Measuring Wellbeing : Some Contributions of the Human Development Approach

Jeni Klugman and Milorad Kovacevic *

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1. Introduction

Interest in better alternatives to think about and measure wellbeing continues to grow. Indeed there is a groundswell of discussion and debate at the national level, from France to Bhutan. At the global level a range of approaches have emerged, grounded in somewhat different conceptions about the meaning of wellbeing itself.

These discussions are associated, at least in part, with dissatisfaction with conventional measures, in particular, the measure of achievement based on income per capita. There is by now a well-known and extensive literature on this as a measure of well-being and economic progress, most recently aptly summarized by the report of the Commission on the Measurement of Economic and Social Progress led Joseph Stiglitz, Amartya Sen and Jean-Paul Fitoussi (2009).

The Human Development Index (HDI) is perhaps best known alternate yardstick of wellbeing. The index emerged in the first *Human Development Report* (HDR), published in 1990.[1] This was part of an intellectual effort led by the late Pakistani economist Mahbub ul Haq, together with a group of scholars that included Amartya Sen. It was born out of a dissatisfaction with per capita income serving as the standard measure of development. In the words of ul Haq, "[a]ny measure that values a gun several hundred times more than a bottle of milk is bound to raise serious questions about its relevance for human progress."[2]

Since its introduction some twenty years ago, the index has attracted enormous interest in discussions of development, both in policy and academic circles as well as in the broader community interested in development issues. The simplicity of the index's characterization of

* Jeni Klugman is the Director of UNDP's Human Development Report Office (HDRO) and Milorad Kovacevic is the Head of Statistics at HDRO. We would also like to thank Diane Bouopda for the communication support, text formatting and editing. This paper does not represent the official views of the United Nations Development Programme, and any errors or omissions are the authors' own.

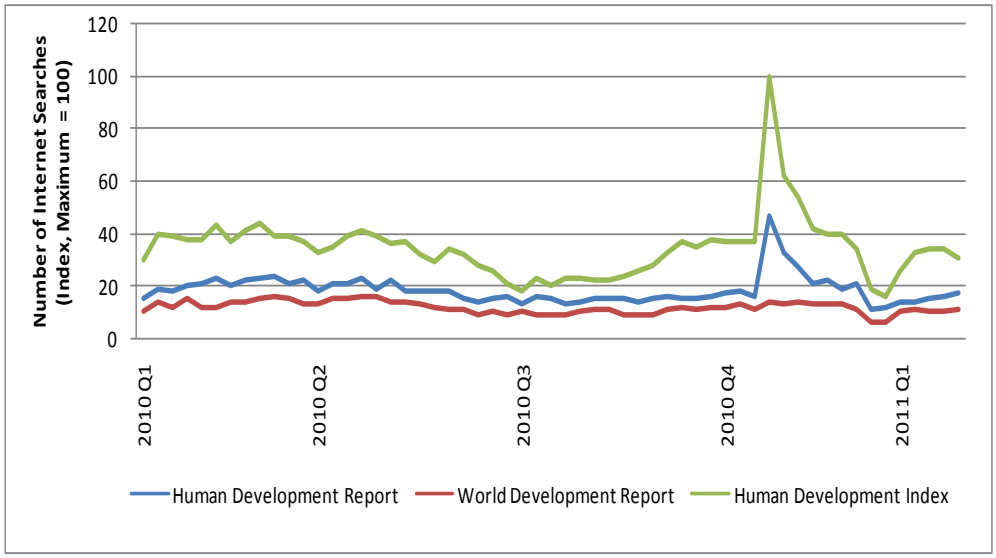
[1] The HDR is an independent report commissioned and published by the United Nations Development Programme. All editions are available at: http://hdr.undp.org/en/reports/global/hdr2010/

[2] Ul Haq (1995, p. 46).

development (as an average of achievements in health, education and income), linked to the basic message that development is about much more than growth, has contributed to its popularity.

