Value Judgements in Multidimensional Poverty Indices

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After a slow start in the 1980's and 1990's empirical applications of the capability approach have gained significant momentum in recent years, thanks in large part to technical and methodological advances in the multidimensional measurement of poverty (Alkire & Foster, 2011; Bourguignon & Chakravarty, 1999; Duclos, Shan, & Younger, 2006). As we progress in this direction, we come across an increasing number of normative questions that are inherent to the measurement of welfare concepts. Some of these are specific to multidimensional welfare/poverty, others are common to both multidimensional and unidimensional measures – although often overlooked and/or taken for granted. None of these can be answered through methodological or technical responses alone, and each will require a genuine cross-disciplinary effort, not only to understand the ethical and philosophical implications of different choices regarding functional forms, weights, etc., but also to ensure that the responses we generate are articulated with the tools and language that is useful to economists and other social scientists. For the purpose of the Fell Fund grant that finances this workshop, we identified the following non-exhaustive list of normative issues that would require consideration when constructing multidimensional poverty indices:

1. **Purpose**: What is the poverty measure for? In which space ought it be constructed?
2. **Dimensions**: How should the 'dimensions' of poverty be selected (health, work)
3. **Particular Indicators**: How should particular indicators of poverty be chosen.
4. **Cutoffs**: How to decide 'how much is enough' in each indicator?
5. **Weights**: How to set relative weights on indicators
6. **Procedure**: Who decides normative issues? What is the appropriate role of poor people, governments, and statistical or technical experts?
7. **Plural Criteria**: How should statistical, political, and participatory input be coordinated in measurement design?

The list could be extended to include other normative issues that are crucial in the construction of multidimensional indices of welfare of poverty, including the issue of elasticity of substitution between different dimensions (e.g. lexicographic vs. linear additive), and the issue of inequality sensitivity across the population (Santos & Alkire, 2009) and across dimensions (Seth, 2009; Rippin, 2010), as well as the choice of union vs. intersection or counting approaches. There are also numerous technical choices that have to be made when selecting indicators to measure wellbeing, such as the choice of stock vs. flow indicators, static vs. change indicators, individual vs. household indicators, and adjustments for size and composition of the household (Laderchi, Saith, & Stewart, 2006). Many of these choices will affect the weighting of indicators, their elasticity of substation, and so, and will therefore have normative

consequences that will need to be considered and discussed in the course of the construction of the index.

This literature review aims to help structure a discussion around some of the issues involved in answering those questions. For tractability, we have restricted the scope of this literature review in two ways. First, this literature review focuses primarily on the way that normative issues have been dealt with in the measurement literature to date, not on the underlying philosophical debates and theories on which these normative choices are based. The aim of bringing together this multidisciplinary group of researchers is precisely to help us have a critical and expert look at those choices that are routinely made in the measurement literature, and to help make the necessary linkages to relevant theoretical and philosophical literature that is often missed, but is essential to ensure that these normative choices rest on solid theoretical foundations.

Second, we will assume without further justification that the capability approach provides an adequate overall normative framework for the assessment of these issues. This implies, among other things, that we will consider that the capability space constitutes the appropriate evaluative space in which to carry our assessments of welfare and deprivation, as opposed to the income, commodity, functionings or utility space. This will allow us to focus on the important question of how this approach can be operationalised, without getting pulled into the important but separate question of *whether* this is the right approach to operationalise (for an overview of the current debate on the capability approach vs. Rawlsian and other approaches, see (Brighouse & Robeyns, 2010)).

Finally, we should note that in order to avoid excessive repetition in the exposition of the argument, we have chosen to structure the paper around the underlying normative approaches and decision-making processes involved in constructing wellbeing indices (e.g. rights-based approach vs. participatory approach), rather than around the 7 questions posed in the Fell fund application. The reason for this is that the latter issues often are interlinked in the sense that the choice of cutoff will, for instance, influence the relative weights of different dimensions, and so on, Furthermore, or as a consequence thereof, the normative approaches selected will often apply across several questions, making the repetition of normative arguments redundant. For instance, if one opts for a rights-based approach, this will normally apply across the selection of dimensions, weights and cutoffs.

