



Beyond the HDI? Assessing alternative measures of human development from a capability perspective

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ABSTRACT

This paper explores how the human development perspective can be enlarged by further using the capability approaches of Amartya Sen and Martha Nussbaum. It delves into the main characteristics of their contributions, highlighting the role of social choice and normative exercises in human development evaluations. The paper examines alternative measures of human development, including subjective indicators, goals-based indicators, sustainability indicators, and comprehensive and specific indicators of human development. Finally, the paper suggests guidelines for building human development indicators from a capability perspective. It concludes neither by advocating a replacement of the Human Development Index (HDI) nor by suggesting new dimensions or indicators. Instead, it puts forward a different methodology for building and analysing human development indicators.

Introduction

Beyond the platitude that human development is broader than the Human Development Index (HDI), there are key conceptual and technical issues that are too often ignored. This doesn't mean that the HDI has remained immune to criticism since its introduction in 1990; instead, quite the opposite has happened (Hirai 2011). The index has been constantly and vibrantly exposed to revisions, and this has been one of its major sources of strength and success. Nevertheless, in the last 25 years, much has happened that hasn't been fully considered by the HDI, in particular related to: i) the link between the HDI and the capability perspective, ii) the emergence of various alternative measures of human development, and iii) the increasing relevance of sustainability challenges and the intergenerational aspects of human development.

It is remarkable how little attention has been given in the Human Development Reports to the distinction between Amartya Sen's capability approach and Martha Nussbaum's capabilities approach. In particular, the social choice nature of Sen's contribution has not been fully appreciated by successive reports despite his constant reminders (e.g., Sen 2002[1998], 2009). Even worse, Nussbaum's extensive contributions to the capability literature (to mention only a few, Nussbaum 2000, 2006, 2011) have been barely acknowledged. Whereas the debate about enlarging the HDI has mostly concentrated on arguments for including new dimensions and indicators (e.g., Ranis, Stewart and Samman 2006; Morse 2003; De la Vega and Urrutia 2001), much has been missed in terms of a broader human development perspective informed by the capability perspective.

At the same time, a wide array of new alternative development indicators has spread, ranging from all-encompassing indicators such as Michael Porter's Social Progress Index to more subjective alternatives such as Helliwell et al.'s Ranking of Happiness or the New Economics Foundation's Happy Planet Index. Gone are the times when the most serious alternative to the HDI was Morris's Physical Quality of Life Index. Today, even more alternative indicators, such as the Organisation for Economic Co-operation and Development's (OECD) time-use and leisure indexes, or the UN's Sustainable Development Goals have grown in popularity compared to the HDI. Thinking ahead to how the HDI will be able to tackle future issues, such as those related to climate change and sustainability, requires the identification and examination of the conceptual foundations that can sustain the HDI in relation to itself and its alternatives.

What are the main implications? Shall we abandon the HDI in search of more comprehensive indicators? Or shall we reformulate it to encompass a more diverse set of indicators? If so, which criteria should we use to define human development indicators? Or if 'all is well', should we bother at all about reassessing or recalibrating the HDI? To suggest possible ways of answering these questions, it is important first to examine how human development can be informed by the

capability perspective, distinguishing between Sen's capability approach and Nussbaum's capabilities approach. After having discussed the necessary characteristics of capability measures, it is possible to usefully examine the potential contributions of alternative progress and quality-of-life indicators to human development. Finally, a short conclusion will suggest guidelines for building human development indicators from a capability perspective. The paper concludes neither by advocating the replacement of the HDI nor by suggesting new dimensions or indicators to be included. Instead, it puts forward a different methodology for building and analysing human development indicators.

The HDI and the Capability Perspective

A brief examination of the intellectual history of the HDI (e.g., Ponzio 2008) reveals that its elaboration has been less straightforward than what can be understood from the opening pages of any Human Development Report. Indeed, in the North-South Roundtables that led to the creation of the index, it was only at the very end that the capability perspective was considered (Haq and Kirdar 1989). The question of whether the actual elaboration of the HDI has been more influenced by the basic needs approach or by Sen's capability approach remains open for debate (the origins of the HDI are examined by Jolly 1989a and 1989b), but this should not detract from the main fact that much of what Sen has written about the approach and its relation to social choice is still open to examination. The contribution of Nussbaum has never been fully considered beyond her famous 'capabilities list'. It is important to review these contributions to examine the capability foundations of the HDI.

Before we do that, it is essential to formally distinguish between the 'capability' and the 'capabilities' approaches. It seems, *prima facie*, that the only difference is that Nussbaum employs a capability list and Sen 'doesn't like lists'. Nevertheless, the differences in their approaches run much deeper. Sen uses the concept of *capability* in the singular to highlight the idea of a 'process' through which different substantive capabilities are chosen. For him, the 'act of choice' is essential for characterizing the concept of freedom (differently from mere 'liberty'). In addition, Sen is concerned with the characteristics of appropriate reasoned scrutiny and some irreducibility that can remain in conflicting arguments. Thus, he maintains Rawls's valuational plurality, but within a different framework that he calls 'social realizations' or 'realization-focused'. Sen gives more emphasis to some key characteristics of public reasoning such as impartiality¹ and objectivity² than to the definition of specific sets of capabilities. By doing so, he seems more concerned with informational issues on how

¹ Sen (2009, p. 123) focuses on impartial judgements that are necessary to avoid parochial bias in assessments.

² He uses the discipline of social choice theory and its methodology of ranking alternatives to talk about how people can arrive at refined values and priorities.

different arguments can survive objective reasoned scrutiny than with the satisfaction of (contingent) concrete capabilities.

On the other hand, Nussbaum's *capabilities* approach (in the plural) calls attention not only to the desirable characteristics that are essential in her view to human dignity and human forms of sociability, but also to the constitutional structures that should be used to define the minimum requirements of justice. Nussbaum is also concerned with the issue of public reasoning and justification, but her humanistic conception of 'publicness' depends on the cognitive role of emotions and human values in shaping people's deliberations. As a way of avoiding specific references either to Sen's capability approach or to Nussbaum's capabilities approach, the more general expression of 'capability perspective' can be suggested here, keeping in mind that their approaches might be using similar informational spaces, but they constitute different conceptual frameworks, as will be explored below.

THE HDI, SOCIAL CHOICE AND SEN'S CAPABILITY APPROACH

The capability approach is not Sen's main framework of evaluation. It only refers to the choice of informational spaces in assessing social possibilities and welfare judgements. Indeed, in several instances,³ Sen (e.g., 2002, 2009) has manifestly expressed that his overarching evaluation framework is social choice theory. The capability approach is strategically key for Sen's version of social choice theory in broadening the informational basis used in social evaluations,⁴ but it does not seem to provide the same range of tools and analytical structures that comes with social choice theory. It is indeed remarkable how the links between the capability approach and social choice theory have not been further explored by the capability approach secondary literature.

In one of the very few notable exceptions, Qizilbash (2007) examines the links between the capability approach and social choice theory, trying to explore their differences and complementarities. He doesn't disagree with the above remark that the relevance of the capability approach is mostly for providing broader informational spaces for evaluation (what he calls a 'thin view'). He tends to see social choice theory, however, as a field of application of the capability approach based on public reasoning (what he calls a 'thick view'). This in itself is not a problem but it raises the question about why everyone continues to call the capability approach 'an approach' if its field of application is given by a different approach?

³ Sen (2002) refers to the revised version of his Nobel Prize paper, "The Possibility of Social Choice" (1998).

