Implicit Assumptions when Measuring in Economics: The Human Development Index (HDI) as a Case Study[1]

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Revista Cultura Económica
Año XXVIII • Nº 79
Diciembre 2010: 33-42

1. Introduction

An ancient desire of human beings has been to manage the future by fixing ends and means and calculating the best allocation of the later into the former. The earliest testimony of this ambition is expressed in Plato's dialogue *Protagoras*. He looks for a procedure of choice that would save us from the contingency of "luck". Aristotle then realized that uses and routines are means that help to consolidate a predictable tendency (see, e.g., *Nicomachean Ethics* VII, 10, 1152a 26-7). Social pressure, laws and organizations produce predictable behaviours. All these means are usually considered or gathered under the label of "institutions" in a broad sense.

The alignment of ends qualitatively different is facilitated by the reduction of the different qualities involved in common quantity. Numbers are homogeneous and practical. Expressing realities in numbers facilitates decisions. How could we reduce choice about qualitative features to a quantitative calculation? This is the question raised by Plato. He asked: what science will save us from the unpredictable contingency? and he answered: "the science of measurement" (Protagoras, 356e). Human beings strive for security and measurement helps to get it. Institutions apply standards, proceedings and measurement devices. Once the crucial step of practical[2] definitions is advanced, institutions establish technical processes to achieve them.

Within these technical tools, index numbers provide an easy homogeneous representation of multiple factors. This homogenization has, however, its limits. There is a trade-off between the realism of considering human heterogeneity and the feasibility of managing human affairs. Although the reduction of qualitative concepts to quantitative measures cannot be done in any way and the representations will always be imperfect, we need them. A number may conceal complex realities but it is useful.

Then, when doing these reductions to numbers, we must recall that ends are heterogeneous and entail values that can only temporarily be hidden. As Sen (1999: 80) contends, "the implicit values have to be made more explicit." Quantitative reasoning is not enough: Sen also stresses the need of using practical reason to scrutinize the ends we are going to look for (2002: 39, 46).

Ends –capabilities, in Sen's words– are the causes of human and social actions. Institutions, Sen recently wrote (2009: xii), "can contribute directly to the lives that people are able to lead in accordance with what they have reason to value." Nobody wants to act in order to attain a set of ends that has not been chosen by him/her. Nobody wants to be an automaton. Every person should participate in a reasoned definition of goals; or at least should be informed about them and should be free of adhering or not.

We believe that economics needs to reinsert theoretical and practical reason into its field. An exclusively technical approach leads to a partial analysis that is far from being relevant

and from expressing real phenomena without distorting it. The HDI is a good example of what we are discussing. In the HDI we need to define concepts, to discover or decide causes=capabilities=ends and their rules of combination, and to technically combine these elements. Repeating Keynes (1973: 296), "Economics is a science of thinking in terms of models joined to the art of choosing the models which are relevant to the contemporary world (…) *Progress* in economics consists almost entirely in a progressive improvement in the choice of models."

2. History and description of the HDI

In 1990, the United Nations Development Program (UNDP) published its first annual *Human Development Report* (*HDR*) introducing the HDI. This Index was inspired in Sen's capabilities approach (CA), which emphasizes the importance of ends (capabilities) over means (e.g., income). The HDI adopted some *measurands* for three specific capabilities: health, education, and a decent standard of life. The *measurands* are respectively life expectancy, literacy and school enrollment, and income. They are combined into the Index to evaluate the level of human development defined in this way among countries or to monitor them over time. HDI provides a better alternative than evaluating a country's development in terms of its per capita national income. HDI's project leader Mahbub ul Haq intended to define with it a new concept of well-being and to make available measures of well-being based on that conception. Sen, who was one of the principal consultants on *HDR 1990*, at first did not see the point of a crude composite index like the HDI. Haq instead maintained: "We need a measure of the same level of vulgarity as GNP –just one number– but a measure that is not as blind to social aspects of human lives as GNP is" (UNDP, 1999: 23). More recently Sen (2009: 226) has affirmed:

The motivations behind the 'human development approach', pioneered by Mahbub ul Haq, a visionary economist from Pakistan who died in 1998 (whom I had the privilege to have as a close friend from our students days), is to move from the means-based perspective of the gross national product (GNP) to concentrating, to the extent that the available international data would permit, on aspects of human lives themselves.