Table 1 at the end of the paper, will seek to link the technical questions posed in the Fell fund application with the normative approaches around which this paper is structured.

From our reading of the literature of how normative questions have been dealt with to date in the existing literature on multidimensional poverty, in particular, and welfare and poverty measurement, more generally, we see two recurrent themes or concerns that emerge and that seem to determine the responses that various authors propose to bring to these questions, namely:

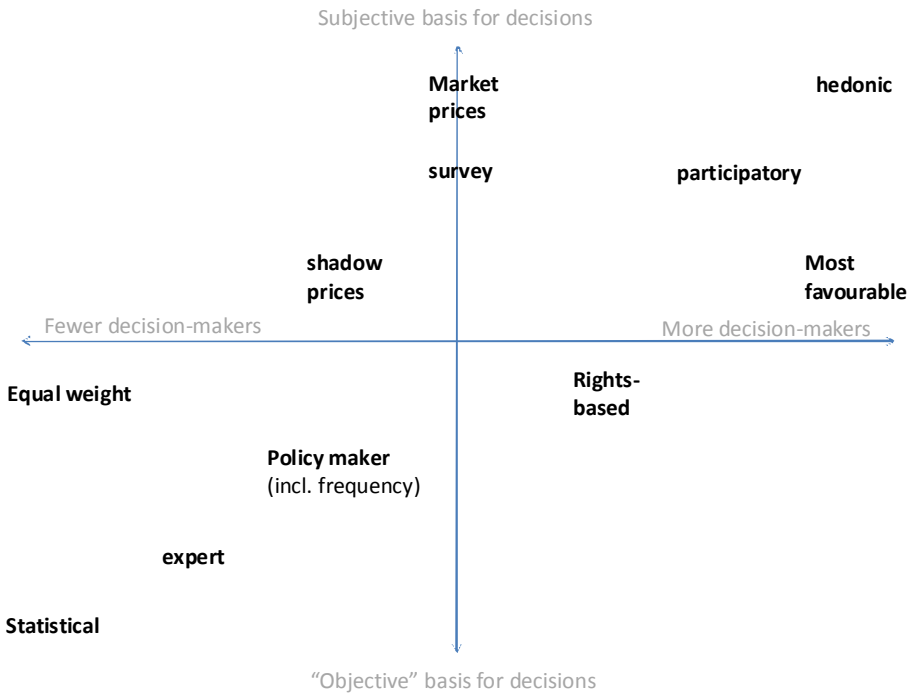
1. Who and how many people make the decision on what is valuable?
2. What is the basis on which decisions are made (e.g. subjective vs. objective criteria)?

Based on this analysis, we develop a taxonomy in Figure 1 below grouping some of the most commonly used techniques for determining weights, dimensions and cutoffs in welfare and poverty indices, depending on the relative importance they give to each of the two concerns listed above. These build on and extend the approaches identified in Alkire (2007) and Lugo and Decancq (2010). The horizontal axis represents the number of decision makers, ranging from no decision makers on the left in the case of arbitrary or statistical selection of weights, to approaches in which each person decides individually on weights and cutoffs. The vertical axis represents the basis for decision-making, with approaches relying on subjective preferences at the top, and approaches seeking to base value judgements on objective criteria at the bottom[1]. Based on these criteria, we will classify existing approaches into the following 5 categories, representing where they find themselves on these two axes:

1. Non-normative approaches, which seek to bypass normative judgements altogether.
2. Approaches deriving normative judgements from individual preferences.
3. Approaches deriving normative judgements from behavioural patterns.
4. Approaches basing normative judgements on the views of qualified decision-makers.
5. Approaches that seek to avoid the pitfalls of paternalism and adaptive preferences associated with the aforementioned approaches.