⁴ In *Development as Freedom* (1999), Chapter 3, Sen refers to 'capability information' and the 'capability perspective' (see, e.g., p. 81), applying these through the use of: i) the direct approach, ii) the supplementary approach and iii) the indirect approach. This suggests that capabilities are key ingredients but not the main framework of the analysis.

Sen (2009, p. 232) clarifies that the capability approach “does not, on its own, propose any specific formula about how that information [on capabilities] may be used” and in addition (pp. 232-233) that “it does not lay down any blueprint for how to deal with conflicts between, say, aggregative and distributive considerations.” It is clear that given Sen’s pluralism, he wishes to avoid imposing specific recommendations about how societies should establish their priorities and define their social policies. In Sen’s capability approach, indicators, such as the HDI, should not settle issues on behalf of people, avoiding the core of any evaluative exercise that depends on public discussion and deliberation.

By using ‘capabilities’ that are objective (in contrast to subjective utilities), Sen can assemble different types of interpersonally comparable information. His argument is not about capabilities per se, however, but about pluralism, given that the mechanical use of a single formula, even if based on capabilities, would be similarly inadequate. As he argued, the informational base of capabilities can illuminate individuals’ real opportunities. “But that does not, in any way, ‘close’ the issue of informational bases of social choice” (1996, p. 61). This is, first, because capability rankings would be incomplete and partial just as any other ranking; second, because other considerations (for instance about processes⁵) can also be relevant; and finally, because conflicting demands cannot all be resolved by capability spaces.

But what could be said of social choice theory? Most importantly, what are the main features of Sen’s version of social choice theory that would be relevant for examining, for instance, the HDI? The main characteristics of his theory for systematic social welfare judgements to consider in examining capability measures are:

1. Pluralism: This can be seen as an argument for using indicators based on informationally rich accounts of the state of affairs and for avoiding full commensurability among variables in composite indicators. ‘Plural’ indicators should have non-consequential features (Suzumura 2011).

2. Comparative analysis: Assessments can be made within the limits of the possibilities of what is available and what it is possible to compare, rather than between ‘optimal’ options. In his early social choice theory work, Sen (1970a, Item 7.4) investigates the range of possibilities for comparing options (following Arrow’s [1951] approach of *ordering* a sequence of pairwise alternatives) and introduces the concept of ‘partial comparability’. Thus, between the world of non-comparability,

⁵ In “Elements of a Theory of Human Rights,” Sen (2004, p. 336) argues that: “Although the idea of capability has considerable merit in the assessment of the opportunity aspect of freedom, it cannot possibly deal adequately with the process aspect of freedom, since capabilities are characteristics of individual advantages, and they fall short of telling us enough about the fairness or equity of the processes involved, or about the freedom of citizens to invoke and utilize procedures that are equitable.”

where interpersonal comparisons are ruled out, and the world of full comparability, where utilities are all commensurable, choosing what can be compared can be of direct relevance to the problem that has to be faced. Although ‘comparability’ and ‘partiality’ are different concepts, they appear together when working with ‘incomplete rankings’. They are compatible with the concept of ‘maximization’ that doesn’t need full comparability, given that it only requires that we don’t choose an alternative that is worse than another (Sen 2000, p. 486). Two options in an incomplete ranking, but that are better than all alternatives, can each be chosen following maximization.

3. Reasoned scrutiny: People’s views depend on their positionality, which should be open to revision at both an individual and a social level. Going beyond one’s parochialism and revising one’s evaluations is essential for being objective in one’s views. Quite often, individual and public scrutiny are part of similar processes, because the best way of achieving impartiality is to open one’s views to informed debates and interactive discussions to see whether arguments can survive. Indeed, individual reflected evaluation is not enough. It needs to be open to public reasoning, as a way of testing the reach, reliability and robustness of evaluations. More concretely, Sen argues for ‘open impartiality’ as the most important strategy for overcoming positional objectivity (Sen 1993). Reasoned scrutiny comes with a strong argument against mechanical judgements, a constant critique that characterizes most of Sen’s contributions to social choice theory, and shapes his related criticisms of welfarism and Rawls’s theory of justice.

Together, pluralism, comparative analysis and reasoned scrutiny provide the bones of Sen’s social choice approach. Its analytical structure, following in the footsteps of Arrow’s social choice theory, can often be seen in Sen’s work on the use of rankings in valuation processes. Whereas the use of rankings has been an intrinsic part of analysing the evolution of countries’ HDIs, it is still carried out in light of full commensurability and comparability of final indexes. Sen’s notion of ‘partial ordering’ (introduced in 1970a, p. 99) has not been much explored in analysing the evolution of countries on HDI lines.

Sen (1974) further develops his early arguments about broader evaluation structures by introducing the notion of ‘ordering the orderings’ or ‘ranking of rankings’ or ‘meta-ranking’ as a framework for defining how people can morally deliberate among different sets of preferences (if we think about the HDI, we can consider how we may choose between different priorities or indicators). Starting from a pluralist perspective, he acknowledges that people can have legitimate non-commensurable moralities that might not be mechanically reducible to welfarist metrics. In fact, this is what it is normally done when analysing HDI rankings without discussing whether a particular dimension or variable has become more important (or not) for evaluating the development of a country or a group of countries. Non-commensurability is a pervasive feature of Sen’s social choice

theory, and a comparative analysis generating partial rankings might produce partial but useful guidance (Sen 1981).

In very basic terms, rankings can be different not simply in terms of their specific ordering of options, but in terms of how they assemble different criteria, each producing its corresponding ordering. As much as the range of different criteria can be quite large, it is common to see criteria formulated around four kinds of informational spaces, namely:

- Resources: monetary or non-monetary
- Subjective well-being: pleasures, desires, desire fulfilment or choice
- Rights: abstract or concrete; general rights or human rights
- Capabilities: basic or non-basic

This means that an application of the capability approach shouldn't be only about using capabilities as part of informational spaces but working with a plurality of spaces without pushing for an a priori superiority of any of them, independent from scrutiny. For instance, the argument that 'resources are imperfect indicators of human well-being'⁶ (which has become a 'human development mantra') signals the importance of evaluating how resources are used. Similarly, subjective well-being or happiness can provide an evidential role in welfare evaluations (Sen 2008) and should not be merely rejected because of its shortcomings. In their turn, rights and liberties should not be put "on an absolute pedestal" as argued by Sen (2009, p. 59) because they should be seen alongside other concerns.⁷ A comparative analysis will prevent procedures to mechanically prioritize one criterion over others (without scope for deliberation) because this would turn reasoning into non-consequential forms. Instead, Sen (2000, p. 480) argues for 'broad consequential evaluation', emphasizing the importance of a more explicit and integrated framework of judgemental evaluation.

Rankings based on consequential evaluation should not be limited to 'culmination outcomes' (focusing only on final results) but should pay attention to 'comprehensive outcomes' (including the choice process,⁸ in particular, 'chooser dependence'), as explained by Sen (2002 [1997]). Other

⁶ See, for instance, Sen (1999, p. 80), which contributed to the popularization of this argument, together with the Human Development Reports.

⁷ Sen criticizes Rawls's prioritization of liberty arguing that, "It is indeed possible to accept that liberty must have some kind of priority, but total unrestrained priority is almost certainly an overkill" (2009, p. 65).

⁸ The classical example is about the difference between 'winning an election' (culmination outcome) and 'fairly winning an election' (comprehensive outcome). An empirical application of this distinction can be found in Comim and Amaral (2013) in the elaboration of the Human Values Index.

valuational issues are also relevant, such as the role of responsibility, obligations (perfect, imperfect) and duties, all of them related to the concept of individual agency.

