

Poverty & Human Capability 423

**International Measurements of Women's Poverty and Capability
Approach**

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Introduction

The international measure of poverty used by the World Bank assumes that a person is poor if she lives in a household whose income or consumption falls below a set poverty line of \$1 or \$2 a day, adjusted for purchasing power. According to the 2007 Human Development Report published by the UN “there are still around 1 billion people living at the margins of survival on less than US\$1 a day, with 2.6 billion—40 percent of the world’s population—living on less than US\$2 a day” (UNDP, 2007, 25). While one-dollar-a-day is a measure that is convenient and easy to communicate, multiple limitations exist with the measure. Thomas Pogge and Sanjay Reddy (2002) identify a few problems with the measure, the primary being an ill-defined poverty line, a misleading and inaccurate measure of purchasing power equivalence, and incorrect exploitation of the limited data that creates “an appearance of precision that masks the high probable error of its estimates”(Pogge and Reddy, 2002,1). Thus the authors suspect that the Bank may “understate the extent of global income poverty” and inadequately justify that “income poverty has steeply declined in the recent period” (Pogge and Reddy, 2002, 1). However, even if these technical problems were solved, the measure would still remain problematic.

First, the threshold poverty line fails to convey how much below the threshold of \$1-or \$2-a-day the poor fall. Second, income is a means to pursue some other goals, goods, services, and achievements, which makes the income likely to miss many aspects of poverty. Take the following examples. One-dollar-a-day may mean a different life for somebody who has a serious health problem than for somebody who is healthy. One-dollar-a-day may mean a different life for somebody that does not have access to publicly provided health care or education than somebody who does. One-dollar-a-day may mean a different life for somebody who has to go

against social norms to be able to earn that dollar than somebody who is not limited in any way. The income oriented measure of one-dollar-a-day a day fails to identify many aspects of poverty and deprivation, such as access to health, education, and employment.

The World Bank acknowledges the limitations of the \$1- and \$2-a-day monetary measure of poverty. “Poverty is associated not only with insufficient outcomes with respect to health, nutrition, and literacy, and with deficient social relations, insecurity, and low self-esteem and powerlessness” (Coudouel et al, 2002, 32). If the Bank itself, most policy makers and academics recognize the limitations of the measure, why is it such a widely used statistic? Thomas Pogge, a critic of the measurement himself¹, often uses the World Bank statistics in *Poverty and Human Rights* to illustrate his points. For example, in his introductory chapter he cites the number of people around the world that subsist below the World Bank poverty threshold (Pogge, 2002, 2).

This paper attempts to evaluate international poverty measurements using the capability approach developed by Nobel Prize winning economist and philosopher Amartya Sen. Capabilities measurements of poverty are better suited to measure deprivation than other approaches currently utilized, such as the World Bank one-dollar-a-day threshold measure. The capability approach focuses on the real opportunities or freedom for well-being and questions measurements that use income, resources, or level of satisfaction to evaluate poverty. A minimum level of capabilities can be used as a threshold to measure poverty. Human Development Index and other indexes reported in the Human Development Report embrace the capability framework but fall short to live up to its standards, especially when applied to measuring the capability deprivation of women. The paper concludes with some of the alternatives to solve for some of limitations in the Human Development Report.

¹ See *How Not to Count the Poor* by Pogge and Reddy (2002) for detail.

Capability Perspective: Theoretical Foundation for Evaluation of Poverty

Amartya Sen introduces the notion of the capability perspective to evaluate one's well being and the freedom to pursue well-being.² The two fundamental concepts of functionings and capability are necessary to understand the framework. Sen envisions individual achievements as human *functionings*, which are “various things that [a person] manages to do and be in leading a life” (Sen, 1992, 110). Functionings vary from basics ones, such as being adequately nourished, avoiding escapable morbidity, to complex functionings, such as taking part in the community life, achieving self-respect, and so on (Sen, 1992, 49). These doings and beings, which include working, resting, being literate, being healthy, being part of a community, being respected, and so forth, constitute what makes a life valuable (Robeyns, 2005, 95).

If functionings represent valuable achievements in life, then *capability* represents the freedom to choose and achieve functionings that one considers to be valuable. Thus, the capability set represents the alternative combinations of functioning from which a person can choose one combination (Sen 1992, 40). In other words, capability is a set of n-tuple functionings, from which one multiple can be chosen and developed. For many people, having the capabilities to function are effective opportunities to undertake the actions and activities that they want to engage in, and be whom they want to be (Robeyns, 2005, 95).