[1] Note that the objective/subjective dichotomy here refers exclusively to the basis of normative judgments in the assessment of wellbeing, not to the nature of the indicators being used to measure the chosen dimensions of wellbeing. It is therefore fully possible to conceive of an approach that uses an objective basis for selecting between various subjective dimensions of wellbeing (Suh & Diener, 1997, pp. 189-190; Veenhoven, 2007). On the issue of objective vs. subjective indicators of wellbeing see: (Gasper, 2010; Erikson & Uusitalo, 1987; Allardt, 1993).

Figure 1: Normative approaches, by breadth and basis of decision-making



Non-normative approaches

The approaches reviewed in this section share the fact that they seek to avoid or bypass normative judgments involved in the construction of welfare or poverty indices. In most cases, we argue, this will result in the imposition of arbitrary weights, and in all cases it will come at a high cost.

Statistical:

Statistical tools such as principal component analysis (PCA) or factor analysis have long been used in welfare measurement (Cahill & Sanchez, 2001, p. 312; Klasen, 2000; Noorbakhsh, 1998). These are non-normative tools in the sense that their main aim is to uncover statistical regularities in the data and not to estimate underlying preferences or other sources of value.

It is important here to make a distinction between statistical techniques that are used in support of a coherent and explicit normative decision-making process, and those that seek to substitute for such processes. Here, we will take the view that the construction of a multidimensional poverty index (and any welfare or poverty measure) is an inherently normative issue, in which there is no either/or choice between normative and empirical methods. From this perspective, the techniques that attempt to substitute factor analysis or other statistical techniques for public discussion and valuation are plainly wrong. Far from doing away with valuation, as some have claimed (Booysen, 2002), these techniques actually end up imposing arbitrary normative valuations on the resulting measures.

This being said, statistical techniques can play an important role in facilitating the implementation of well-define normative strategies .PCA or factor analysis, for instance, can be a useful tool to represent complex concepts through statistically sound methods that allow, for instance, to combine various indicators in order to capture different aspects of a given dimension of wellbeing[2]. In particular, these techniques can be used to mitigate the problem of redundancy or double counting, which is often associated with multidimensional measures (Ravallion, 2010; Srinivasan, 1994; McGillivray & White, 1993). This is done by constructing new uncorrelated indicators through a linear combination of existing variables. The indicators thus constructed are often interpreted to represent latent functionings or capabilities that are partially captured through various overlapping observable variables[3]. More sophisticated methods of estimating latent variables have also been used, including structural equation models (Krishnakumar, 2007).

Another commonly employed statistical technique seeks to base weights on relative frequencies of deprivations in the population. Again, such techniques can be helpful if subsumed under a broader normative framework aimed at enabling an explicit normative assessment of options. Guio et al. (2009), for instance, justify the use of these techniques on the grounds that "the higher the proportion of people not deprived in a given item, the more likely a person unable to afford this item (but wanting it) is likely to feel deprived (D'Ambrosio, Deutsch, & Silber, 2008). Frequency weighting can also be justified on the grounds that policy-makers with limited resources need to prioritise their interventions on grounds of feasibility (see section on Qualified Decision-Makersbelow).

Equal weights:

Equal weighting of indicators or welfare dimensions is probably the most commonly used weighting system in current applications of multidimensional measures of poverty and welfare. Here we choose to group the equal weighting method together with purely statistical weighting systems, despite the obvious dissimilarities in the techniques employed, because of their shared aspiration to bypass the normative value judgement altogether. Babbie (1995), for instance, has argued that an equal weighting system is attractive in that it avoids the normative controversies related to weighting. As such, it differs from other weighting systems reviewed below in that it does not justify its weights or methodology on procedural or normative grounds based on the identified tradeoffs between self-determination and subjective biases.