The HDI specification is the following:

$$(1) H - Index_i = \frac{LE_i - 25 years}{85 years - 25 years}$$

$$(2) LIT - Index_i = \frac{LIT_i - 0\%}{100\% - 0\%}$$

$$(3) ENR - Index_i = \frac{ENR_i - 0\%}{100\% - 0\%}$$

$$(4) E - Index_i = \tfrac{2}{3}(LIT - Index_i) + \tfrac{1}{3}(ENR - Index_i)$$

$$(5) Y - Index_i = \frac{\ln(Y_i) - \ln(\$100)}{\ln(\$40{,}000) - \ln(\$100)}$$

$$(6) HDI_i = (H - Index_i + E - Index_i + Y - Index_i)/3$$

It is an Index composed by three factors equally weighted, i.e., life expectancy (LE), a mix of literacy (LIT) and school enrolment (ENR), and Income (Y) with extreme values defined. As mentioned, these *measurands* are supposed to represent Health (H), Education (E) and Standard of life (Y). The HDI has evolved over the years trying to improve its quality and capacity of representation of real human development. This refinement stems from the need to answer different external criticisms to the index and as the own initiative of the UNDP of improving it. In the next Section we will note some problems related to the work of the index numbers and of the HDI.[3]

3. Difficulties of index numbers and of the HDI in particular

Practical knowledge is inexact because it does not deal with necessary facts which always occur in the same way, but with general facts, which occur most times in the same way, but not necessarily always. Given that, by definition, statistics deal with general facts, it is clear that its conclusions are inexact (in this sense of the term 'inexact'). This does not indicate a weakness of statistics but rather reflects the nature of its subject-matter. We might express this saying that statistics is not

guilty of this weakness. An adult literacy of 85% means that 85 out of 100 adults know how to read and write, and 15 do not know. That is, 85% applies to the whole, not to the particular individuals. In fact, the correct policy is not to improve 15% the literacy of all the people, but to look for the 15% illiterate and to teach them. This figure (85%) is, however, true about the whole and highly useful. The statistician leaves aside the contingency of the particular case and, at the same time, he considers it. The German philosopher Wolfgang Wieland (1996: 133), referring to statistical regularities warns: "these regularities apply to the wholes excluding an immediate application to their individual components." As Keynes affirms in his *Treatise on Probability*, "probability begins and ends in probability" (1921: 356). Then he explains "This is due to the fact that a statistical induction is not really about the particular instance at all, but has its subject, about which it generalizes, a series" (1921: 411). This does not mean that statistics is not useful for science. Let us hear again from Keynes: "Although nature has her habits, due to the recurrence of causes, they are general, not invariable. Yet empirical calculation, although it is inexact, may be adequate in affairs of practice" (1921: 368). Statistics help to detect the problem but further more specific analyses are needed in order to solve it. This is a first quite obvious caution that we have to take into account when dealing with statistics.

We then have the problem of the different scales. In short, the different natures of the things measured calls for specific ways of measuring them.

- First, quantitative realities as length, weight, velocity, sales, can be measured by cardinal numbers by defining a standard unit: meter, kg, km/h, and units or money.
- Second, the evolution of these quantitative realities can be measured by a ratio between the values compared: as, for example, the evolution of the price level. We may define a standard value deciding a base period –e.g., the price level of 1960=100– and thus, transform the ratio into a cardinal scale. However, the resulting numbers only make sense with reference to that basis.
- Third, we can establish an ordinal scale of qualitative realities. This scale constitutes a way of comparing the qualities, not of commensuration: a picture is nicer than other. However, we can establish indirect measures of some qualitative things, for example, temperature. Strictly speaking we are assigning a number by defining a standard to, e.g., the length of the mercury column: this is an indirect though useful representation of temperature and its changes. We can also rank the beauty of pictures or the happiness of nations, for example, doing surveys and assigning numbers to the answers of people or supposing, for example, that the price of the last sale of the picture is representative of its beauty. This is evidently imperfect, but might also be useful.
- There are, finally, other realities that cannot be put in an order of greater or lower, as for example, things such as gender, ethnicity or marital status (see Boumans and Davis, 2009:152), and also human capabilities that cannot be ranked.

Given that, as Suppes (2000: 550) affirms, "extensive quantity" –quantity measured cardinally– admits addition, while "intensive quantity" –expressed in ordinal scales– does not admit addition, we need to transform ordinal scales into cardinal scales in order to have an operative tool. However, this reduction supposes to accept –and remember—the above mentioned limitations.