The distinction between functionings and capabilities is important because it allows to distinguish realized achievements from the freedom to choose among feasible achievements. We might have a reason to value a particular achievement over another. For example, being a good ballet dancer is socially admired. However, the freedom to choose among the real opportunities

² *Inequality Reexamined* (1992) and *Development As Freedom* (1998) by Amartya Sen's are the primary sources for this section.

is more valuable. Thus, freedom to choose to become a ballet dancer, a swimmer, or a singer, is more valuable and important than being a ballet dancer by itself: it leaves the person with the option of choice and it makes her responsible for actualizing her opportunities. Thus, theoretical and practical attention on freedom to pursue one's functionings (ballet dancing, swimming, singing) provides a richer picture of one's well-being than the focus on the achieved functioning (ballet dancing by itself). The capabilities approach allows one to be and do what she values, but leaves her responsible to fulfill her valuable functionings and goals. The person may squander the opportunities, but what matters is having the access to the opportunity in the first place. For example, every person should have the chance to be part of a community and to practice a religion, but if someone prefers to be a hermit or an atheist, she should also have this option (Robeyns, 2005, 95).

There is another reason why focus on capabilities rather than on functionings is advantageous. Capability or effective freedom does not comprise the only end of life that society wishes to develop. One can sacrifice her well-being to pursue other goals in life that may lower her well-being achievement. For example, Greg Mortenson, the head of the Central Asian Institute, chose to spend his personal resources and time to fundraise and build schools in northern Pakistan. Consequently, he exposed himself to deprivation of safety, resources, proximity to family and other aspects of well-being that he would have had in the U.S.³ Therefore, capability framework aims to evaluate if one capabilities to achieve well-being and to pursue other goals in life and not the well-being itself. It simply aims to measure if the real opportunities and freedoms to pursue one's own conception of a good life and well-being are provided by the society.

³ See *Three Cups of Tea: One Man's Mission to Promote Peace...One School At A Time* for a fascinating account of Mortenson's work.

Material goods, income, and human rights, on the other hand, are instrumental goods used to achieve that freedom. Thus society should measure its success in providing the freedom to achieve using capabilities rather than the instrumental applied to achieve that freedom. Then the goal of the society becomes to foster capabilities or effective freedoms of the citizens. Sen argues that our evaluations and policies should focus on what people are able to do and be, on the quality of their life, and on removing obstacles so that they have more freedom to live the kind of life that, upon reflection, they have reason to value (Robeyns, 2005, 94). One will find it difficult to imagine the freedom to pursue their conception of a good life with the basic obstacles, such as malnutrition, poor health, low literacy, and short life. Therefore, we should attempt to measure poverty in terms of capabilities, or the means of development, rather than income or basic goods. More will be said on measurements of poverty using the capabilities framework later. Now, review the arguments why utilitarian, income, and resource measures of poverty are limited in their ability to measure the freedom to live one's life as she wants.

Utilitarian Approach

Utilitarian measures of well-being rely on “mental metric” of satisfaction measured with levels of pleasure, fulfillment, achievement, etc. There are two limitations to this approach. First, utilitarians are concerned with efficiency and not equality of distribution, as they seek to maximize the sum total of the utilities for the population. Even if we pursue the equality in the level of satisfaction, measuring wellbeing in the space of utilities remains problematic. Utility measurements of the quality of life, such as polling people about their satisfactions, are subject to gross errors because desires and subjective preferences could be far from what an individual really needs or wants when she is capable of formulating their preferences. Moreover, preference and desires adapt to existing inequalities and may contribute to or endorse their

perceived legitimacy. The impoverished, deprived, and disabled may adjust their expectations and aspirations to the low levels of life they have experienced: they may not know how different life can be at higher levels of health, education, physical ability, etc. If that is the case, then the inequalities in actual achievements and freedoms will be “concealed and muffled” in the space of conditioned perceptions (Sen, 1995, 263). For example, in Sen’s analysis of health surveys in India identified disparity between externally observed health status and self-reported satisfactions with health (Sen, 1985).

Local traditions may also influence people’s perception of deprivation as acceptable and therefore should not be used to define principles against which individuals evaluate their position. In general, traditional cultural norms in have not been conducive to improving the quality of life for women. The disadvantaged positions of women in traditional economic and social arrangements may also prevent them from voicing their true preferences. For example, preferences against female education in northern Pakistan, described by Mortenson and Berlin in the *Three Cups of Tea*, are reinforced by the cultural norms, but are subject to change once the value of education is realized. When Shakeela started going to school, she remembers her fellow villagers warning her, “A girl has no business doing such a thing [going to school]...and you will end up working in the field, like all women.” After becoming the first girl in all of the Hushe Valley to pursue higher education, Shakeela noticed that, “People’s minds in Hushe are beginning to change...I see all the families sending their girls to school. And they tell me, ‘Shakeela, we were mistaken. You were right to read so many books and brave to study so far from home.’” The lack of “preference” for female education limits many of the freedoms that literacy provides, such as being able to read, pursue higher education, and seek outside employment. These opportunities offered by education are not valued until they are achieved or

witnessed by the villagers. Shakeela's story serves as an example of how culturally conditioned "preferences" for education are subject to change within a decade once people witness the opportunities and freedoms that literacy and education can bring to a person.

