pp. 1283-1298.*
[6] J. Rockström, W. Steffen, K. Noone, Å. Persson, F. S. Chapin, III, E. Lambin, T. M. Lenton, M. Scheffer, C. Folke, H. Schellnhuber, B. Nykvist, C. A. De Wit, T. Hughes, S. van der Leeuw, H. Rodhe, S. Sörlin, P. K. Snyder, R. Costanza, U. Svedin, M. Falkenmark, L. Karlberg, R. W. Corell, V. J. Fabry, J. Hansen, B. Walker, D. Liverman, K. Richardson, P. Crutzen and J. Foley, 2009, "Planetary Boundaries: Exploring the Safe Operating Space for Humanity," in *Ecology and Society* 14(2).