In many respects, the HDI has been remarkably successful. According to the *New York Times,* ―only one measure has succeeded in challenging the hegemony of growth-centric thinking…. the Human Development Index."[3] Its annual publication attracts significant attention from the media and national policymakers from a diversity of countries. Comparative data from internet searches shows that the HDR does far better than its main competitor (the World Bank's World Development Report) in terms of Google searches (Figure 1). The HDR also seems to do better in terms of academic citations, at least since 2005.[4]

Figure 1. Popularity of the Human Development Index, Human Development Report and World Development Report, January 2010- January 2011



Note: The left axis is the number of searches expressed as a percentage of the highest number attained by any of the three series.
Source: Generated by the HDRO from Google Insights, accessed 3 March 2011.

The HDI has spawned an extensive academic literature which has considered its properties, provided critiques and suggested potential improvements.[5] With the occasion of the twentieth anniversary of the report, we undertook a comprehensive revision of these critiques and

[3] Gertner (2010).
[4] The numbers of articles published in 2010 citing the HDR were 4470, in contrast to 3020 citing the WDR, according to Google Scholar. See Figure 5 in Wagstaff (2011) for the cumulative ―Google Scholar hits."
[5] Some key contributions have been published in the *Journal of Human Development and Capabilities* or presented at the annual meetings of the *Human Development and Capabilities Association*. See, for example, Anand and Sen (2000), Chatterjee (2005), Foster, López-Calva and Székely (2005), Gaertner and Xu (2006), and Klasen, Nguefack, and Zucchini (forthcoming). For a recent survey, see Kovacevic (2010a), which was part of a comprehensive review undertaken by the HDRO to inform possible revisions, and Klugman, Rodríguez and Choi (2011).

introduced several major changes in the 2010 edition. Though this is by no means the first time that the HDI has been modified, it was the first time that major changes have been simultaneously introduced to the indicators used to measure progress and the functional form used to convert them to a single measure of progress.

The purpose of this paper is to explain what the HDI is, outline the most recent refinements and to examine two new measures that seek to capture and quantify the effects of inequality in the society on the level of human development. In particular, we review the Inequality-adjusted HDI, which captures disparities across people in the dimensions measured by the HDI, and the new Gender Inequality Index. Finally the paper outlines priorities for enhancing the measurement of human development. Readers interested in further technical details are encouraged to consult recent Human Development Research Papers on the composite indices.[6]

2. What is the HDI?

The HDI is a composite index aggregating three basic dimensions into a summary measure, which is published annually, using country level information, in the HDR. The motivation behind the structure of the HDI was powerfully expressed in the 1990 HDR in the following terms:
"Human development is a process of enlarging people's choices. In principle, these choices can be infinite and change over time. But at all levels of development, the three essential ones are for people to lead a long and healthy life, to acquire knowledge and to have access to resources needed for a decent standard of living. If these essential choices are not available, many other opportunities remain inaccessible." (UNDP. 1990. p. 10.)

The human development approach is closely related to the idea of human capabilities proposed by Sen (1985, 1999, 2009) and developed further by, among others, Nussbaum (2000, 2006) and Robeyns (2005). The term *capabilities* refers to the opportunities that a person has to exercise his or her ~~"f~~freedom to attain different kinds of alternative lives between which a person can choose."[7]

The HDI was created to emphasize that people and their capabilities should be the ultimate criteria for assessing the development of a country, not economic growth alone. The HDI can also be used to question national policy choices, asking how two countries with the same level of GNI per capita can end up with such different human development outcomes. For example, Saudi Arabia has about $2000 in PPP terms per capita more than Czech Republic, but life expectancy and expected years of schooling are much higher among Czechs, resulting in Czech

[6] Klugman, Rodríguez and Choi (2011); Alkire and Foster (201); Alkire and Santos (2010).
[7] See Sen (2008 p. 23), Zambrano (2011b) presents a more detailed description of the HDI as a capabilities index.

Republic having a much higher HDI value than Saudi Arabia.[8] These striking contrasts can directly stimulate debate about government policy priorities.

The HDI's simplicity, coupled with the transparency assured by the utilization of data published by international organizations, has been one of the main drivers behind the success of the HDI in the past twenty years.