Utilitarians and welfarists would not consider the issues of equity and disparity between the normative and actual state as long as the person in question is satisfied with her state. Based on the reasoning above, Sen rejects an exclusive reliance on mental states in evaluating people's conditions.

Income or Basic Goods Measure

Other approaches to evaluating well-being estimate the distribution and access to certain basic resources (income, wealth, food, shelter, etc.) across a population. These approaches limit themselves by focusing on resources, income and wealth, which measure only the means that are used towards achieving human functioning rather the achievements themselves or freedom to pursue these achievements. Income and basic goods provide access to resources that enable functionings, but they are not necessary and sufficient conditions for increased capability, and only represent a rough proxy for expanded capabilities. To measure one's access to health, for example, one has to evaluate multiple resources, such as availability of nurses, doctors, health care plans, vaccinations, etc. Moreover, formal access to health care or equal income does not guarantee its effective use due to individual variations in "conversion rates" across variables. Different "conversion rates" from the space of basic goods and resources to a space of capabilities will lead to inequality of capabilities in the presence of equality of resources. For example, a person suffering from diabetes may not achieve the same health well-being as

somebody free from this disability even if both individuals have the same amount of income or identical health plans.

Set of Basic Capabilities as a Threshold to Measure Poverty

To apply the capability framework to measure poverty one has to decide on a threshold of basic capabilities, choose relevant capabilities to be counted as “basic”, and be able to measure and compare them across individuals.

It is advantageous to focus on capabilities rather than functionings. Firstly, the capability perspective, by its definitional focus on the freedom to choose among the potential functionings, respects an individual’s autonomy in deciding her conception of the good (Sen, 1992, 83).

People with identical capability sets are likely to end up with different types and levels of achieved functionings, as they make different choices following their own ideas of the good life (Robyns, 2005, 101). Secondly, capability approach leaves persons responsible for choosing and developing their actual functionings (Beckley, 2002, 115). Not every person will choose to take advantage of the real opportunities available to her. For example, in the case of a person who has access to food but chooses to fast, it would be appropriate to evaluate her freedom to escape hunger rather than if she is hungry. A capability framework respects people’s varying thoughts on what constitutes a good life and respects individual agency in attaining that life. Thus capability and not achieved functioning should be used to evaluate and measure human deprivation. Which capabilities should be incorporated in the measurement of poverty?

One of the most difficult tasks in applying the capabilities approach to development policy and measuring poverty is deciding which capabilities are most important (Fakuda-Parr, 2003, 305). The range of human capabilities is infinite and the value that individuals assign to

each one can vary from person to person. Thus, one has to exercise value judgement in choosing the appropriate functionings to compare.

Different approaches exist to choosing the most relevant capabilities.⁴ Sen is reluctant to endorse any set list of capabilities (Sen, 2004). He believes that the list of capabilities should be derived based on “underlying motivation of the exercise as well as dealing with the social values involved (Sen 1989)”. Sen relies on the democratic process among the individuals affected to select the list of capabilities. However, he does not specify the procedural process of selection nor does he provide a solution if the democratic process is not feasible.

Sen is reluctant to not only endorse a set list of capabilities, but also to distinguish between basal and all other capabilities (Beckley, 2002, 116). However, Sen’s writings and empirical work provide insights into the capabilities that he might deem basic or foundational. Sen denotes “premature mortality, significant undernourishment (especially of children), persistent morbidity, widespread illiteracy and other failures” as “deprivation of elementary capabilities” (Sen, 1992, 20). Similarly, Sen reiterates that “elementary health care and basic educational opportunities” along with “political freedom” count as “basic capabilities” (Sen, 1992, 129, 152). Sen’s own empirical work using his framework can provide clues onto the most important capabilities as well. Sen focuses on evaluating fundamental functionings, such as mortality, morbidity, life expectancy, famine, and health, that allows access to more complex capabilities:.

While the notion of capabilities refers to a very broad range of potential functionings, *basic capabilities* refer to the freedom to do basic things that are necessary for survival and the

⁴ See *Women, Culture, and Development: A Study of Human Capabilities* by Nussbaum (1995).

pursuit of well-being. Without these basic capabilities it would be difficult or impossible to pursue more complex functionings. The relevance of basic capabilities is “not so much in ranking living standards, but in deciding on a cut-off point for the purpose of assessing poverty and deprivation” (Sen, 1987,109). Basic capabilities become a useful tool for poverty measurements and analysis across countries as well as a comparison tool of freedoms among different groups within countries. The next logical question becomes: how can we measure “basic” capabilities?