Specifically when dealing with index numbers other limitations appear, originated by heterogeneous variables. Different values of variables of different categories are transformed into a dimensionless index to obtain a ranking. We calculate the ratio among the values assigned to each category and extreme values of them, and then we calculate the average of the obtained ratios. What is incommensurable is made commensurable by adopting a conventional standard unit for each incommensurable variable, calculating the value of the variables according to these units, and adding a weighted proportion of the values of all the variables (Boumans, 2001: 326 and Morgan, 2001: 240). This means that we are accepting *inter alia* the assignment of weights for each variable indicated in the index number formula. This is a key for this conflation. The weight must be the "due" weight (Morgan, 2001: 240). This is

not easy when the categories to weight are qualitatively different (see Banzhaf, 2001). We are all conscious that little changes in the composition of the index might drastically change the ranking results. This capacity to handle index numbers might become a manipulation. The way of avoiding it is to clearly show the decisions taken, together with their arguments. We think that this clearly shows how the technical aspects are intermingled with judgmental practical aspects: beliefs and values affect technical decisions. Allen (1951: 100ff.) considers technical problems concerning the choice of items, the choice of formula and the choice of base periods. However, these technical problems also involve values. Morgenstern, for example, after expressing his concern about the accuracy of data, considers technical problems, but he also recognizes "that we are here confronted with a political as well as an economic problem" (1963: 192).

As explained by Sen (2009: 240), capabilities are incommensurable and all have the same relevance. However, we can obtain an ordinal ranking by comparison of incommensurable categories.[4] We cannot commensurate income, longevity and literacy because they are measured by different measurement units. We can only compare and rank them for a specific situation, and say, for instance, that for this country today it is more relevant to increase its income than to put effort on education. These are practical judgments involving beliefs about priorities of values. There is no way of organizing these judgments without values. What is the meaning of the index number comprising these three dimensions? The index number decides a unique rank stemming from a comparison, makes it legitimate for any country, time and situation; then it decides *measurands* of the dimensions and assigns extreme numerical values to them in order to construct a ratio scale of each dimension; finally it adds the resulting numerical values weighted. In the case of the HDI one third is assigned to each variable. We are applying ratios to ordinal categories and adding their weighted numerical values (see Boumans and Davis, 2009: 152; Finkelstein, 1982: 19). We need to bear in mind that the result is based on a convention. Anand and Sen (1994: 2) recognize that there is a loss of information when using an aggregate number (a "scalar") for a set of numbers representing individual circumstances (a "vector"). In the same vein they (2000) affirm that the domain of the Human Development Report is much wider than what is captured by the HDI. As the first HD Report affirms, "The index is an approximation for capturing the many dimensions of human choices. It also carries some of the same shortcomings as income measures" (UNDP 1990: 1). This is also affirmed by Sen who speaks of the HDI as a "measure with the same level of crudeness as the GNP" (1999: 318, nt. 41).

There is another risk to proceed this way, as noted by Ludwik Finkelstein (1982: 11): "once a scale of measurement is established for a quality, the concept of the quality is altered to coincide to the scale of measurement." That is, for example, that we come to think that development consists in a combination of longevity, literacy and income, which is a poor concept of development.

Another problem with the HDI is that it considers averages, not distributions,[5] thus concealing possible internal differences. To disregard internal inequalities is a strong evaluative position. Anand and Sen consider this criticism but they also contend (1994: 2) that "a distribution-sensitive scalar measure would continue to involve some loss of information, since there is no way of capturing the entire wealth of knowledge embedded in a set of numbers in one real number."

Further problems of the index numbers are technical and also about the accuracy and homogeneity of data. The need of simplicity may go against realism. However, we cannot discard index numbers for these reasons –as much as we remember that technical decisions might have impact over practical aspects: technical problems could be overcome.

We must accept that measurement always imply reductions. Boumans (2001) explains Irving Fisher's account of Index Numbers and their inconsistencies, as described by Ragnar Frisch, Abraham Wald and Wolfgang Eichhorn. However, as also Boumans (2001: 336) remarks, the strength of Fisher's account is not based on his stress on theory but on the pragmatic usefulness of this tool; in addition, Fisher avowed that it is an imperfect tool. We do not look for a full axiomatic consistency, but

for the best balance between theoretical and empirical requirements (2001: 316), for the best possible approximation. The assessment of the satisfactoriness of this approximation goes beyond mathematical consistency (2001: 341). It is a question of reasonable consensus.