3. The 2010 HDI

The 2010 HDI retains the same three-dimensional structure with equal weights, with several key changes. It replaces the indicators for income and education, it changes the method of aggregation from an arithmetic average to a geometric average, and it redefines the upper and lower bounds used to normalize the index, eliminating the practice of capping variables that surpass the upper bounds. This section explains these changes in more detail.

3.1 Change in indicators

The HDI methodology was revised in the 2010 HDR, not for the first time as there have been a number of revisions over the past 20 years.[9] It remains a composite index that measures progress in the three basic dimensions—health, knowledge and income. But three of the four variables that go into the HDI were revised in light of recent measurement improvements and the array of conceptually solid measures that exist. GDP per capita was replaced by GNI per capita (both valued in PPP US$), whereas literacy and combined gross enrolments were replaced by mean years of schooling and expected years of schooling. This section explains in greater detail the rationale behind these changes.

The indicators were changed for several reasons. For example, adult literacy used in the old HDI (which is simply a binary variable – literate or illiterate, with no gradations) is an insufficient measure for getting a complete picture of knowledge achievements. The world average literacy rate rose from 60 to 83 percent between 1970 and 2010. Almost half of countries have a literacy rate higher than 95 percent[10] and, indeed, developed countries no longer collect data on basic literacy. And many developing countries are poised to attain universal literacy as younger cohorts emerge from the schooling systems. While literacy was likely a good measure to evaluate progress during the past two decades, it is unlikely to be as informative of the future. The approach in the 2010 HDR was to adopt mean years of schooling as calculated in Barro and Lee (1993, 1996, 2001, 2010) as the indicator to measure the education of adults. This indicator

[8] A specific column in Table 1 reports the HDI minus the GDP rank – in 2010, 55 countries dropped more than four places while in 74 countries, the improvement in rank was at last 5 places.
[9] See Klugman, Rodríguez and Choi (2011) for a history of the revisions over time.
[10] The population-weighted figures are derived from the 135 countries used in the trend analysis of the 2010 HDR, covering 92 percent of the world population. Among these countries, 64 countries registered the literacy rates of at least 95 percent in 2010.

is more frequent, has broader coverage, and better discriminatory power than literacy. The methodology used to estimate this figure is well-established and broadly accepted and the Barro-Lee estimates of educational attainment have become the standard measure of human capital used in cross-country empirical work.[11] The calculations are based on primary data from population censuses that refer to the highest education level attained. Such data are available from the UNESCO Institute of Statistics' Database of Censuses and can thus be replicated and updated.[12]

Expected years of schooling, defined as the number of years of schooling that a child of school entrance age can expect to receive, replaces the gross enrolment ratio in the HDI. This overcomes the lack of notion of duration of school attendance in the enrolment ratio. Higher school life expectancies are associated with greater probability for children to spend more years in school, and higher overall retention within the education system. While this indicator is not without limitations (for example, it does not take into account repetition and therefore is not strictly comparable between countries with automatic promotion and those allowing grade repetition), it is a significant improvement over the gross enrolment ratio. It is regularly computed by UNESCO Institute for Statistics. By including average years of schooling and expected years of schooling, one can better capture the level of education and recent changes.

Gross National Income (GNI) expresses the income accrued to residents of a country, including some inflows and remittances sent from abroad, and excluding income generated in the country but repatriated abroad. For example, the profits of a US-owned company operating in India will count towards US GNI and Indian GDP, but will not count towards Indian GNI or US GDP.

HDRO spent some time looking at other measures, but these are generally available for far fewer countries than typically covered by the HDI, and are often not updated frequently enough for an index that is published yearly. For example in the case of education, where the cross-national assessments of science, mathematics and reading levels that could be used to construct quality adjustments are only available for a limited number of countries.[13] Similarly, gross national disposable income which was advocated by the Commission on the Measurement of Economic and Social Progress as a better measure of living standard at the aggregate level, could not be obtained for more than 120 countries and even for them - not regularly.