Of course, the choice of equal weights can be as strong a normative statement as any other, and potentially as controversial, if for instance, the equal weight are being forced on widely divergent and arguably incomparable dimensions, such as, for instance, child mortality and leisurely activities. Furthermore, as Ravallion (1997, p. 633) noted, the relative importance accorded by an index to its

[2] For critiques of principal component analysis in the definition of weights in multidimensional poverty measures, see Nardo et al. (2005); (Somarriba & Pena, 2009; de Kruijk & Rutten, Weighting dimensions of poverty based on people's priorities: Constructing a composite poverty index for the Maldives, 2007).

[3] Factor analysis and PCA can also be used to validate scales when complex subjective concepts are being assessed through a series of closely related questions, following established psychometric techniques (Slottje, 1991; Ram, 1982).

different composing indicators is determined by much more than the explicitly chosen weights. For instance, the distribution of the different indicators, as well as the functional form of the index, will strongly contribute to determine the way in which the value of the aggregate index changes in response to a change in one of its composing indicators and the marginal rate of substitution between the indicators (Qizilbash, 2004; Santos & Alkire, 2009).

A recent study by Decancq (2011) compared various weighting schemes over a number of pre-selected dimensions with individual's actual preferences over those same dimensions, to assess the degree to which these weighting schemes would violate individual preferences. Interestingly, the study showed that the scheme attributing equal weights to each dimension received the lowest support from respondent, indicating that it did not correspond to individual's actual valuation of those dimensions.

Stochastic Dominance:

Stochastic dominance techniques were originally developed in financial economics to compare the performance of investment portfolios, taking into account the volatility of investments (Fishburn P. C., 1977; Fishburn P. C., 1964). Welfare economists soon noticed the mathematical similarities between the distribution of incomes in society and the probability distribution of investment outcomes and decided to borrow the statistical properties of these techniques (Kolm, 1969; Atkinson, 1970). Atkinson (1987) showed that stochastic dominance techniques can be used to draw robust comparisons on poverty in the presence of disagreements between different poverty indices, as well as differences depending on poverty lines, weights, etc[4]. While the initial applications of stochastic dominance techniques focused on one-dimensional measures of welfare (i.e. monetary measures), researchers soon showed that these techniques could be extended to a two-dimensional setting (Atkinson & Bourguignon, 1982). Duclos et al. generalised this result for multi-dimensional stochastic dominance comparisons of order 1, 2 and 3 (Duclos, Shan, & Younger, 2006), thus opening the way for its widespread application within multidimensional comparisons of poverty and welfare.

These methodological advances have made stochastic dominance techniques increasingly popular in recent years in both unidimensional and multidimensional welfare measurement. The main attraction of these techniques lies in the fact that they do not require the definition of a specific functional form or weighting of indicators. Instead, stochastic dominance allows the researchers to identify pairs of countries for which a clear ordinal ranking can be established for all weights used or functional form chosen, under certain specified restrictions. This also means that many pairs of countries will remain unranked in cases where rankings can be reversed by chosing different weights or parameters in the construction of the welare or poverty index. Unlike the two previously reviewed techniques, this remains fully compatible with Sen's own normative position, as he has himself insisted strongly on several occasions on the need to allow for incompleteness in normative rankings (Sen, 2010). However, this incompleteness remains a pragmatic obstacle to the generalisation of stochastic dominance in

[4] (Foster & Shorrocks, 1988) later demonstrated the equivalence of poverty and welfare comparisons (generalised Lorenz Domination) for the FGT group of poverty indices. (Duclos & Makdissi, Restricted and Unrestricted Dominance for Welfare, Inequality and Poverty Orderings, 2003) generalised this result to a broader group of additive poverty indices.

policy applications, which often require unequivocal normative judgements on policy options, even when the difference between them may not be statistically significant or robust for all possible defintions.

Individual Preferences

The first set of normative approaches we consider here derive their normative judgements from the preferences of the individuals being assessed. In so doing, they avoid any accusation of paternalism, since each individual is made to determine for him/herself the relative value of the dimensions of welfare by which she is to be assessed. At the same time, this exposes these techniques to the fallibility of individual preferences, due to adaptation, irrationality, ignorance, etc.