Then, index numbers are tools for measurement as well as for pragmatic aims. Let us recall Plato's thinking about the usefulness of measurement for practical purposes. The definition of the practical purpose is obviously not valueless. As remarked, the limitations of the HDI have been well recognized and the index defended on practical grounds. Regardless all its limitations, the HDI is a worthy task. This is very well expressed by Paul Streeten (1994: 235):

> It is clear that the concept of human development is much deeper and richer than what can be caught in *any* index or set of indicators. This is also true of other indicators. But, it might be asked, why try to catch a vector in a single number? Yet, such indexes are useful in focusing attention and simplifying the problem. They have a stronger impact on the mind and draw public attention more powerfully than a long list of many indicators combined with a qualitative discussion. They are eye-catching.

Sakiko Fukuda-Parr, who was the Director of the Human Development Report Office between 1995 and 2006, is more skeptical. She thinks that the absence of indicators of freedom leads to misperceiving development as equivalent to social development plus economic growth: "the human development concept has been trapped inside its reduced measure" (2003: 307). Summing up, the HDI has to be taken as no more than an orientation, has to be handled with care, and refined through technical improvements and theoretical and practical reason. The policy maker should go beyond the simple index and analyze its components in order to detect the fields needing improvement.

4. Theoretical definitions and practical decisions in the HDI

In our opinion, the HDI supposes some theoretical definitions and practical decisions that should be more explicit or argued in order to improve the quality of the Index and for the sake of a "fairer play". We want to clarify from the onset that we do not want to affirm that theoretical and practical aspects were not sufficiently studied by the builders of the Index. What we intend to say is only that these studies have not been sufficiently put on record in the different documents related to the HDI, i.e. the *HDRs*.

The first practical decision involved in the construction of the HDI is the selection of the capabilities –education, health and a decent standard of life– and the corresponding measurable variables: life expectancy, literacy and income (this last as a proxy of the other capabilities). It sounds like a reasonable decision but the argument for this decision is not developed in the *Human Development Reports*. References to this decision appear in the first *HDR*:

> Human development is a process of enlarging people's choices. The most critical of these wide-ranging choices are to live a long and healthy life, to be educated and to have access to resources needed for a *decent* standard of living. Additional choices include political freedom, guaranteed human rights and personal self-respect (UNDP, 1990: 1, 10).
>
> People are the real wealth of a nation. The basic objective of development is to create an enabling environment for people to enjoy long, healthy and creative lives. This may appear to be a *simple truth*. But it is often forgotten in the immediate concern with the accumulation of commodities and financial wealth (UNDP, 1990: 9, our italics in the three quotations).

As it says, the definition of these goals appears as a *simple truth*; but it is not trivial, it has to be argued. The Report also affirms that those choices are *essential* at all levels of development and that income should permit

a *decent* standard of living, if they are not available, many other opportunities remain inaccessible. The 1993 Report (UNDP, 1993: 105) adds:

> The three dimensions of the HDI relate to one or many capabilities that they are expected to capture. Thus, longevity captures the capability of leading a long and healthy life. Educational attainments capture the capability of acquiring knowledge, communicating and participating in the life of the community. Access to resources needed for a decent standard of living captures the capability of leading a healthy life, guaranteeing physical and social mobility, communicating and participating in the life of the community (including consumption).

That is, life expectancy, literacy, enrollment and per capita income are supposed to capture those choices. These are, however, only utterances. We need to look for the underlying reasoning.

Concerning life expectancy, longevity is considered an intrinsic value, and its relation with other goals and characteristics, mentioned in the report, would probably need more development. Concerning knowledge, it is theoretically defined by a practical decision. The *Human Development Report* (UNDP, 1990: 12) contends that literacy is the person's first step in learning and knowledge-building, but it recognizes that other variables should be taken into account (as in fact future reports did adding enrollment). Concerning the third key component of human development, "command over the resources needed for a decent life", it is first recognized that taking per capita income as indicator has strong limitations, because it leaves aside non tradable goods and services and the distorting effects stemming from exchange rates anomalies, tariffs and taxes (UNDP, 1990: 12). The three components chosen (health, education and resources for a decent life) are not the only relevant. However, insofar as more variables are added, they will all decline in significance. Further, "the income component of the HDI has been used as an indirect indicator of some capabilities not well reflected, directly or indirectly, in the measures of longevity and education" (Anand and Sen, 2000: 86; see also pp. 99 and 100).

Additionally, the use of logarithm for the scale of incomes has two effects: firstly, it decreases the weight of the highest incomes; secondly, the average of the logarithm tends to increase when the income is more equally distributed. The first effect entails the decision of lowering the impact of the highest incomes on development (Anand and Sen, 2000: 87). The second effect entails a preference for equality (Anand and Sen, 1994: 3). Although at a first glance the use of logarithms might seem to be only a technical decision, it has practical consequences.