[11] See Durlauf, Johnson and Temple (2005) and Bosworth and Collins (2003).
[12] HDRO is currently working with UNESCO with the objective of setting up a mechanism whereby UNESCO can take up the reporting of mean years of schooling data based on the Barro-Lee methodology or some variant thereof. The mean years of schooling indicators is estimated by Barro and Lee using primary census and survey data for five-year intervals.
[13] From the 2007 data from Trends in International Mathematics and Science Study (TIMSS) provided by the International Association for the Evaluation of Educational Achievement (IEA), the 2007 average scores in mathematics and science of fourth graders and eighth graders are available only for 36 countries and 48 countries, respectively, including Hong Kong SAR and Chinese Taipei.

Data limitations continue to force some degree of pragmatism. The combination of stock and flow variables appears to be unavoidable in a composite measure that combines information on the core dimensions of human development. To the extent that the flow variables are understood as proxies for the stocks one would want to measure in the index, this appears to be an acceptable compromise. But for analytical purposes it is important to bear in mind that the stock components of the HDI will react only slowly to changes in policies or other determinants, while the flow components (including the expectation of future stocks conditional on current flows) can change rapidly.

3.2 Functional form

Perhaps the most radical innovation introduced in 2010 was the change in the functional form by shifting to a geometric mean in order to aggregate dimensional indices. This marks a significant conceptual change in the way in which one conceives the relationship between different dimensions of capabilities.

The old HDI, $HDI = (H_{Health} + H_{Education} + H_{Living\ standard})/3$, is replaced with the new formula:

$$HDI = (H_{Health} \cdot H_{Education} \cdot H_{Living\ standard})^{1/3} \quad (1)$$

The indices H_x are still normalized indicators of achievements:

$$H_{Health} = (LE - LE_{min})/(LE_{max} - LE_{min}), \quad (2)$$

$$H_{Edu} = \{[(MYS - MYS_{min})/(MYS_{max} - MYS_{min})] \cdot [(EYS - EYS_{min})/(EYS_{max} - EYS_{min})]\}^{1/2}, \quad (3)$$ [14]

and

$$H_{Living\ Standard} = (\ln(GNI) - \ln(GNI_{min})/(\ln(GNI_{max}) - \ln(GNI_{min})), \quad (4)$$

It should be noted that the choice of minima is important with the new functional form. In the extreme, if any of the indicators is at the minimum, then the value of the whole index collapses to zero, so that the values of other capabilities become irrelevant. This is a general characteristic of indices characterized by some level of complementarity. Thus it seems that these lower bounds can best be perceived as subsistence values – values below which we would not expect a society to survive. This is consistent with the argument that when people are close to survival in terms of any capability, they are less able to take advantage of improvements in the other capabilities.

[14] This index is then normalized using zero and the observed maximum value of the composite education index.

The upper values are now set to observed maxima over the time series between 1980 and the most recent year available, while the lower bounds are set equal to subsistence minima, as shown in Table 1.

Table 1: Minima and maxima used for normalization of the 2010 HDI[15]

	Minimum	Maximum
Life expectancy	20	83.2
Mean years of schooling	0	13.2
Expected years of schooling	0	20.6
Gross national income per capita, in PPP international $	$163	$108,211

The shift to the geometric mean addresses the issue of perfect substitutability.[16] That is to say, a low achievement in one dimension can no longer be linearly compensated for by a high achievement in another dimension. Perfect substitutability was a problematic assumption inherent to the old formula, because it implied that the level of priority to be given to a dimension was invariant to the level of attainments. In the words of Desai (1990): *"Going back to the notion of capabilities as being corealisable, one should try to restrict the substitutability as between the basic variables (...) [making the] deprivations multiplicative, each feeding off the other. Such a weighting would heighten the plight of the very poor and make the gradient of human development steep."*

Some degree of both substitutability and complementarity seems to make sense. On the one hand, there are many ways in which people can compensate for lower capability in one dimension through improvements in others. For example, people whose ability to communicate is impaired by a physical or mental disability will have a greater chance of communicating with others if they are more educated (e.g., learning the Braille language) or if they have greater economic resources (e.g., by using electronic means of assisted communication). At the same time, it is obvious that one needs at least a basic level of any of these capabilities in order to take advantage of the rest. For example, access to education has little relevance to someone who is starving.