The implications of taking Sen's social choice writings into account when thinking about the HDI can be dramatic. They suggest that:

- Following pluralism, the HDI should consider a richer array of informational spaces, not simply 'capabilities' (or functionings, as is usually the case).
- Following comparative analysis, the HDI should work not simply with complete rankings but also use partial orderings and meta-rankings, adding an ethical dimension to human development.
- Following reasoned scrutiny, the HDI should avoid mechanical processes of the aggregation of culmination indicators. This seems in fact the hardest feature to follow but whatever can be done towards the characterization of 'comprehensive outcomes' can contribute to this aim.

The final part of this paper will further elaborate on these implications. An analysis about broadening the scope of the HDI does not need to be limited, however, to a discussion about the inclusion of different indices.

THE HDI AND NUSSBAUM'S CAPABILITIES APPROACH

Nussbaum's capabilities approach emphasizes the role of constitutional structures in defining minimum requirements for justice that depend on people's humanity and their ideas of social cooperation. As much as her approach does not require a fully comprehensive (religious, ideological, etc.) conception of the good, it includes a certain number of values and virtues within a pluralistic society that imply a view of development with characteristics distinct from those explored by Sen. In this sense, her approach is closer to a perspective of a universal HDI than the one put forward by Sen, although she highlights the role of the multiple realization of indicators according to different contexts (Nussbaum 2000). Nussbaum's capabilities approach provides powerful insights and inspirations for thinking about a new human development approach. It has an unexplored potential to redefine human development policies (Comim 2014), based on the following features:

1. Microdimensional: Nussbaum's capabilities approach attaches great importance to people's attitudes and daily practical choices, suggesting that there are 'locations' of interest to human development such as 'the educational system', 'the workplace' and 'the public sector' (Nussbaum 2006, p. 212). As such, the approach contrasts with the emphasis on macro phenomena (health,

education and growth) traditionally offered by the HDI. Nussbaum acknowledges the relevance of macro government policies, but delves into microdimensions of development that ground her capabilities approach in people's daily affairs and struggles.

2. Intertemporal: Life constitutes a succession of temporal stages and as such should be understood according to temporal particularities, for instance, in childhood or old age (Nussbaum 2011). To a large extent, the HDI already reflects a perspective of the life cycle with variables reflecting important dimensions of people's lives in different stages. For instance, life expectancy is determined by factors that are more influential at an earlier and older age, such as under-five mortality rates or chronic diseases; education variables have both a flow and a stock dimension, etc.. But the HDI does not group them as such (we don't have a HDI for children, another for the elderly, etc.). In the traditional HDI, if we may use this expression in consideration of Nussbaum's arguments, not much attention is given to intertemporal aspects of development policies.

3. Proactive: For Nussbaum's capabilities approach, human development policies should focus on problems before they happen, thinking about desired scenarios in advance, and emphasizing 'antecedent conditions' that contribute to the creation of the problems. This means targeting the improvement of the human condition (for instance, 'cultivating the humanity' of individuals or promoting conditions for people to flourish as human beings) before the problems appear (Nussbaum 2013). This is different from the HDI mechanics built on the idea of comparability among distinct countries as a way of reactively 'naming and shaming' them as a form of social pressure.

4. Motivationally rich: This is different from Sen's pluralism because it entails a richer view of people's moral sentiments, which can be changed. It is not simply about working with broader informational spaces but about educating people towards behaviour that it is morally valuable. Nussbaum's capabilities approach considers 'emotions' as key elements in forming people's value judgements, and works (within liberalism) to foster people's feelings of love and compassion. This area is largely ignored by the HDI and by the Human Development Reports, which have closely followed Sen's careful distance from sponsoring any particular comprehensive doctrine. Nussbaum (2013) argues how a commitment to a minimum theory of the good is essential for human development.

5. Public-private: According to Nussbaum (2006, p. 212), "The capabilities approach rejects the familiar liberal distinction between the public and the private spheres, regarding the family as a social and political institution that forms part of the basic structure of society." This is not merely about the microdimensional aspect of the capabilities approach, but mostly about a critique of the public-private distinction that informs human development and the HDI. As a result, the HDI has ignored, for instance, the role of families (which should share love and affection) as a political

institution basic to society. Complex issues related to education, discrimination, microjustice, etc. can only be tackled within a framework that frees itself from the illuminist distinction between the public and private spheres of people's lives.

Nussbaum's capabilities approach goes much beyond the selection and discussion of elements of a 'capability list', which some could consider a source of inspiration for a redefinition or a broadening of the HDI. Rather, her approach advances a human development agenda of 'cultivating people's humanity' by changing not only countries' education systems, but also their public policies (which include, in her view, 'private' spheres). In her proposals for 'building capabilities' she advocates: i) the redesign of public spaces, ii) the caring for children's moral education, iii) the transformation of the workplace and iv) the promotion of art for fostering human capabilities.

Nussbaum's proposals for building capabilities don't sit well with what can be called the 'traditional' human development approach that informs the HDI. Part of the problem is that the HDI focuses on macro constructs, producing statistics that are mostly targeted to national governments and their policies. In fact, it is only indirectly that the HDI is meant to be used by ordinary citizens, as a source of public pressure to uphold the accountability of national governments. Indeed, the HDI supports UNDP's institutional role in providing assistance to national governments, downplaying policies that otherwise could be microdimensional and addressed to civil society (in contrast to the Millennium Development Goals [MDGs] and Sustainable Development Goals [SDGs], as discussed below). But this means that there are important development gaps that are not considered by the HDI and that could be bridged by using Nussbaum's capabilities approach. In addition, her approach could inspire more proactive policies that would prospectively look ahead to different long-term human development scenarios. Taking Nussbaum's capabilities approach seriously would imply not only new dimensions to be considered by the HDI but a new HDI altogether, micro in scale, more proactive, shaped by different intertemporal concerns, motivationally rich although less liberal, and avoiding the common reliance on instrumental rationality and the denial of the private sphere as of interest to public policies.

Although it is not the objective of this paper to offer a full comparison between Sen's and Nussbaum's approaches, it is important to try to compare them, not simply to distinguish their frameworks, as done above, but to show how they could contribute to a reflection about the HDI and an evaluation of various alternative measures of human development from a capabilities perspective. Table 1 offers some elements.

Table 1. Sen's capability approach versus Nussbaum's capabilities approach and their implications for the HDI

Capability approach	Capabilities approach	Implications for the HDI	Examples/suggestions
Pluralist	Pluralist	The HDI doesn't need to be only about capabilities, but it can/should include other informational spaces.	The HDI could be subdivided into four informational groups: resources (e.g., percentage of social spending/GDP), subjective well-being (people's satisfaction with public services), rights (percentage of respect for a list of basic rights) and capabilities (or functionings depending on the measurement of social realizations or potentials).
Comparative analysis	Issue not addressed	The HDI can consider the use of partial orderings, intersection of rankings and meta-rankings.	The HDI could be analysed within a Hasse diagram, avoiding the suggestion that it represents a complete ordering, and acknowledging that there are non-commensurabilities among countries that should be considered.
Reasoned scrutiny	Reasoned scrutiny	The HDI could distinguish between culmination versus comprehensive outcomes, perhaps considering a 'process' HDI and an 'outcome' HDI.	A 'process HDI' would include people's liberties and powers such as civil rights, political participation, gender-bias in politics and other elements that define how social choices are made. The 'outcome HDI' could be defined in pluralist lines, as suggested above.
Macrodimensional	Microdimensional	The HDI could consider some microdimensions of human development.	New HDIs could be formulated taking this microperspective further, such as a 'families' HDI', a 'HDI humanity' (showing what societies do to cultivate the humanity of their citizens or different levels of tolerance, mixing of races, religions, etc.) or a 'workplace HDI' addressing working conditions. People are diverse and a microdimensional perspective could take this into account.