In the case of basic capabilities we may settle for measuring functionings as proxies for capabilities and there are several reasons why such an option is justifiable. To begin with, current extensive data surveys are not designed to measure capabilities and such a design is questionable in the first place. Second, in certain cases lack of an achieved functioning is a strong indicator of a lack of capability to develop a specific functioning. For instance, functionings that measure hunger, poor health, and illiteracy safely predict a lack of freedom to achieve these functionings because few would forgo opportunities to become literate, be healthy, or have a long life. This close relationship between functionings and capabilities is relevant for elementary capabilities only. In the case of complex functionings, large gaps persist between achievement and capability.

Capability Approach in Practice: Human Development Reports

Let us evaluate current measurements of poverty and how they withstand the capability approach. We are specifically interested in the ability of the measurements to identify and measure capability deprivation of women. Since 1990 the UN started publishing the Human Development Report (HDR) that documents human capabilities across different countries using

multiple indexes. The report contains Human Development Index (HDI), Gender Development Index (GDI), and Human Poverty Index (HPI). How well do these indexes approximate capability approach in practice? Do they provide a satisfactory measure of poverty, especially in regards to women?

Sen's capability approach is the central theoretical framework behind the Human Development reports produced by the UN Development Program (Hicks, 2002, Fukuda-Parr, 2003). Launched by Mahbub ul Haq, they had explicit a purpose "to shift the focus of development economics from national income accounting to people centered policies" (Mahbub ul Haq, 1995). The theoretical approach behind the reports views improving human lives as "expanding the range of things that a person can be and do, such as to be healthy and well nourished, to be knowledgeable, and to participate in community life" (Fakuda-Parr, 2003, 303). Thus the reports aim to measure the success of countries to in nurturing basic capabilities of its citizens.

The authors of the HDR wanted the report to be simple for people to understand, and capabilities included in the index to be basic, i.e. enabling other capabilities, and universally valued. Haq believed that that a simple combined measure of human development was essential to convince people to evaluate development by advances in human well-being and not only by material output in the economy (Fukuda-Parr, 2002, p.305). Despite Sen's contribution to the formulation of the HDI, Sen was initially opposed to an idea of a composite index of achievements in human development. In its quest to remain simple, Sen was worried, that a single index would fail to capture the full complexity of human capabilities even at the basic level (Fukida-Parr, 2002, 305). As it is evident below, despite a huge success of the reports in shifting focus away from the income and towards more holistic measures of development, Sen's

worries are justified. With the women's capability deprivation in mind, let's evaluate the shortcomings of the Human Development Report to accurately measure female deprivation.

The Human Development Index is the first index included in the reports and has remained the central one since its inception. HDI "looks beyond GDP to a broader definition of well-being" by complementing in GDP per capita statistics with two other dimensions of human development: living a long and healthy life (measured by life expectancy) and being educated (measured by adult literacy and enrolment at the primary, secondary and tertiary level). The index contains three functionings/capabilities that are basic: to be knowledgeable, to survive, and to enjoy a decent standard of living. All of them are universally valued achievements that few would truly choose to forfeit. Also, for capabilities to be basal, their attainment has to enable more complex capabilities, which is the case with the variables chosen: one has to be alive, in decent health and have access to basic goods in order to garner more complex capabilities and functionings.

The measures of this basal functionings included in the HDI are better suited to evaluate capabilities or freedom to pursue one's well-being than the measure of income or basic goods. The following example of Botswana and Kyrgyzstan stand to demonstrate that. In the 2007 report Botswana's annual GDP per capita of \$13,000, adjusted for PPP, exceeds Kyrgyzstan's GDP by a factor of six. However, Botswana's success in all other achievement included in the HDI lag behind Kyrgyzstan's: life expectancy (48.1 vs. 65.6), literacy (81.2% vs. 98.7%), secondary and tertiary school enrolment (69.5% vs. 77.7%). Botswana's six fold advantage in GDP per capita relative to Kyrgyzstan is "washed out" by disadvantages in two of the functionings producing an index of 0.654 for Botswana and 0.696 for Kyrgyzstan on a zero to one scale. HDI by containing two basic functionings, such as living a long and more

knowledgeable life, provide a much better picture of the freedom to pursue a better life than a purely income measurement.

Despite HDI's advantages relative to purely income measures of deprivation, HDI is limited in its ability to accurately account for even basic capabilities or freedoms necessary to pursue one's well-being. The limitations arise from the way it is calculated and from the choice of measurements included. First, the index uses a country's average achievement in each functioning chosen (income, education, longevity). Averages, however, fail to convey the distributional pattern of achievements across different groups. We might be interested in the disparities in achievements between women and men and between lower and higher quartiles of functionings. Also, we have a reason to believe that each functioning included in the index is essential in forming one's capability set; however, the index assumes a perfect substitutability across the attained functionings. Moreover, three functionings, and measurements used to calculate them, are limited in their ability to provide a full picture of poverty. These shortcomings of the HDI to meet the criteria of the capability approach are discussed in greater detail below.