The new HDI attains a compromise by adopting a functional form that is between the extremes of perfect substitutability and perfect complementarity. The implied elasticity of substitution of 1 in the geometric mean lies between the extremes of 0 for the Leontief function and infinity for the linear formula of the old HDI. Of course there are many values between zero and infinity that

[15] The sources for these variables are respectively UN Population Division (Life expectancy at birth), Barro and Lee (2010) (Mean years of schooling), UNESCO Institute for Statistics (Expected years of schooling), and World Bank and IMF (Gross national income). The income per capita of $108,211 corresponds to the United Arab Emirates in 1980.

[16] This section draws heavily on Klugman, Rodríguez and Choi (2011).

would have delivered some combination of substitutability and complementarity. However, there is a distinct advantage to the geometric mean – unlike the arithmetic mean or other forms of aggregation with a non-unitary elasticity of substitution, the rankings produced by the geometric mean are invariant to the scale in which each variable is measured. In the case of the arithmetic mean or functions with a constant non-unitary elasticity of substitution, multiplying any of the HDI components by a scalar factor would lead to a change in the relative weight of that variable. The only functional form that allows us to avoid this undesirable result is the geometric mean.[17]

4. Broadening the measurement of human development

The HDR has always recognised that inequality in human development deserves serious consideration, and that averages can be misleading. The 1990 report recognized its importance, but refrained from measurement on grounds of data availability (p. 11-12). Over the past two decades, the information available on inequality, not only on incomes but multiple dimensions drawing on micro level data, has grown enormously and provides much larger possibilities on several fronts.

A key contribution of the 2010 HDR was to expand the measurement of human development. That report introduced major measurement innovations beyond the HDI, designed in particular to address the key dimensions of inequality and deprivation. Here we described the new inequality-adjusted and gender inequality indices. Readers interested in the new Multidimensional Poverty Index are encouraged to refer to Alkire and Foster (2011) and Alkire and Santos (2010).

4.1 Inequality-adjusted HDI

The Inequality adjusted HDI (IHDI) introduced in the 2010 HDR is one reflection of better data and measures being developed over time. The data requirements for international comparisons of inequality have been met through improved efforts of the World Bank and other international agencies which kindly allow data access and international comparisons.[18]

A measure of the level of human development of people in a society that accounts for inequality in health, education and income, the IHDI is constructed to be directly comparable to the HDI and across countries, reflecting inequality in each dimension of the HDI for 138 countries. While the HDI can be viewed as an index of ―potential" human development that could be

[17] See Zambrano (2011)

[18] Inequality in the underlying distributions of mean years of schooling and income come from: Luxembourg Income Study; EU Statistics on Income and Living Conditions; United Nations Children's Fund Multiple Indicator Cluster Surveys; Measure DHS; the UN University's World Income Inequality Database; and, the World Bank's International Income Distribution Database. Inequality in the distribution of life expectancy comes from the United Nations Population Division.

obtained if achievements were distributed equally, the IHDI is the actual level of human development (accounting for inequality in the distribution of achievements across people in a society). The IHDI will be equal to the HDI when there is no inequality in the distribution of achievement across people in society, but falls below the HDI as inequality rises.[19]

Broadly speaking, there are three steps to computing the IHDI.[20] The first is to measure inequality in underlying distributions. The IHDI draws on the Atkinson (1970) family of inequality measures and sets the aversion parameter ε equal to 1. In this case, the inequality measure is A = 1– g/μ, where g is the geometric mean and μ is the arithmetic mean of the distribution.