However, the assumption that income is an indirect indicator of other capabilities (rather than health and education) is a strong assumption because it means that income can "buy" these capabilities –which are surely a lot– and that their values are lower than education and life expectancy. For example, it is not clear that there is a necessary correlation between income and democracy. As the first *HDR* recognizes, "there is no automatic link between income growth and human progress" (UNDP, 1990: 10).

The application of logarithm to life expectancy would have been more debatable. Life has an intrinsic value and last years of life cannot be considered as less valuable than others. Anand and Sen (1994: 5), however, also consider that life expectancy can also be thought to be helpful for other objectives, and reducing inequalities may be relevant. In this case, however, the quality of data does not allow for possible improvement of the Index.

Practical reason indicates that a decision about the variables to take into account when building the Index has to be taken. It is difficult to know whether this decision is the best, but as soon as the basis of the specification is "collaborative, visible, defensible, and revisable" (Alkire, 2002: 77), it is justifiable. Then we need to establish a process of decision. If not, we are having an under-illustrated practical decision: a practical decision without practical science.

The second practical decision is to assign an equal weight to the three mentioned variables. It also sounds reasonable but the arguments for this are not presented in the Reports.

The only reference is the utterance that all three of the HDI components are equally important and that thus deserve equal weight (UNDP, 1991: 88). However, for example, people from other cultures might consider that education or income, and even longevity, are not so relevant; and that they value other values – e.g. family links, or religious faith, which cannot be bought– over them. They might consider the Index as expressing the ideals of Enlightenment. That is, we need to consider whether the simplification assumed in erasing cultural specificities could not transform the HDI in an illegitimate tool. In any way, either to take into account these specificities or not are practical decisions which need to be argued.

The decision of assigning two thirds of the specific Index to adult literacy and one third to the combined gross enrollment is also a practical decision. Given that enrollment implies literacy, the assignment of two thirds to adult literacy entails assigning more relevance to the present than to the future. Concerning enrollment, the decision of taking into account with the same weight primary, secondary and tertiary education, supposes also a practical judgment not explained in the Report. Bagolin and Comim (2008: 25) set this point as an example of issues not effectively addressed: higher education has the same weight as fundamental education. It is a practical decision and it would be useful that the arguments behind it would have been made explicit. Besides, the 2009 Report (UNDP, 2009: 205-206) recognizes that combined gross enrollment ratios can hide important differences among countries given differences of quality, of grade repetition and dropout rates. This simplification then has also practical consequences.

The HDI only determines extreme values of the variables, but it does not define a line, analogous to, e.g., the poverty or indigence lines defined by countries. This might be indeed difficult but interesting and would entail a detailed exposition about the way of defining it.

In sum, we need to reason, and explicitly justify the practical decisions made. If values, which inevitably tinge social thinking, are not rationally found and established, we could be accused of falling into an ideological bias. The HDR's first issue explicitly declares that its orientation "is practical and pragmatic (…). Its purpose is neither to preach nor to recommend any particular model of development" (UNDP, 1990: iii). However, the HDR continuously uses "should" and "must" constructions: that is, values are presented and need to be explicitly justified. This justification calls for a definition of concepts and for a decision about values, tasks of theoretical and practical reasons.

5. Main conclusions

Our conclusion is that the HDI entails some theoretical definitions and practical decisions that are not sufficiently explicit or argued in the Reports. A greater specification of these definitions and of the arguments of the practical decisions would constitute an improvement of the quality of the Index. We consider that the HDI is a good model for the intent of measuring human development, but that it should be improved by adding a clear proceeding to decide the practical aspects involved in it.

As the 1993 HDR sustains (UNDP, 1992:104), "the concept of human development is broader than any measure of human development. Thus although the HDI is a constantly evolving measure, it will never perfectly capture human development in its full sense." On this point, Bagolin and Comim (2008: 25) affirm:

> The evolution of the HDI showed a remarkable resilience of this index, keeping its original ideas, dimensions and aggregation procedures, at the same time that it showed great flexibility in incorporating sensible criticism and methodological advancements (as illustrated by the HDI related indexes).

In addition, far from being only a measurement tool, the HDI is above all a normative tool to induce a result. Despite its imperfections, the Index has been defended in terms of its pragmatic usefulness. The HDI works as a motivator of social and economic policy decisions, favoring human development. This was the mentioned argument of Ul Haq and of Paul Streeten. A simple number has

more impact than a long list of indicators combined with qualitative discussions.