A-temporal	Intertemporal	The HDI could further engage with people's life cycles and different temporal criteria for human development.	The use of microdata could also help the estimation of HDIs for different cohorts organized by age, such as a 'children's HDI', a 'youth HDI' or an 'elderly HDI'. Weights and dimensions would differ.
Reactive	Proactive	The HDI could distinguish between proactive (or antecedent) indicators and reactive indicators.	Many development problems are registered when the phenomena have already happened (with reactive indicators). This is the standard. But a new 'antecedent HDI' could forecast conditions that will shape development in the future, such as the use of natural resources for future growth, infant mortality for future life expectancy and population growth projections for education.
Motivationally rich without trying to change people	Motivationally rich but trying to change people	The HDI can further explore the links between human values and human development.	Values are not part of HDI measurements. But human development achievements depend on societies' values. Having a 'Human Values Index'—on the lines proposed by Brazil's <i>National Human Development Report</i> , or a mapping, such as those put forward by Inglehart and Welzel or Schwartz's value survey—integrated in human development would help in exploring a motivationally richer view of human development.
Accept public-private distinction	Reject public-private distinction	The HDI could consider exploring some dimensions traditionally considered as belonging to the private sphere of behaviours.	A 'time allocation HDI' (about how societies allocate their time) or a 'parental HDI' (how people take care of their children inside their homes) could explore the links between parental practices/functionings and achievements in societies.

A different issue is about how different capabilities can be measured and about the range of criteria they should satisfy, such as: i) human diversity, expressed as multidimensionality and non-commensurability of dimensions (Sen 1992, 1999; Nussbaum 1990), ii) objectivity (Sen 1987,

Nussbaum 2000), iii) counterfactual nature, exploring the ‘opportunities’ aspects of development (Sen 1981, 1985b), or iv) being part of a valuational exercise, avoiding mechanical algorithms of aggregation (Sen 1985, Nussbaum 2006). In addition, procedural aspects related to the selection, weighting and sequencing of evaluative judgements should be taken into account from a capability perspective. These issues will be discussed in the final part of this paper, which considers the main lessons for improving the HDI. The paper next explores various other measures of human development, apart from the HDI, that have recently emerged, reviewing their construction and individual components from a capability perspective.

Alternative Measures of Human Development

The HDI is not the only show in town. In the last two decades, several alternative measures of human development, quality of life, sustainability and human progress have been put forward by different institutions and individuals. Given their richness and variety, it is impossible to survey them in a single paper. For this reason, the current discussion will focus on a categorization of the most important kinds of human development indicators (to use a general expression to describe all types of indicators of interest) and their most prominent examples.

As a first classificatory attempt, the various human development indicators can be grouped into five clusters, namely: i) subjective indicators of human development, ii) goals-based indicators of human development, iii) sustainability indicators of human development, iv) comprehensive indicators of human development and v) specific (or sectoral) measures of human development. There are other measures that can be derived from specific contributions, such as a Rawlsian measure of ‘primary goods’, Doyal and Gough’s index of basic needs or Narayan et al.’s (2000) measures of ‘voices of the poor’. Not to mention a wide range of sustainability measures flourishing since the Brundtland Report in 1987. But here the paper focuses on indicators that are used as *qua* indicators and not as *ad hoc* expressions of normative theories, as with some of those referred to above.

SUBJECTIVE INDICATORS OF HUMAN DEVELOPMENT

Subjective indicators are normally ignored by capability theorists because of the potential biases implicit in subjective views, such as the problem of adaptive preferences (Nussbaum 2000). The academic world of subjective well-being analysis has been flourishing, however, with 130 articles per year published in 1980 evolving to 15,000 in 2014 (Diener et al. 2016). Despite the popularity of the capability approach and the subjective well-being approach, there is a considerable divide between them and their corresponding indicators, in part because of contextual reasons. Both approaches

have been shaped by different research and institutional agendas. Whereas the capability perspective has emerged from political philosophy, moral thought and development economics, the subjective view has appeared in the context of psychology, neurology and social studies. The two seem to focus on different research strategies, with the capability perspective being more qualitative and the subjective view being more quantitative. They also understand behavioural phenomena differently, for instance, on issues such as adaptation, seen as resignation and conformism from the capability perspective and as a positive feature from the subjective view (Comim 2005). As Sen (2008) has discussed, however, there are possible synergies between the two views.

Whereas many alternative measures of subjective well-being have been put forward with the ambition of constituting an alternative measure of national or international progress, such as Inglehart's World Value Survey (1981), Diener's Satisfaction with Life Scale (1985) and the OECD's Guidelines on Measuring Subjective Well-Being (2013), none resulted in a United Nations resolution such as the one that in 2011 invited countries to measure the happiness of their people, as happened with the first World Happiness Report (2012). The main message of the report and the corresponding Ranking of Happiness, in its latest version, is that: "Increasingly, happiness is considered to be the proper measure of social progress and the goal of public policy" (Helliwell et al. 2016, p. 3).

The Ranking of Happiness index has 11 response categories using the Cantril ladder question scale. It focuses on 'life evaluations' as the key benchmark for making international comparisons, but without ignoring experiential evidence. It works with six central explanatory variables, namely, GDP per capita, social support (having someone to count on in times of trouble), healthy life expectancy, social freedom, generosity and absence of corruption (also called freedom from corruption). It also considers dimensions of 'positive' and 'negative' effects as dependent variables, together with the Cantril Ladder. The scores are further divided into seven segments in order to find possible sources for the ladder levels.

But how can this index be evaluated from a capability perspective? If it is *prima facie* based on subjective information, should it be indiscriminately ignored? In fact, evidence from the 2016 World Happiness Report suggests that there are considerable discrepancies between the rankings of some countries. For instance, Japan, which is 20th in the 2015 HDI, is 53rd in the happiness ranking, whereas Venezuela, which is 71st in the 2015 HDI, is 44th in the happiness ranking. A similar case would be the Republic of Korea, which is 17th in the 2015 HDI and 57th in the happiness ranking, and Brazil, which is 75th in the 2015 HDI and 17th in the happiness ranking. This suggests that between East Asia and Latin America, there are some important differences in the way that people rank and value their well-being. Rather than being an embarrassment, this evidence raises very important lessons for the HDI.

The human development perspective as currently understood does not engage with subjective information on the grounds of problems such as ‘adaptive preferences’. A pluralist view of human development, however, could face the contradictions and differences between subjective and objective evaluations, throwing light on complexities of human development processes (e.g., more developed societies with unhappy people, and less developed societies with happier people). This does not mean that subjective measures should not be further scrutinized for their problems (e.g., measurement errors, joint determination of variables).

The Ranking of Happiness index provides a multidimensional and pluralist account of different aspects of living in distinct countries, covering both evaluative and affective dimensions. As such, it seems to cover both a macro, long-term perspective and a micro, short-term perspective on human development, as if it had combined the capability approach with the capabilities approach. In addition, the use of the variable ‘healthy life expectancy’ is clearly progress in comparison to the standard ‘life expectancy’ in the HDI. Similarly, the use of a residual form on a basis (called ‘dystopia’) for representing specific national features is an ingenious way of combining standard with context-specific information, a problem in indexes that push for full commensurability of their variables. The question here is not merely about the inclusion of ‘missing variables’ as if more complete (with more dimensions) measures were better by necessity. But it is about the methodological structure behind the indicators (Helliwell et al. 2016).