This can be written:

$$A_x = 1 - \frac{\sqrt[n]{X_1 \ldots X_n}}{\bar{X}} \qquad (5)$$

where $\{X_1, \ldots, X_n\}$ denotes the underlying distribution in the dimensions of interest. A_x is obtained for each variable (life expectancy, years of schooling and disposable income or consumption per capita) using life tables and household survey data. Note that the geometric mean in equation 5 does not allow zero values, which requires specific adjustments in each dimension.[21]

The second step is to adjust the mean achievement in a dimension, $\bar{\bar{X}}$, for inequality as follows:

$$\bar{X}^* = \bar{X}(1 - A_x) = \sqrt[n]{X_1 \ldots X_n} \quad . \qquad (6)$$

Thus $\bar{\bar{X}}^*$, the geometric mean of the distribution, is the mean reduced according to the inequality in distribution, emphasizing the lower end of the distribution.

The inequality-adjusted dimension indices, H_x^*, are obtained from the HDI dimension indices, H_x by multiplying them by $(1 - A_x)$, where A_x is the corresponding Atkinson measure:

$$H_x^* = (1 - A_x) \cdot H_x \qquad (7)$$

It should be noted that the inequality-adjusted income index, H_{INCOME}^*, is based on the unlogged gross national income (GNI) index, H_{INCOME}. This enables the IHDI to account for the full effect of income inequality which, in turn requires specific steps to re-estimate the HDI without logged income, HDI* , in order to enable the relevant comparisons to be made.

[19] Alkire and Foster (2010).

[20] For more details on measuring inequality in the distribution of the HDI indicators, see Alkire and Foster (2010) and Kovacevic (2010b).

[21] For mean years of schooling one year is added to all valid observations to compute the inequality. Income per capita outliers—extremely high incomes as well as negative and zero incomes—were dealt with by truncating the top 0.5 percentile of the distribution to reduce the influence of extremely high incomes and by replacing the negative and zero incomes with the minimum value of the bottom 0.5 percentile of the distribution of positive incomes.

We can then compute the percentage loss to the HDI* due to inequalities in each dimension as:

$$Loss = 1 - \frac{IHDI^*}{HDI^*} = 1 - \sqrt[3]{(1 - A_{Life}) \cdot (1 - A_{Education}) \cdot (1 - A_{Income})} \quad (8)$$

And the IHDI is then calculated as:

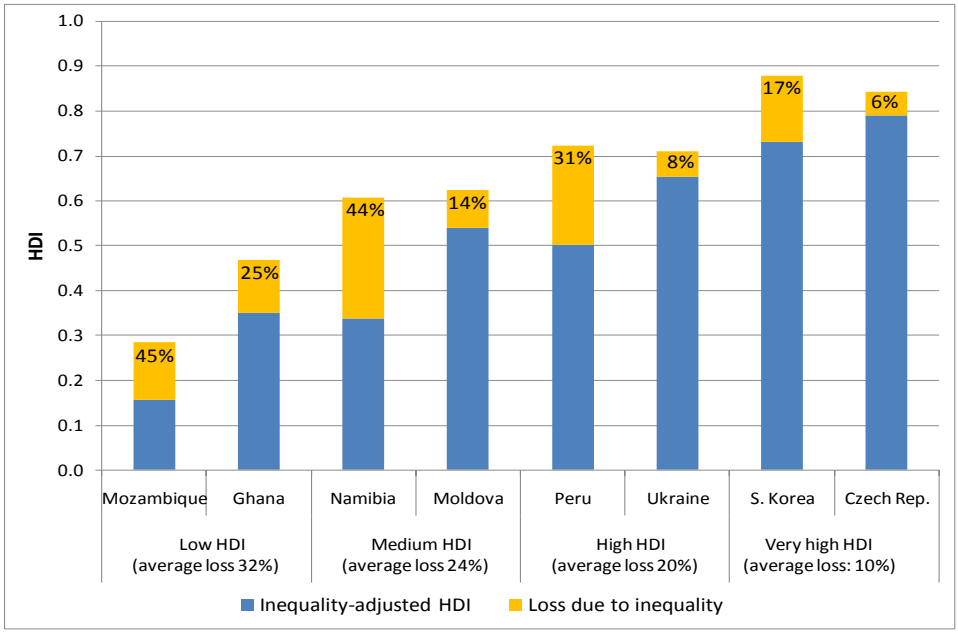
$$IHDI = (1 - Loss) \cdot HDI \quad (9)$$

which is equivalent to

$$IHDI = \sqrt[3]{(1 - A_{Life}) \cdot (1 - A_{Education}) \cdot (1 - A_{Income})} \cdot HDI \quad (10)$$

The loss in potential human development due to inequality is the relative difference between the HDI and the IHDI, and is often expressed as a percentage of the HDI. The aggregate loss in human development due to inequality is 22 percent, ranging from a low of 6 percent (Czech Republic) to a high of 45 (Mozambique), with the largest losses in the low HDI countries (Figure 2).