Problem 1: Averages Conceal Gender Inequity in Achievements

To derive a country's HDI, the UNDP calculates the average income, life expectancy, literacy and school enrolment for all the residents of a country. Thus, it measures a country's overall success in providing these achievements which allows comparison of averages across countries. However, the index does not tell us how these achievements are distributed across different groups in a society. For example, we might expect that literacy rates or life expectancy to be lower for women than men in some countries, but the index fails to reflect that. For

example, Pakistan's average literacy rate of 49.9% and 40% enrolment ratio in schools does not reveal that only 35.4% of Pakistani women are literate compared to 64.1% of Pakistani men, while only 34% of girls enrolled in schools compared to that of 45% for men. HDI's use of 49.9% average literacy rate in the case of Pakistan fails to identify a 20% shortfall in the attainment of basic literacy by women. Similarly, HDI does not gender discrepancies in life expectancy and income. Given the asymmetric treatment of women in many parts of the world, the HDI does not account for gender deprivations in capabilities.

The UNDP attempts to correct for this shortcoming of the index by producing a Gender Development Index (GDI) since 1995. GDI measures achievements by using the same indicators as in HDI but adjusting them downwards for the gender inequalities. In the case of Pakistan, women's shortfalls in the attainment of equal education and income rank Pakistan on the list of GDI seven positions lower than the HDI index. GDI is a useful adjustment to the HDI, which provides a crude view of the gender discrimination in the variables included in the HDI. The GDI's usefulness derives not from the score it assigns to a country, but from the change in ranking from the original ranking in the HDI. GDI alters the rankings of the HDI, from which one can gauge a country's failure to provide equal basic capabilities to both men and women. For example, in the case of Pakistan the value of the GDI score decreases the country's ranking by seven positions from the original position of 136. Thus, the main interpretation of the index is the estimate of the gender deprivation *relative* to other countries. For example, Iran's GDI ranking is not different from that of the HDI one even when female literacy rates lag male literacy by over 10%. Notice that this approach may allow gender deprivations that will not produce change in rankings and thus be ignored by the readers of the report.

Problem 2: Average Achievements Do Not Contain a Threshold Level

The second weakness of using average population measurement in the HDI is its insensitivity to the distributional pattern of the achievements. For example, with only the average literacy, life expectancy and income at hand, we do not know how many people are deprived from the freedom to be minimally literate, live longer than a certain age, and have access to a minimum standard of living. The original HDR admits that “all three measures of human development suffer from a common failing: they are averages that conceal wide disparities in overall population”(UNDP, 1990, 12). The same report also recognizes that “the case is...strong for making distributional corrections in one form or another.” Despite the early efforts, the UNDP dropped the preliminary calculations for the distribution adjusted HDI.

Remember that the original purpose of applying basic capabilities, as Sen suggests, is to find “a cut-off point for the purpose of assessing poverty and deprivation” (Sen, 1987, 109). However, HDI does not contain a cut off point nor does it place a higher weight to improvements in the capabilities at the bottom of the distribution. Thus, HDI or GDI evaluates a country’s success to foster basic capabilities for its average citizen but not its success of enabling its citizens to pass a certain threshold level of basic functioning. Absence of distributional components in the HDI and GDI indexes makes prevents their use to measure poverty as a capability deprivation below a certain threshold.

The report attempts to remedy this problem by introducing the Human Poverty Index in 1997 as a multidimensional, non-income based measure of human poverty. HPI examines four dimensions of capabilities: survival, knowledge and decent standard of living. To account for the relative nature of poverty different measurements for each dimensions are used for OECD

and non-OECD countries.⁵ Where HDI measures average achievement, the HPI measures capabilities by adjusting the formula to provide greater weight to the dimension in which there is most deprivation. HPI through its focus on the shortfalls in capabilities at the lower end of the distribution partly solves the problem of using the averages.

HPI solves the problem of distribution but faces another one - it is insensitive to the gender variations in the achievements included in it. The UNDP does not publish a gendered HPI, in contrast to the HDI which is gendered “adjusted” by the GDI. Thus, the Human Poverty Index does not reflect the gender disparities in survival, knowledge and standard of living. To solve for this, Durbin (1999) proposes to “degender” achievements included in the HPI. However, that poses problems. Certain components of the HPI index such as access to health and safe drinking water, cannot be differentiated by gender, making it difficult to construct an index comparable to HPI. Durbin proposes to use alternative proxies to measure standard of living that can be differentiated by gender. However, the difference in measurements from the HPI would make the relative comparison meaningless.