The Sarkozy Report examined the interplay between objective and subjective approaches, exploring how different subjective dimensions of the quality of life could be separated from their objective corresponding determining factors (Stiglitz et al. 2009, Item 71, p. 43). Other indexes, such as the New Economics Foundation’s Happy Planet Index, also work with subjective and sustainability indicators, as discussed below under the sustainability indicators category.

GOALS-BASED INDICATORS OF HUMAN DEVELOPMENT

The goals-based system of human development indicators that emerged with the MDGs in 2000 has been strongly criticized for the way it was created and institutionalized (Jolly 2003, Hulme 2010). An examination of its most popular criticisms can be very illustrative of the sort of constraints and limitations faced by disaggregated multidimensional indicators such as the MDGs. On the one hand, it is fair to say that the MDGs satisfy the criteria of plurality and even simplicity with the focus on eight key dimensions. On the other hand, the goals were assembled in an ad hoc fashion, reflecting, according to some, a donor-centric view of development (Vandemoortele 2009). Whereas the aggregation of composite indicators brings to the discussion a whole range of issues regarding weights and processes for selecting dimensions, the use of disaggregated indicators brings to attention a different set of issues related to the problem of fragmentation of indicators. As Waage et

al. (2010, p. 18) argue, “The MDGs are fragmented not only in their implementation but also in their underlying conceptualisations of development and overlapping of means and ends.”

The problem with fragmentation is that the goals-based system might not be able to offer a consistent conceptual foundation. A HDI that tried to assemble variables in an ad hoc way could suffer from the same problem (not restricted to the means versus ends issue, which is in the HDI as well). Another problem is the lack of a common vision of development focusing on sector-specific policies (Fukuda-Parr et al. 2014). Thus, the ‘incentive structure’ of an indicator might encourage the choice of some quantitative targets that can be, for instance, more cost-effective than others, at the expense of other targets that can be more meaningful—for instance, by focusing on enrolment rather than on the quality of education (Sumner and Tiwari 2009). Another illustration of the choice of variables in the MDGs and impacts according to ‘incentive structure’ was the use of a US\$1.25 a day poverty line. For middle-income countries, this had the distorting effect of introducing a minimal target for poverty reduction and causing a perverse effect on poverty reduction.

It is possible to argue, from a capability perspective, that the MDGs were pluralist, introduced with the aim of promoting reasoned scrutiny of key areas in human development all over the world. In addition, they did not push for a full commensurability or aggregation of indicators, satisfying some social choice criteria put forward by Sen. They were also introduced as part of a long-term, proactive discussion about human development. Goal-setting has been acknowledged as a useful methodology to promote an international development agenda and perhaps for this reason, the 17 SDGs emerged with specific targets to be achieved over the next 15 years, similar to the MDGs. The SDGs follow the same participatory principles introduced by the MDGs; the UN system was in fact more careful in conducting wider consultations with participating countries. The SDGs have an unbelievable number of 169 targets, however, which brings all sort of problems to a human development indicator. They also include a wider range of sustainability indicators that were not present in the MDGs (United Nations 2014).

More important than the particular dimensions added to the new SDG agenda is the concept of a goals-based system of human development indicators with its accompanying goal-setting exercise. Having said that, it is also interesting that some added dimensions seem to better capture qualitative aspects of human development than the standard HDI dimensions, in particular in regard to environmental dimensions. On that note, it is useful to move to an examination of sustainability indicators of human development.

SUSTAINABILITY INDICATORS OF HUMAN DEVELOPMENT

Despite the popularity of the dashboard of sustainability indicators in the 1990s, today's scenario is dominated by three other sets of indicators, namely: i) composite indexes, ii) physical environmental indexes and iii) green national accounts. These different indexes distinctly favour the theoretical dispute between weak versus strong sustainability (Sri and Prasad 2007). This is a key point to consider when assessing the compatibility between the HDI and some of these indexes. The degree of substitutability between different forms of capital is at the core of the weak versus strong sustainability debate, and it needs to be addressed in the choice of variables. Some authors only see the link between the HDI and sustainability through national income (Sagar and Najam 1998), but more recent Human Development Reports (e.g., in 2011) have fully explored the multidimensional impacts of the environment on human development.

Table 2 summarizes the main composite indexes and their characteristics. All of these indexes are to a certain extent 'plural' but push for full commensurability of their different dimensions, failing Sen's criterion for comparative analysis. In addition, these indexes are mostly reactive and don't allow much reasoned scrutiny in their formulation.

Table 2. Some sustainability composite indexes

Composite index	Characteristics	Adequacy from a capability perspective
The Happy Planet Index by the New Economics Foundation	It uses three dimensions: 'experienced well-being' (from the Gallup World Poll), 'life expectancy' and 'ecological footprint' (from the World Wildlife Foundation).	It works with different informational spaces but it forces welfarism/commensurability.
Index of Economic Well-being by Osberg and Sharpe 2002	It addresses consumption, sustainable accumulation, inequalities, social risk and carbon dioxide emissions.	It follows a utilitarian framework without much consideration for a motivationally rich analysis.
Environmental Sustainability Index and Environmental Performance Index by Yale and Columbia universities	Focused on the state of the environmental system, the two indexes have, respectively, 76 and 16 indicators for more data-driven environmental analysis.	Too many variables make reasoned scrutiny very difficult, but they could be subject to a comparative analysis on the lines proposed by Sen.
Barometer of Sustainability by Prescott-Allen (2001)	Human well-being and ecosystem indicators are combined within a two-axes scale.	It is a macro index, not allowing much scope for discussions about motives, following Nussbaum, but it communicates very well.

Among the physical indexes, the most prominent of all is the Ecological Footprint by the World Wildlife Fund, Redefining Progress and the Global Footprint Network. The annual Living Planet Report produces indexes of biocapacity and ecological debt. The rationale behind these indexes is a contraposition between the categories of supply and demand, and the resulting gaps (calculations based on areas of productive land in global hectares per person). From a capability perspective, the index does not say much about people's freedoms and distributive issues. The problem is for most poor countries, their footprints are below the world average, but this does not say anything about their needs or basic capabilities. The index follows a single dynamic but is useful as an awareness tool. Following the structure of the Intergovernmental Panel on Climate Change's database, the Millennium Ecosystem Assessment (2005) has compiled a wide range of human and environmental data that offer a framework for analysing the links between environmental resources and some types of capabilities. Key individual environmental indicators, such as water availability (2006 *Human Development Report*) or 'PM10⁹ concentration' can be used to study the links, for instance, between poverty and the environment using cross-section regressions (Comim et al. 2009). Although these indicators cannot be considered human development indicators, they can be part of attempts to use environmental indicators beyond the carbon basis, which seems to be the dominant trend in the Human Development Reports.

Finally, there is a long list of utilitarian sustainability indexes, focused on GDP and economic measures, such as Nordhaus and Tobin's Measure of Economic Welfare or Daly and Cobb's Index of Sustainable Economic Welfare and the Genuine Progress Indicator. The main idea in these indexes is to correct GDP for not taking into account the welfare loss due to environmental degradation (losses are not restricted to those caused by carbon dioxide emissions). Within this tradition, one of the most prominent indexes is the World Bank's Adjusted Net Savings. All these indicators closely follow a utilitarian view and could not stand on their own from a capability perspective. They provide options, however, for considering the impacts of the consumption or depletion of different forms of capital on future GDP prospects. The 2003 *World Development Report* offers a classification of 'extended national accounts' distinguishing between the United Nations' Green Accounts System of Environmental and Economic Accounts, the World Bank's Adjusted Net Savings and the United Kingdom's Genuine Progress Indicators.