Figure 2. Inequality adjusted HDI – minimum and maximum by HDI category



Source: HDRO calculations from HDRO database.

4.2 Gender inequality index

One striking manifestation of inequality relates to gender. The HDR 1995 introduced the first global measures of gender inequality, in the Gender-related Development Index (GDI) and the Gender Empowerment Measure (GEM). However these both had a range of shortcomings including lack of data and misinterpretation.[22]

[22] Critics noted three key drawbacks of the GDI and GEM: that they combine absolute and relative achievements, thus a country with low income scores poorly even with perfect gender parity; that extensive imputations were needed to fill missing data; and that nearly all indicators in the GEM arguably reflect a strong urban elite bias and use some indicators more relevant to developed countries. Hawken and Munck (2009) and Klasen and Schüler (2010) provide useful reviews.

The HDR 2010's Gender Inequality Index is a new measure of the inequalities faced by women and girls built on the same framework as the HDI and the IHDI – to better expose differences in the distribution of achievements between women and men.[23] The GII includes educational attainment, economic and political participation and female-specific health issues.[24] Unfortunately, data limitations still significantly constrain the choice of indicators, although the indicators selected did allow application to 138 countries around the world.

The GII is computed using the association-sensitive inequality measure suggested by Seth (2009). The index is based on the general mean of general means of different orders – the first aggregation is by the geometric mean across dimensions; these means, calculated separately for women and men, are then aggregated using a harmonic mean across genders.[25]
One important feature of the GII method is its association-sensitivity – that is, unlike the IHDI for example, we can take account of overlapping disparities between women and men. Aggregating across dimensions for each gender group by the geometric mean, and then aggregating across gender groups by the harmonic mean captures the inequality between women and men and adjusts for association between dimensions (see Seth 2009), thus creating the equally distributed gender index.

The reference standard is obtained under assumption that there is no difference in achievements between women and men, i.e., they represent the same group with achievements in each dimension expressed by the arithmetic means of achievements of women and men. We then calculate the geometric mean of the arithmetic means for each indicator. Finally, we can then calculate the GII by comparing the equally distributed gender index to the reference standard.
We can write the formula as follows:

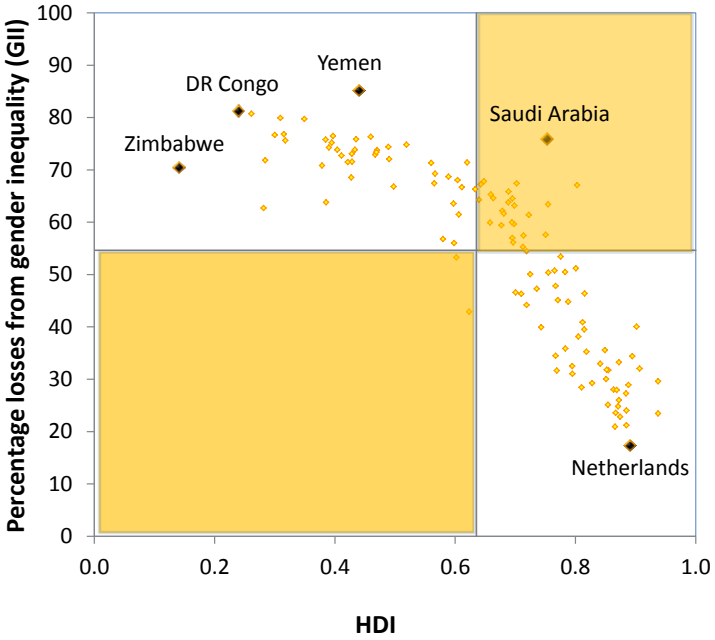
$$GII = 1 - 4\frac{\left[\left(\sqrt[3]{\left(\frac{1}{MMR}\frac{1}{AFR}\right)^{1/2}\left(PR_f SE_f\right)^{1/2} LFPR_f}\right)^{-1} + \left(\sqrt[3]{\left(PR_m SE_m\right)^{1/2} LFPR_m}\right)^{-1}\right]^{-1}}{\sqrt[3]{\left(\sqrt{\frac{1}{MMR}\frac{1}{AFR}}+1\right)\left(\sqrt{PR_f SE_f}+\sqrt{PR_m SE_m}\right)\left(LFPR_f + LFPR_m\right)}} \qquad (11)$$