Problem 3: Separate Aggregation Of Achievements Understates Capability Deprivation

Another critique of the HDI using capability approach is the separate aggregation of the measurements of health, education and income. Some individuals and social groups disproportionately face deprivation in multiple dimensions simultaneously. For example, women at the lowest income quartile are more likely to face challenges in the non-income related basic functionings than their peers in the middle or higher quartiles. Indeed, “gradients” exist in health

⁵ Longevity is measured by probability at birth of not surviving until age of 40 for non-OECD and age of 60 for OECD countries. Adult literacy rate and functional literacy rate measure knowledge component for non-OECD and OECD countries respectively. A decent standard of living is measured by access to safe water and number of children underweight-for-age in non-OECD countries and relative income poverty in OECD countries. For OECD countries HPI is complemented by social exclusion dimension measured by long-term unemployment rate.

and education status by income: health and educational attainment tend to be lower in lower socio-economic group and discrimination against girls is usually more severe among the lower income groups (Filmer, 1999). The overall “score” of capability for somebody in a lower income quartile should reflect not only income, but also lower educational and health attainments. However, if we aggregate educational and health achievement levels of all women, we will understate the severe capability deprivation in the lowest income quartile. Health, education, and resource measurements of poverty should be implemented simultaneously to derive each individual’s level of achievement in those spaces. The separate aggregation of the variables included in the gender related indexes in the HD Report miss the multiple deprivations associated with the correlations between the different components of poverty (Case and Deaton, 2002, 2). If income poor women are also subject to lower functionings in literacy, avoiding premature mortality, then aggregating achievements at an individual level is more appropriate if we are to measure capability deprivation properly. Consequently, Case and Deaton (2002) conclude that to measure poverty in a broader sense, we need to collect and measure health, consumption, and education achievement for each individual in order to derive her index of capability. The indexes reported in the HD Reports, however, ignore the correlations and interrelationships among the functionings.

Problem 4: Equal Weighting of Achievements Assumes Perfect Substitutability

Equal weighting of the achievements included in the index presents a problem from the capability perspective. First, while all three dimensions included in the index are important, their equal weighting seems to be arbitrary (Sunstein, 1997). The overall index is computed as the sum average of the three indices (life expectancy, GDP per capita score, education variable), which implies a perfect trade off between the dimensions so that, a lower literacy rate can be

“made up” by higher level of income or longer life. The additive nature of the index “implies perfect substitution which can hardly be appropriate” (Desai, 1991).

The assumption of perfect substitutability goes against the capability approach which requires freedoms to choose present in the multiple dimensions. A threshold level of freedom to avoid premature death, to be literate, and to have access to basic standard of living are all necessary for one to be “free to choose.” Each basal functioning enhances certain aspect of capabilities, but it cannot be equally subsisted by functioning in another dimension. For example, the attainment of literacy frees one to continue her education further and introduces her to tools, such as reading and critical thinking, that can be used to shape her conception of well-being. Avoiding a premature death and being in a good health, on the other hand, allows one to take advantage of expanded capabilities fostered by literacy but it cannot not substitute it.

A simple sum of the achievements included in the HDI, where each shortfall in an achievement in one space can be substituted by higher achievement in other space, contradicts the capability approach, Sagar et al (1997) conclude that “such a reductionist view of human development [of perfect substitutability] is completely contrary to the UNDP’s own definition” (Sagar et al, 1997, 253). To remedy this problem, they propose a multiplication of the dimensional indices that comprise the HDI. They believe this approach will be “closer to treating each dimension as an ‘essential’ and non-substitutable component by controlling trade-offs between them” (Sagar et al, 1997, 263).

Problem 5: Life Expectancy is Good but Insufficient Measure of Health

Life expectancy is an average number of years that a newborn is expected to live if current mortality rates continue to apply (World Health Organization). The focus on life

expectancy is justified because it is universally valued achievement that opens access to other capabilities. Also, morbidity data reflects epidemiological atmosphere, availability of health care, and nature of medical insurance, and thus can serve as a proxy for overall health status (Sen, 1998,4). However, there are reasons why life expectancy data needs to be complemented by other indicators of health.

First, life expectancy data fails to measure non-fatal health problems. If women are prone to non-fatal health problems, then mortality data would fail to reflect this aspect of women's health. Indeed, Sadana et al (2000) after analyzing 64 surveys of individuals from 46 countries, and find that women have worse self-reported health status in “virtually all cases”(Case and Deaton, 2002, 30). Second, life expectancy fails to measure health status of particular individual. Life expectancy uses mortality data for a population or a sub-population to derive an average life expectancy for the group. Because it measures group rather than individual outcome, it is limited in its ability to accurately estimate an individual's health status. As mentioned previously, in certain cases we are interested in deriving a capability level for an individual, which the life expectancy data fails to provide. Lastly, applications of life expectancy as a measure of health achievement should adjust for natural survival advantage of women. This is not the case with the HD Reports, which refuse to recognize this biological advantage by scaling the Gender Development Index to eliminate it (Case and Deaton, 2002). To accurately measure the health aspect of human capability life expectancy data needed to be complemented by individual health assessments.