Would that mean that we cannot estimate future losses in human development (in particular, its non-income dimensions) due to current unsustainable practices? Not really. The 2011 *Human Development Report* showed how the HDI can be affected by environmental constraints with the use of the International Futures tool (Hughes et al. 2011). Of course, it is easier for GDP measures to take

⁹ Referring to particulate matter in air pollution.

into account estimates of monetary losses due to unsustainable practices because of its welfarist use of full or partial commensurability (Perman et al. 2003). The same task would be much harder from a human development perspective, depending on the considered level of non-commensurability among its main determinants.

An analysis of current sustainability indicators does not show, however, the importance of the issue of ‘discount rates’ for aggregating the well-being of different generations, in which it is assumed that future lives should count for less than current ones. This is not a trivial point (Broome 2004) and has clear links with the relevance that the capability perspective attaches to each person as an end, following Kant and Rawls on people as the kingdom of ends. This perhaps obscure point has been raised by the Stern review (2007) but has been ignored in current debates despite its significance for intertemporal aggregation. It is important to elaborate the issue of the discount rate a bit further.

The discount rate problem, that is, the choice of the rate used to discount the well-being of people in the future, seems to be the tip of the iceberg of a much more complicated ethical issue related to how rational are our attitudes towards the future (Parfit 1984). The debate on ‘temporal neutrality’ is far from being straightforward, and it seems more complex in conjunction with the issue of ‘the non-identify problem’ (whether our moral choices should affect people who will or will not exist) and the general debate about ‘obligations to future people’.

There is no easy way out of these controversies other than by using a set of hypotheses about the general trends of well-being over time and the maintenance of certain standards of living. Hypotheses about ‘intergenerational reciprocity’ might be even more difficult to justify. Moreover, time scales used for estimating discount rates can conflict, such as when choices are limited by electoral cycles (Gordon 1996).

The procedures seem simpler when one is assessing the trade-offs between the flows of specific services provided by a natural resource vis-à-vis the value of the natural resource as a stock. As Fisher and Hanemann (1997, p. 510) discuss in the case of valuation of tropical forests, conservationists and environmentalists advocate a low or a zero discount rate because it seems to favour resource conservation, whereas supporters of economic growth will argue for positive and higher rates of discount. Indeed, in intertemporal welfare economics, discount rates are important as a means for guaranteeing intertemporal optimality and efficiency.

Ultimately, it seems, even in a cost-benefit analysis, as noted by Stiglitz (1994, p. 155) that, “The decision on the appropriate rate of discount thus will inevitably entail judgments.” Mulgan (2014) lists the following ‘three puzzles of aggregation’, namely, the total view (with Parfit’s critique), the average view and the lexical view, all reflecting distinct levels of tolerance towards discounting future

well-being. It is interesting to note that whereas utilitarian philosophers argue for temporal impartiality, economists seem to gladly work with positive discount rates. The human development perspective seems to be closer to a deontological ethics with regard to the issue of a discount, which would imply not discounting the capabilities of future generations vis-à-vis current ones. This is, however, an issue different from discounting the benefits of different flows of resources.

Taking stock of these three categories of indicators from a capability perspective, it seems that the second category based on physical indicators appears more promising for providing guidance for ‘greening’ the HDI, given that the first category already assembles the data specifying their relations, and the last category limits itself to a utilitarian framework. The route followed by researchers such as De la Vega and Urrutia (2001) or Morse (2003), however, consisting of adding an environmental dimension to the HDI, misses the beauty of finding human-environmental links *inside* each dimension in a much more dynamic way.

COMPREHENSIVE INDICATORS OF HUMAN DEVELOPMENT

To a large extent, many indicators already discussed are comprehensive. But a separate category is necessary to accommodate a new indicator, the Social Progress Index. “The Social Progress Index is the first comprehensive framework for measuring social progress that is independent of GDP, and complementary to it” (Porter et al. 2015, p. 13). The index is built around three dimensions, just as the HDI, but these are broader in character. They comprise ‘basic human needs’ (nutrition, water, shelter and safety), ‘foundations of well-being’ (knowledge, information, health and sustainability) and ‘opportunity’ (personal rights, personal freedom, tolerance and advanced education). The index has many attractive features from a capability perspective. First, it excludes economic indicators. This allows the index to be compared to a resource-based indicator facilitating conversion analyses. Indeed, the motivation for working with the Social Progress Index is to provide a ‘rigorous’ analysis, as its creators claim, between GDP and what they name ‘social development’. From a capability perspective, it is a way of avoiding putting together means and ends of development, as in the ‘old’ Human Poverty Index (1997 *Human Development Report*). Secondly, reinforcing the first feature, the index separates between outcome and input indicators (in order to avoid considering inputs), which seems coherent with Sen’s concept of conversion factors. This is also a very interesting methodological step, although it is unrelated to any motivation closely inspired by the capability perspective. Thirdly, it proposes to offer a more balanced view between developed and developing societies, calling it a ‘holistic measure’ (there is an implicit critique of the HDI that the focus on basic indicators does not raise issues that could be more relevant to developed societies). In fact, the use of a partial order analysis illustrates how the official four HDI country categories are insufficient to discriminate among different nations, in particular among the very high human development countries.

The Social Progress Index has 12 components and 52 distinct indicators, but by grouping these under three dimensions, it seems to be well articulated, avoiding the sense of a lack of structure given by some sustainability indicators. In this sense, it fulfils the criterion of being a ‘vulgar indicator’, as claimed by Mahbub ul Haq. It covers 94 percent of the world’s population (133 countries plus 28 countries with partial data). So, *prima facie*, it offers good coverage (although inferior to that of the HDI). Some of its analyses concerning the role of GDP in promoting human development (or social progress, as the index refers to it) are similar to those offered by the Human Development Reports. In its last dimension, the Social Progress Index enters an area that the HDI has not been able to enter sustainably, namely, that of political and civil liberties (the early critiques of Dasgupta 1990, Desai 1991 and Kelley 1991 are telling). More recent attempts, such as the Economic and Social Rights Fulfilment Index (rights to education, food, health, housing and decent work) by Fukuda-Parr et al. (2008) illustrate the relevance of this old debate about the links between the HDI, and political and civil freedoms. The Social Progress Index respects some of the criteria put forward above from a capability perspective, such as plurality and reasoned scrutiny. As with most of the alternatives, however, it pushes for completeness and offers a full ranking of countries without taking into account their non-commensurabilities. On the same lines, the OECD’s Global Project on Measuring the Progress of Societies (different from the Better Life Index launched in 2011, see OECD 2013) argues that progress is a political issue and that the choice of indicators belongs to specific societies.

SPECIFIC MEASURES OF HUMAN DEVELOPMENT

The dimensions of health and education are rich in prominent specific alternative measures (such as the United Nations Children’s Fund’s [UNICEF] indicators of child mortality, the World Health Organization’s [WHO] anthropometric measures, the OECD’s Programme for International Student Assessment or the IEA’s Trends in International Mathematics and Science Study). But given that this is outside the mandate of this paper, it is important to focus here on specific measures that are not meant to provide comprehensive indicators and that explore, beyond health and education, other specific dimensions of human development. These measures can be divided into three groups, namely: i) indicators of economic and political freedom, ii) indicators of living conditions and iii) indicators of insecurity. For the sake of simplicity, we display some of these in Table 3. Some interesting documents provide thoughtful consideration about the creation of indicators, such as the United Nations (2008) *Report on Indicators to Measure Violence Against Women*, the United Nations Office of the High Commissioner for Human Rights’ (UNOHCHR 2012) *Human Rights Indicators: a guide to measurement and implementation* or UNICEF’s (2015) *Multiple Indicator Cluster Surveys Report*. These can provide valuable insights in using available indicators, but because they have not produced numerical indicators per se, they are not mentioned in Table 3. On

similar lines, the OECD and the European Union have made a considerable effort to produce new quality of life indicators in the last few decades, but some of them cover a very limited group of countries.