Hedonic:

The first method considered here is the so-called hedonic method, which consists in asking individuals directly about their preferences or life satisfaction in various dimensions. If this information is collected as part of the same survey containing information about wellbeing achievements in those same dimensions, then the information about individual preferences can be used to construct an individual-specific weighting scheme in which each functioning achievement is given a weight reflecting the value attributed to it by the individual (Schokkaert, 2007; Sen, 1992).

Recent contributions in social choice have shown, however, that "an approach based on individual-specific weights cannot satisfy the so-called dominance principle", which states that "someone who is better-off in all dimensions of life should have a higher overall well-being than someone who is worse-off in all dimensions." (Decancq, Ootegem, & Verhofstadt, 2011; Brun & Tungodden, 2004; Fleurbaey & Trannoy, 2003). This translates the very stark tradeoffs we face in adopting a normative standard, between on the one hand, the risk of paternalism, which comes from the fact that someone decides for another what is best for him/her, and on the other, the danger posed by subjective biases when deriving the weighting scheme from individual preferences.

Indeed, if preferences are endogenous with respect to poverty, in the sense, for instance, that tastes are shaped by the goods we consume, then it follows that a weighting scheme that is based on individual preferences, will translate and reinforce the inequalities that already exist in society. As Sen has pointed out on many occasions, for instance, poor people may develop coping mechanisms to deal with their hardship that allows them to derive high levels of satisfaction from simple pleasures (Sen, 1984). It does not necessarily follow, however, that we should be content with a situation in which poor individuals are satisfied with their lot simply because they have learnt to make due with little.

Most-favourable:

Another weighting scheme that allows weights to differ between individuals is the so-called "most favourable" weighting scheme (Mahlberg & Obersteiner, 2001; Despotis, 2005; Zaim, Fare, & Grosskopf, 2001). This method consists in attributing the highest weights to those dimensions in which the individuals performs the best. This differs from the hedonic method, in that weights are not derived

from self-expressed individual preferences, but rather based on objective and observable functionings achievements. However, if we disregard the possibility that such a method be employed simply to minimize poverty estimates, then it must be that the normative justification for attributing higher weights to higher achievements lies in the assumptions that those achievements tell us something about what the individual values. The assumption, here, might be that individuals seek to achieve in priority those functionings which they value the most, and therefore will have higher achievements in those dimensions. As such, I would be inclined to consider this method as a special case of the above-mentioned hedonic method, in which individual preferences continue to be the basis of normative assessments, although they are here assessed through indirect methods from the point of view of the external observer or researcher, much in the same way as consumer preferences are assumed to be revealed to us in consumption choices.

This also means that this method will be exposed to the same weaknesses related to the individual decision-making process (e.g. adaptive preferences), as the hedonic method. Furthermore, since we are here assessing preferences indirectly, there will be another layer of uncertainty due to the possible disconnect between individual preferences and actual achievements. There may, for instance, be cases in which individuals are unable to attain their most preferred functionings due to unobservable external or internal constraints. In such cases, functionings achievements may not provide an adequate standard for weighting welfare dimensions.

Participatory:

The final method considered in this section is the participatory method (Chambers, 2007). This approach has become increasingly popular in poverty measurement since the World Bank's landmark study on the "Voices of the Poor" (Narayan, Patel, Schafft, Rademacher, & Koch-Schulte, 2000). The method shares with the above mentioned method the fact that it derives value judgments necessary for assessing poverty or wellbeing from those individuals whose poverty or wellbeing is being assessed (White & Pettit, 2007). However, it differs from the two previous methods in that it does not necessarily require that the matching of preferences and outcomes be made at the level of the individual. Most often, participatory methods involve the use of focus groups or community-based mechanisms, which mean that the views being collected often reflect those of the community as a whole (Viswanathan, Ammerman, & Eng, 2004)

There is a range of ways in which participatory methods can be applied and there are numerous different examples of empirical applications of participatory methods in poverty measurement (Chambers, 1994; Carvalho & White, 1997). Though this method is particularly popular in multidimensional poverty measurement, it is by no means restricted to it. Indeed, participatory methods have been used for a long time in monetary poverty assessments, for instance, to determine the appropriate level for the poverty line, depending on people's perceptions of who is poor (Callan & Nolan, 1991).