Problem 6: Capability Extends Beyond the Three Dimensions

The concept of capabilities, even the basic ones, is not limited to the dimensions included in the HDI. There are other important aspects of the capability that enable the freedom to pursue well-being that the HDI index fails to address. Minimal literacy, longer life and access to minimal income all foster one's freedom to pursue her well-being. However, other components of the capabilities may be required to have that freedom. The HD reports lack functionings that measure social or political oppression or seclusion that may prevent one from active participation in the life of the community or have freedom to make independent decisions.

These aspects of capabilities or freedom to choose are important if we are to measure one's freedom to pursue her well-being. Some of these capabilities lay on the border between the basic and more complex capabilities, which may extend beyond the goal of measuring a minimum threshold level. Also, the problem of measurement arises as well. For instance, we cannot measure women's freedom to seek outside employment just by looking at the level of male to female participation in the labor market. Unlike with literacy or health, it is far from safe to assume that women will always pursue employment to the same extent as men given the real freedom to do so. It is hard to consider freedom to participate in political and social life of a society as a basic capability because it can be questioned on the grounds of paternalism or possible lack of universal support. However, it is important to remember that the notion of the capabilities as freedom to choose extends beyond the three dimensions included in the HDI.

What are the Alternatives?

The Human Development Report documents multiple indexes that attempt to measure different aspects of capabilities. However, none of the indexes present a sufficient reflection of capability deprivation faced by women. Compiling population's average capabilities into an

index leads to a loss of information on deprivations that women and especially poor women. HDI is insensitive to gender inequity in the functionings that it measures. GDI, which provides adjustment to HDI with respect to gender inequalities, fails to do so in a consistent manner. Aggregation of the data for each achievement, even when “degendred,” loses information on the deprivations faced by the most vulnerable groups, such as women at the lower end of capabilities. Conclusively, all of the indexes reported in the HDR, except for the HPI, report average achievements for a group and not the threshold level of achievement. Given these limitations of the HDR, what approach to measuring poverty will accurately identify the deprivations that exist among female populations?

The first cure to some of the problems mentioned above lies with in measuring of achievements at the individual level. Aggregation of the data to derive average functioning achievement for a group “muffs” potential deprivation in multiple dimensions faced by an individual in that group. The fact that income tends to be positively correlated with other aspects of capabilities alerts us that income poor women encounter not only insufficient incomes, but also poor health facilities, decreased literacy rates, and have a negated chance of ever going to school. Indexes reported in the HDI ignore this fact.

However, obtaining individualized measurements of health presents a challenge. Mortality data is used to derive group’s life expectancy, which in turn, is successfully applied to measure the health status of a group. However, it inadequately measures individual health outcome. Also, as previously mentioned, the vulnerability of women to non-fatal diseases will not be reflected in the mortality rate. For a successful evaluation of an individual’s health status, life expectancy needs to be complemented by an individual health status measurement.

Self-reported health status is the most feasible way to measure health at the individual level, albeit some problems.

Sen prefers data on mortality rather than morbidity to evaluate the health status of a population. As noted in the theory section of the paper, utilitarian measures of well-being, such as self reported health status, are prone to suffer from biases. The biases result from the phenomena known as “positional objectivity” - the morbidity information obtained from our own perceptions of illnesses and ailments is mediated through our positional understandings and interpretations (Sen, 1998, 19-20). People’s perception of illness varies with what they are used to, and also with their medical knowledge. For example, in a community with few health facilities, little general and medical education, the “perception of ill health can be very limited, and knowledge of specific ailments may be particularly lacking (Sen, 1998, 20)”. Morbidity surveys will especially present a challenge if gender plays a role in shaping one’s perception of her health status. Indeed, Sen shows that in the case of India “deprived groups such as oppressed women in deeply unequal societies even fail to acknowledge the fact of higher morbidity or mortality” (Sen, 1995, Sen 1985: 52-69, Sen, 2002).

Case and Deaton acknowledge that self-reports of sicknesses and injuries are “inappropriately conditioned by individual circumstance” (Case and Deaton, 2002, 36). Despite this acknowledgement, reviewing evidence from the U.S., South African and other related studies in the literature, they conclude that “differences in self-reported health status between sexes are a real component of their differential wellbeing” (Case and Deaton, 2002, 24). Therefore, they conclude that “some version of self-reported overall (or global) health status, where people report their health on an ordinal scale” would serve as “the conceptually appropriate measure [of health]” (Case and Deaton, 2002, 23). They believe that self-reported

health status, supported by careful survey design, provides useful comparisons of the health status between men and women, and should be a central component of poverty comparisons by sex.