In a special category would be the OECD's time-use and leisure indicators (OECD 2009). These can be very useful in thinking about 'functionings' and 'capabilities', and the inequalities hidden behind them, but they are not explored here given the limited coverage of countries.

Table 3. Specific measures of human development

Indicator	Characteristics	Adequacy from a capability perspective
The Polity Score (last IV moving to V)	It classifies political regimes on a 21-point scale according to their level of authority, going from hereditary monarchy to full democracies; it focuses on six component measures related to constraints on executive authority, executive recruitment, political competition and the institutionalized qualities of government authority.	The debate about the degree of fairness in constitutional principles started by Rawls has continued with Nussbaum, and could suggest a closer attention to the functioning of political regimes. Nussbaum's lists of capabilities are meant to guide the elaboration of constitutional principles.
State Fragility Index by the Centre of Systemic Peace	The index compiles 15 variables ranging from an effectiveness score to a legitimacy score, from security legitimacy to political legitimacy and social legitimacy. It covers 167 countries.	There are aggregation issues in compiling statistics that might be generated by the same phenomena, but the use of an intersection of partial rankings, following Sen, could be informative to examine some legitimacy issues, mostly in developing countries.
Freedom House Index	The countries are classified into 'free', 'partly free' and 'not free' according to their classification as an electoral democracy, people's political rights and other civil liberties. The last edition included 195 countries.	The index seems to be strongly influenced by some political views and could raise some issues regarding the influence of its political bias on the classification of countries.
Heritage Foundation's Index of Economic Freedom	The index focuses on the 'rule of law', 'government size', 'regulatory efficiency' and 'market openness'. It covers variables such as 'freedom from corruption' and 'investment freedom'.	As with similar indexes, it brings such a strong political orientation to classifying and aggregating some variables that it is not pluralist, or pluralist in a very weak sense. Some of these variables have interesting potential, however, for a partial ranking exercise.
Cato Institute's Human Freedom Index	This complex composite index brings together statistics about the rule of law, security and safety, movement, religion, association (including	This index somehow brings back the discussion between 'positive' versus 'negative' freedoms, and the need for a correct balance. The index provides

	autonomy of organizations), expression and relationships. All these variables are grouped into two dimensions, namely, 'personal freedom' and 'economic freedom'.	interesting variables that could be considered in exploring personal dimensions of freedom.
WHO, United Nations Office on Drugs and Crime (UNODC) and UNDP Indicators on Violence Prevention	Produced for 133 countries, it includes qualitative data on violence laws (youth violence, elder abuse, rape in marriage, child maltreatment) and services for victims.	It tackles a series of human development issues raised by the capabilities approach, and despite the binary nature of its variables, it could provide evidence about the general state of law regarding violence prevention in these countries
Charities Aid Foundation World Giving Index	The indicator is built from answers to questions related to 'helping a stranger', 'donating money' and 'volunteering time to an organization'. It includes data from 145 countries.	The indicator provides a proxy for 'moral sentiments' conducive to cooperative behaviour for Sen, or evidence of the role of emotions for building more human societies for Nussbaum.
International Labour Organization's Decent Work Indicators	These indicators include statistics about employment opportunities; adequate earnings; productive work; decent working time; possibility of combining work, family and personal life; child labour and other types of work that should be abolished; stability and security of work; treatment in employment and equal opportunity; a safe work environment; social security; social dialogue; and worker's and employer's representation.	Income is not only important for its earning capacity, but as a set of functionings and capabilities involved in the processes of earning (and then spending) the income. Some of these indicators are not simply resources related to earning capacity, but are about the workplace, as mentioned by Nussbaum.

These different groups of indexes illustrate distinct normative and value-based categories used to build indicators relevant to human development. But before offering any suggestions or conclusions about how these alternative indicators could provide lessons for rethinking the HDI, it is important to critically revisit the objective of this paper.

Suggestions for rethinking the HDI

One possible way of assessing the various measures of human development apart from the HDI, from a capabilities perspective, would be to follow the methodology of Ranis et al. (2006). This paper has not followed this route because it considers the methodology (ibid.) inadequate on several grounds. First, the methodology is based on the assumption that adding more dimensions to the HDI

would make the index a 'broader' concept. But this is not necessary true. Amartya Sen often refers in his talks about the HDI to the phone conversation that he had with his friend Mahbub ul Haq who asked him to join a project in which they would both create a 'vulgar' development index, easily understood by the population, prone to be mentioned in headlines. The fact that composite indicators have trade-offs between focus and extension is not normally appreciated by academics who are willing to sacrifice communicability for comprehensiveness. This means that the exercise of the 'expansion of HDI dimensions' should not be taken for granted.

A second problem with the Ranis et al. route is that it uses a roadmap for 'human flourishing' based on only six academic references, not only oversimplifying some categories, but also mostly ignoring the vibrant world of indicators where the HDI plays a significant role but is not 'the only show in town'. More importantly, they propose a top-down exercise, totally ignoring Sen's emphasis on processes.

A third problem, related to the second, is that this route uses the capability perspective only modestly, to say the least. After repeating the human development mantra that 'human development is a process of enlarging people's choices', it is very economical in using concepts or evidence generated by the capability literature. In fact, it makes no distinction between the basic needs perspective and the capability perspective provided that it generates interesting indicators. The method is clever and ingenious, but it does not follow the capability perspective because it is top-down and builds its normative anchors on academic references only. Indeed, the authors don't distinguish between different informational spaces (only between different dimensions, which is not the same thing). They also don't differentiate between 'liberty' and 'freedom', where some choice or control is involved, according to Sen.

A fourth problem is that their 'rules of procedure' are contingent and arbitrary in the proposed classification. Because variables are selected according to their degree of correlation, without a supporting conceptual foundation, they could be discarded today, given the evidence that we have, and be accepted tomorrow if the figures, for any reason that we don't control, turn this correlation statistically significant in the near future. For instance, in the community well-being indicators, variables as loosely linked as 'alcohol', 'corruption', 'civic work' and 'orphans' (among many others) are put together without a proper conceptual discussion, and are arranged only as a result of their statistical correlation and belonging to a certain broad dimension. One can understand and sympathize with the 'commensurability-reduction technique' provided by the authors, but it leaves unanswered many important issues concerning the origin and the purpose of the HDI as a capability index. Not to mention the 'attribution problems' involved in the use of correlations that are so important in avoiding selection biases in impact evaluation exercises.

It seems paradoxical that in order to ‘broadly define’ the HDI, the authors have chosen a very ‘narrow view’ of seeing this process just as a question of *adding dimensions*, when other important issues related to the application of the capability perspective should be considered. Given this perspective, can anything concrete be suggested from what has been discussed in this paper? Seven suggestions are as follows.

1. Following Sen’s capability and social choice approach, the HDI should not be limited to its current emphasis on ‘culmination’ outcomes, but should include processes in a separate item or category, or different sorts of process indicators in such a way that $HDI_{process} + HDI_{culmination} = HDI_{comprehensive}$. But how would that work? A ‘process HDI’ should mirror Sen’s agreement with Rawls on the need for *procedural fairness* in assessing people’s human development (Sen 2009, p. 64). As such, it can be based on what Sen called ‘instrumental freedoms’, including political freedoms, economic facilities, social opportunities, transparency guarantees and protective security (1999, pp. 38-40). The key analytical point here is that instrumental freedoms, as procedural fairness, contribute to the general capability of individuals to live more freely, but they are not per se capabilities once they focus on the processes that do or do not promote these capabilities. Other aspects could be considered in thinking about procedural fairness, such as the operations of courts of law and labour conditions in different countries.