As with any method that relies on individual preferences, it will be liable to the weaknesses due to the fallibility of individual preferences. In group settings, this includes not only adaptive preferences and

other individual biases, but also biases due to the power dynamics within the group being analysed. Mitra et al. (2011) have shown that assessments of poverty obtained using participatory methods can vary widely depending on the composition of the group being interrogated, and in particular, on the level of information or expertise of the group. Furthermore, Michener (1998) has shown that the views of powerful individuals within the community, and in particular men, tend to dominate in focus group discussions. Several methods have been developed to deal with these issues, and in some cases, participatory methods have been combined with other methods, such as survey methods (Appleton, 2001), to correct possible biases generated by the participatory method. It is also possible to use statistical methods ex-post to identify and correct for such biases (Carvalho & White, 1997).

Behavioural Patterns

The second class of weighting systems we consider also derive their normative force from individual preferences. However, they differ from the above mentioned methods in that they do not assign individual-specific weights. Instead, they attempt to estimate prevailing attitudes and preferences from observation of preferences or behavioural patterns across large groups of individuals. This approach can be chosen due to data constraints, when information on wellbeing outcomes and preferences cannot be matched at the individual level (e.g. they come from different surveys). There may also be normative reasons for preferring a collective approach to preferences, as it renders the weighting less liable to individual biases due to adaptive preferences or other such distortions. In so doing, it also runs the risk of imposing median or dominant values on individuals who may have good reasons for having a different valuation structure from the societal norm (e.g. members of religious minorities, or disabled people). Decancq et al. have attempted to "quantify the empirical severity of the problem of paternalism for various weighting schemes" (Decancq, Ootegem, & Verhofstadt, 2011), by actual weights generated by surveys or otherwise with the individual-specific weightings proposed by the respondents themselves. This study suggests that the problem of paternalism can be quite severe when departing from individual-specific weights.

Survey-based:

The most direct way of estimating prevailing values, is by asking individuals directly about their preferences and values. There are a number of available surveys today that do this, starting with the well-known World Values Survey and the Eurobarometer survey. There are numerous examples of applied work on multidimensional poverty, which employs such techniques (de Kruijk & Rutten, 2007; Mack & Lansley, 1985; Halleröd, 1995; Guio, Fusco, & De Marlier, 2009; Bossert, Chakravarty, & D'Ambrosio, 2009). Again, such methods are not exclusive to multidimensional poverty measurement, and have in fact been used in earlier poverty work to estimate the socially acceptable level for the poverty line (Van Praag & Flik, 1991; Goedhart, Halberstadt, & van Praag, 1977; Dubnoff, 1985). However, Appeleton (2001) has argued that "[s]urvey-based approaches are more suited to monitoring outcomes in terms of readily quantifiable indicators such as household income and consumption, food availability, anthropometric status etc." than to measure subjective perceptions and values. Such concepts are more adequately measured on a small scale in controlled environments by highly trained enumerators, so as to control for subjective biases and misunderstandings.

Chakraborty (1996) has proposed an axiomatic characterization of survey-based weighting methods, which builds on Sen's distinction between self-evaluation, in which the relative value of each dimension is determined individually by the person whose welfare is being assessed, and standard evaluation, which uses prevailing or average social values. In this framework, thus, weights depend not only on how the individual him/herself values the different functionings she achieves, but also "on the valuation of those bundles by all other individuals in society" (Chakraborty, 1996).