The rhetorical strength of this simple way of representing development and of promoting policy adjustments directed towards it, cannot be lost. Thus, the improvement of the HDI should be performed without affecting its attractiveness: the final number should be more and more refined, but it should remain a number. Still, as Bagolin and Comim (2008: 25) remark "much remains unaccounted and that even after all the technical modifications implemented by UNDP, the HDI has not proved to be able to reply to the majority of the criticisms that it has received." However, we think that we should go on the path of continuous adjustments and refinements.

One relevant point of improvement is to obtain a more explicit account of the definition of concepts and practical decisions. What is the place in the formula, leading to the final number to locate this kind of stuff? Models are not only formula but also the surrounding definitions and explanations. We think that the HDI would gain if the corresponding Reports included a Section presenting the definitions and values involved together with the arguments and discussions about them. This Section might make reference to Annexes, background papers and complementary Indexes, Sections already included in the Reports.

The design of the HDI, then, needs a previous work on the definitions and values involved in it. The UNDP should develop rational arguments and propose them. They should be based on strong and widely accepted philosophical bases. The proceeding for the acceptance or rejection of these arguments should be clearly established: who, when and how will intervene in this process (scholars, politicians of different colors and countries, general public?). These proceedings should be stable, or at least the criteria for their change must be stable. This work will lead to the definition of the components of the HDI, their weights, and to make explicit the relation with values of the technical aspects of the index. A widely explicit report of this process should be included in the HDRs. As Sen (1999: 80) contends, "the implicit values have to be made more explicit."

There is a trade-off between the idiosyncratic and individual nature of capabilities and the establishment of a common Index based on common values. That is, there is a trade-off between accuracy and universality-operativeness (see De Langhe, 2009). However, a procedure for reaching an agreement among reasonable people about the values involved and the consequent specification of human development must exist.[6] As Comim affirms, we need to establish "procedures for solving the trade-offs, conflicts and inconsistencies between different options" (2008: 164).

We are conscious of the difficulties that could be involved in this previous work. However, at least we must try to look for a *reasoned* consensus about values. It is not only or always a matter of voting. There are relevant definitions and decisions entailing previous research and development of theory. Given that values are involved, we have to put them on the table; if not, there will always be reasons for criticism and disconformities. After all, if values are not reasoned we will have unreasoned values, because, as showed, they are always present. Sen (2009: 241) recognizes the difficulties involved in this work but he has hope in the possibility of doing it: "The choice and the weighting may sometimes be difficult, but there is no general impossibility here of making reasoned choices over combinations of diverse objects."

Once clearly defined concepts and practical decisions made explicit, we need to define the indirect *measurands* and the technical aspects of the Index. Finally we postulate the corresponding formula. The relation with values of these technical aspects will have been made explicit in the text of the Report.

The annual calculus and publication of the HDI is the last step of the normative model and the first input of the socio-economic machine. This normative model should include all the relevant arguments and information needed to construct a good socio-economic normative machine, i.e. a machine which is the embodiment of the effective work, practical reason in order to attain development in each place and situation. This machine might be different for different countries. Although the reasoned process of defining capabilities and weights might be thorough and lead to rather universal conclusions, the specific culture or situation of country might suggest

another combination of objectives. Besides, a country might try to achieve a greater level of disaggregation and to define additional objectives or details.

The HDRs' Section on definitions and values will help to achieve local re-definitions and to adopt the corresponding measures of social and economic policy.

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[1] The present study was written previous to the publication of the new indexes of Multidimensional Poverty and IHDI (inequality adjusted HDI) of the United Nations in 2010 and 2011, which in fact, include certain elements that we suggest in the present work.

[2] As in the rest of this work, the term "practical" is not used here in the sense of pragmatic but of a prudential reason, decision or action.

[3] For a review of this criticisms, see Stanton (2007: 16-28) and Bagolin and Comim (2008: 17-22).

[4] Scales of measurement in the social and behavioral sciences are nominal or ordinal (Finkelstein 1982: 26).

[5] The United Nations has introduced a new index that includes distributions, and is called inequality adjusted HDI.

[6] Sen (1992: 117) affirms: "It is not unreasonable to think that if we try to take note of all the diversities, we might end up in a total mess of empirical confusion. The demands of practice, as well as reasonable normative commitments, indicate discretion and suggest that we disregard some diversities while concentrating in the more important ones." The task will be to reason and decide which are important and which are not.