[23] See Gaye et al. (2010)
[24] The Gender Inequality Index relies on data from major publicly available databases, including the maternal mortality ratio from UNICEF's *The State of the World's Children;* adolescent fertility rates from the UN Department of Economic and Social Affair's *World Population Prospects;* educational attainment statistics from Barro-Lee data sets; parliamentary representation from the International Parliamentary Union and labour market participation from the International Labour Organization's LABORSTA database.
[25] See Gaye et al. (2010) for details and the steps involved in estimating the GII.

where MMR and AFR refer to maternal mortality and adolescent fertility rates, PR for parliamentary representation and SE school enrolment, and LFPR for labour force participation rates, and f and m stand for female and male respectively.

Again the analysis shows large losses due to gender disparities, ranging as high as 70 percent for the Arab states and South Asia (Figure 3).

Figure 3. Gender Inequality Index and Human Development Index



Source: HDRO calculations from HDRO database.

The Gender Inequality Index is similar in method to the Inequality-adjusted Human Development Index. It can be interpreted as a percentage loss to potential human development due to shortfalls in the dimensions included. Since the Gender Inequality Index includes different dimensions to the HDI, unlike the IHDI, it cannot be interpreted as the loss in HDI itself.

Unfortunately the Gender Inequality Index, like any measure of gender disparities, faces very major data limitations, which constrained the choice of indicators. For example, it uses national parliamentary representation that excludes participation at the local government level and elsewhere in community and public life. Also, the labour market dimension lacks information on incomes, employment and on unpaid work by women. The Index misses other important dimensions, such as time use – the fact that many women have the additional burden of care giving and housekeeping, which cut into leisure time and increase stress and exhaustion -- is not taken into consideration. Asset ownership, gender-based violence and participation in community-level decision making are also not captured, mainly due to limited availability of data in these areas.

5. Conclusions

This paper has outlined the basic properties of the refined HDI which was modified in order to address some of the criticisms of the old HDI. We presented two additional and novel human development composite indices for capturing inequality in human development and gender disparity. The HDI and the other composite indices provide rich insights and new windows on some of the key issues of human development, inequality, gender disparity and human poverty.

There is still substantial room for progress in the measurement of human development. The 2010 HDR made a significant move away from the idea that the ideal measure of human development must cover only the three core dimensions, and presented innovative measures that cast light on the distribution of human development.

While the HDI and other human development measures are robust to methodological assumptions made, the limitations in data quality remain perennial problem of measuring human development. These constraints include encompass incomplete country coverage, irregular and interrupted time series, timelines, and discrepancies between data from different sources.

For the HDI to retain its relevance, it is important to keep up with technological and broader developments. Indeed most of the awareness about the HDI comes through web visits – not via the distribution of hard copies of the report. In such an era, the new feature that allows users to ―build your own development index" is an important step forward. This allows one to use any of nine potential dimensions: in addition to the 3 core dimensions, users can choose indicators in the areas of inequality, poverty, gender, sustainability, human security and empowerment. They can also choose from a number of indicators for each dimension, varying the weights both within and between dimensions, as well as upload their own data.

As emphasized by HDRO through its introduction of online tools that allow users to construct different indices and vary the dimensions, indicators and weights, the HDI should be understood as the starting point of a conversation about what we mean by development, rather than as its endpoint.

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