In addition, the way that the HDI rankings are presented could be fine-tuned not only with the use of complete rankings, but also with partial rankings (Sen 1982, 1970b [p. 209], 1992), intersection of shared rankings (Sen 1997 [1973], pp. 72-73), lexicographic rankings (Rawls 1971, p. 43) and meta-rankings (Sen 1982 [1977], 1996). To avoid doing these calculations manually, one might wish to use software such as Pyhasse¹⁰ (Bruggemann and Patil 2011). This way forward would be more consistent with Sen’s capability and social choice approach.

The striking feature in the use of these rankings is the acknowledgement of the existing incomparabilities among countries’ human development variables. Indeed, the levels of incomparabilities shown by the use of partial rankings (and their intersections) seem to be higher than the ones suggested by the usual HDI classification of countries into four groups. In a simple exercise carried out only for the top 100 countries in the 2015 HDI, using POSETs (partial order sets), the evidence suggests that nine levels (rather than four) would be needed to take into account the incommensurabilities among these countries (only for the usual HDI variables). Using an attribute-related sensitivity analysis, it is possible to see that the importance of the health dimension increases as we move down the HDI ranking.

¹⁰ For instructions about how to use the online demo and the virtual machine, please go to <http://pyhasse.org/docs>.

Broadening the HDI to include other informational spaces seems to suggest that its ranking is very sensitive to procedural variables related to human rights and social security entitlements. In the 2015 HDI, using only the three HDI sub-indices, we would not be able to distinguish different human development levels, for instance, among Australia, Denmark, Germany, Iceland, Italy, Japan, Liechtenstein, Luxemburg, Netherlands, Norway, Singapore, Switzerland and the United States of America. More variables would be needed.

A simple ranking intersection among the top 20 countries in three classes of indicators discussed above, namely, the 2016 Social Progress Index, the 2016 Ranking of Happiness and the 2015 HDI (Table 4) might illustrate some of the difficulties in claiming complete orderings in classifying countries according to their progress, happiness or development.

Table 4. Ranking the top 20 countries in three classes of indicators

Ranking	2016 Social Progress Index	2016 Ranking of Happiness	2015 HDI
1 st	Finland	Denmark	Norway
2 nd	Canada	Switzerland	Australia
3 rd	Denmark	Iceland	Switzerland
4 th	Australia	Norway	Denmark
5 th	Switzerland	Finland	Netherlands
6 th	Sweden	Canada	Germany
7 th	Norway	Netherlands	Ireland
8 th	Netherlands	New Zealand	United States
9 th	United Kingdom	Australia	Canada
10 th	Iceland	Sweden	New Zealand
11 th	New Zealand	Israel	Singapore
12 th	Ireland	Austria	Hong Kong
13 th	Austria	United States	Liechtenstein
14 th	Japan	Costa Rica	Sweden/United Kingdom
15 th	Germany	Puerto Rico	
16 th	Belgium	Germany	Iceland
17 th	Spain	Brazil	Korea
18 th	France	Belgium	Israel
19 th	United States	Ireland	Luxemburg
20 th	Slovenia	Luxemburg	Japan

Source: The 2016 *Social Progress Index Report*, the 2016 *Happiness Report* and the 2015 *Human Development Report*. Countries without colours did not appear in the other lists.

Using a simple code of colours, it is possible to see that the correspondence of rankings is far from perfect. There are a few cases of first-order dominance and a wide range of non-commensurabilities between rankings. Some are marginal (e.g., the cases of Australia versus Denmark or Canada versus Switzerland). Others are more pronounced, as in the case of countries

that don't appear in the other top rankings, such as Costa Rica, Singapore and Spain, among others. At the same time, using an intersection between these different rankings, it is possible to see how Canada, Denmark, Norway, Netherlands and Switzerland are always above New Zealand, and how the last in turn is well above countries that appear only once in the lists. Thus, the use of incomplete rankings can illuminate how different criteria can constitute what we understand by development, and how different rankings may capture similar or different aspects of development.

2. Because the current HDI has been shaped by Sen and Haq's work (following the North South Roundtables), it has not reflected the distinctive contribution that Nussbaum offers to human development. A 'capabilities approach HDI' would tackle a different range of issues focused on what happens in schools, workplaces, public spaces, governments, etc. In addition, it would focus on intertemporal issues, would reject the public-private distinction and would propose motivationally rich scenarios with proactive politics, among other characteristics of Nussbaum's approach.

3. Should the capability perspective work with broader informational spaces, it must include rights, resources and subjective information. In other words, a capability index (based on the capability perspective) should be plural, and for this reason, it should not confuse 'approach' with 'spaces'. An analytical structure composed of these four informational spaces (capabilities, resources, rights and subjective well-being) makes more sense from a capability perspective. It naturally focuses on different aspects of a single issue, but it is in the confrontation of the evidence and the provocation of reasoned scrutiny that a capability index can add more value. Questions such as: If our GDP is so high, why are all basic capabilities so low? Or if our capabilities are so high, why are we unhappy? Or how can we feel happy when some rights are violated? are all interesting from a human development perspective.

4. From the sustainability literature, it is clear that we should not confuse stocks with flows, and that in order to compare things over time, we need to face ethically problematic issues such as the proper discount rate. A 'green' HDI is different from a 'sustainable' HDI, and faces two different kinds of issues. For a 'green' HDI, environmental variables that affect human development dimensions should be formally related to them. The addition of a fourth 'environmental dimension' seems very artificial (in particular if only based on emissions) and unconvincing because the whole point is the relation between the environmental and human factors in each of the HDI dimensions. A wide range of environmental data from available composite indicators can be used, and organized following the Millennium Ecosystem Assessment analytical structure.

5. The HDI should avoid the mistakes of goals-based indicators, such as the MDGs and the SDGs, putting forward too many variables that are not related in any obvious way, and that can generate a minimalist agenda and an 'incentive-structure' for ticking the boxes, ignoring the more complex aspect of the goals. Being able to set goals is not a bad exercise per se, and it can encourage

the implementation of necessary policies within an integrated approach. But it should avoid fragmentation, as happened with the MDGs.

6. It can be assumed that the main objective of human development indicators, from a capability perspective, is to make people reason (the so called ‘reasoned scrutiny’). But paradoxically, its results are only loosely of interest to the general public because they are not connected to their daily affairs (the closest would be the GNPpc). In fact, the HDI seems to be more targeted to government officials than to the general public. But what if the use of the HDI followed a different strategy in which people were responsible for choosing their HDI, and if they could rank their HDI together with people with similar evaluative concerns? What if the way of using the HDI changed?

7. The final suggestion is that much needs to be learned from the booming of subjective well-being indicators. Their appeal seems to come from their proximity to people’s daily lives and from their relative simplicity (resulting from the aggregation of a big number of variables into relatively few dimensions). It would be odd if the HDI decides to move in the opposite direction when other indicators are following the HDI virtue of simplicity. The evidence from subjective well-being indicators and their popularity suggests that the HDI should remain as simple as possible, perhaps exploring new composite indicators within the HDI family, but keeping its origins and virtues.

This paper was written on the understanding that the HDI has not lived up to the standards put forward by the capability perspective in its two main streams, but that there are feasible ways to move forward with the capability agenda. Increasing the number of HDI dimensions does not seem the most promising way of doing so. Changing the ways information is gathered and analysed seems more effective. The best way of moving beyond the HDI is moving back to its capability origins.

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