This leads them to conclude that international organizations, the World Bank in particular, need to improve their data collection of poverty measurements in order to capture achievements in multiple dimensions for each individual. Case and Deaton (2002) propose that the World Bank use surveys that collect the following information for each individual: (a) self-reported health measures (b) a minimal list of consumption items, income (c) standard questions on education and literacy. With the data for health, education and consumption dimensions of capability “we would be much better able to measure poverty, including its gender dimension”(Case and Deaton, 2002,38). The impossibility of comparing self reported health statuses across countries will prevent international comparisons of the total capabilities achieved; however, “the measure would still be useful for exploring variations in health by gender within each country.” (Case and Deaton, 2002).

Individual measurement of health, education and basic income or expenditures can be used to evaluate if an individual passes the minimal threshold of capability. Such a minimal threshold can be developed both on the international as well national levels to adjust for the specific goals of the evaluation. Sunstein (1997), when discussing the international measurements of poverty concludes that measurements of poverty are to be in multiple directions and without being indexed. HDI and other indexed in the HDR provide a rough comparison across countries in the average achievements for certain basic functionings. However, people unfamiliar with the methodology of calculations of the indexes or capability framework, are at risk for not spotting the limitations and crudeness of the indexes, especially when applied to measuring poverty of

women. Instead, data on basic functionings and capabilities, such as suggested by Deaton and Case but not limited to it, should be collected and reported to the public. Sunstein (1997), report in the case of the U.S., for example, proposes “Quality of Life” annual reports that would document a wide range of variables measuring functionings of health, education, income, safety and basic goods. The report of this sort on an international scale, rather than a crude indexes currently produced by the UNDP, would invite the public and the academics to explore the disparities in basic capabilities across different groups, and especially women. One of the greatest insights from such an exploration is the concept of “missing women” pioneered by Amartya Sen.

Examining life expectancy and mortality data, Sen concluded that there are over 100 million of “missing women” across the world (Sen, 1990). “Missing women” is a number of women that are missing due to gender biases in treatment of boys and girls across the world. Given similar health care and other forms of attention, women tend to have a lower mortality rate than men at nearly all age groups. More male babies are born than female babies, but the proportion of males goes on falling as we move to higher and higher age groups, due to greater male mortality rates (Sen, 1998, 11). This natural advantage in survival should correspond into higher life expectancy for women, which in turn, should increase their female-to-male ratio in a population in a given society. However, that is not the case: there are only about 98 women per 100 men in the world as a whole, with the largest “shortfalls” of women in Asia and North Africa. For example, the number of females per 100 males in the total population is equal to 84 in Saudi Arabia, 92 in Pakistan, 93 in India, 94 in China. Contrast these shortfalls with the average female to male ratio of 1.05 in Europe and North America and of 1.02 in sub-Saharan Africa.

Using one of the methods, Sen calculates the number of “missing women” around the world to be equal over 100 million (Sen, 1990). The method involves answering the following question: what would have the number of women in these countries been if no gender bias was present? The ratio of 1.02, found in Sub-Saharan Africa, is used as the standard for the calculating the number of missing women in “women-short” countries that results from the “gender bias in matters of life and death” (Sen, 1998, 12). Take the example of China use by Sen (1998) using 1992 census data. The female-male ratio of 0.94 in China produces a difference of 8 percent with the standard ratio of 1.02. Given that the total population of China of 1,162 million in 1992, there are supposed to be 599 million males. The number of “missing women” would then be 8 percent of the male population, or 48 million. Because of “gender bias” against women in many parts of the world, women receive less attention and care than men do, and particularly girls often receive very much less support than boys (Sen, 1998, 12). As a result, the mortality rates of females often exceed those of males in these countries, which consequently results in “missing women.”

Conclusion

Measuring poverty for women is a challenging task. Income measures, such as the World Bank one- and two-dollar-a-day thresholds, are incapable of measuring non-income poverty. The notion of capabilities as freedom, on the other hand, offers a superior approach to measure well-being and freedom to pursue it. On the practical level, a minimal level of capabilities can serve as a threshold to measure poverty. This approach is potent of reflecting obstacles faced by women to freely pursue their well-being. Indexes documented in the Human Development Report reflect elements of the capability approach and attempt to measure some aspects of the freedom. However, these indexes fail to measure the capabilities of women in a

satisfactory manner. All indexes, apart for HPI, reported in the HDR measure average achievements and do not measure society's performance in fostering capabilities at the minimal level and for the most deprived. Thus, they overlook capability deprivation of women and especially of women deprived in multiple dimensions simultaneously. Measures of health, education and resource accessibility collected on the individual level will remedy this problem. Moreover, at more data that would measure basic functionings in multiple dimensions needs to be collected and reported. Also, measuring and reporting achievements across different social, economic, racial, and gender groups should be a central component of such a data collection. Measurements of simultaneous achievements in multiple dimensions differentiated across gender will allow a much richer analysis of women's success to achieve a minimal threshold of basal functionings. Such an analysis will provide a better picture of real freedom, even at the basic level, for women to pursue their well-being.

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