Market-prices:

Although apparently distinct, the survey-based approach to setting weights builds on a similar justification to the one used in neoclassical economics to determine weights based on market prices. In the latter case, preferences are –through a long string of more or less tenable assumptions – imputed from observed consumer behaviour. In his now familiar critique on the multidimensional poverty index, Ravallion (2011) gives a spirited defence of this approach, arguing this is based on a large body of literature which justifies the use of market prices as weights. Consumption-based measures, he argues, are themselves multidimensional in the sense of often capturing hundreds of consumption items ranging from food, clothing to health, education and even leisure.

The justification for using market prices as weights is based on Samuelson's revealed preference theory (Samuelson, 1938; 1948). As such, consumption choices are supposed to "reveal" underlying and unobservable preferences. The demand curve which we observe thus reflects the aggregate of a myriad of such individual choices over consumption bundles. As such, the demand function reveals something about aggregate or average preferences. More precisely, relative prices between two goods reflect the marginal rate of substitution between those goods, that is, how much of one good a representative consumer would be willing to give up in order to obtain an extra unit of the other.

The problem with market prices, as Sen points out is first of all that they are not only determined by demand, but also by supply. A good may be considered extremely valuable (e.g. air or water), but because in abundant or near infinite supply it is free or almost free[5]. The second problem springs from the problem of adaptive preferences. Insofar as prices reflect people's actual preferences, they will be liable to all the same weaknesses that apply to individual preferences. In other words, they might be determined by adaptation, be constrained by ignorance, or even be shaped by advertisements, etc. In all such cases, preferences may not be considered a legitimate basis for weighting goods or dimensions. A third problem with prices, is that they may not be available for all goods, and that they may not reflect the true cost of that good insofar as they fail to take into account externalities, etc. (Lustig, 2011).

[5] This paradox of value was famously discussed in passage known as the water-diamond paradox in Adam Smith's Wealth of Nations (Smith, 1776, p. 400).

Qualified Decision-Makers

At the other end of the spectrum we find approaches that consider individual preferences to be an unreliable basis for making normative judgements. Nussbaum has put this view bluntly in a related context, when she stated that "[w]e can only have an adequate theory of gender justice, and of social justice more generally, if we are willing to make claims about fundamental entitlements that are to some extent independent of the preferences that people happen to have, preferences shaped, often, by unjust background conditions." (Nussbaum, 2003, p. 34). On this view, value judgements ought to be left to qualified decision-makers for the purpose and nature of the assessment.

Expert-based:

Within the capability approach, Nussbaum has developed what is probably the most well-known and influential list of valuable dimensions of wellbeing to be used in normative assessments of wellbeing (Nussbaum, 2000). There are numerous other examples of the use of expert-based approaches in the construction of indices for the measurement of wellbeing (Gwartney, Lawson, & Block, 1996, pp. 37-41; Streeten, Burki, Haq, Hicks, & Stewart, 1981; Morris, 1979; Doyal & Gough, 1991; Robeyns & van der Veen, 2007; Hagerty, et al., 2001; Boelhouwer & Stoop, 1998). This approach is not uncontroversial, however, due to the paternalistic undertones of the proposal implying that some people may be better placed to judge what is best for the individual than the individual him/herself. Chief among its critics is A.K. Sen himself, who early on rejected the idea of a pre-defined list of valuable dimensions, insisting instead on the need to leave the normative assessment open to public discussion, which should be seen as an integral part of the assessment exercise (Sen, 2004, p. 78)[6].

Despite its shortcomings, Nussbaum's proposal has the merit of highlighting the dangers posed by approaches that rely on individual preferences in one form or another. Empirical studies have shown that the difference between expert assessments and individual self-assessments can be quite large, suggesting that the problem of adaptive or otherwise ineligible preferences may be serious (Mitra, Jones, Vick, Brown, McGinn, & Alexander, 2011). Getting the balance right between these two concerns (avoidance of paternalism, and avoidance of subjective biases in preferences) lies at the heart of the problem of devising a viable methodology for making value judgments in the construction of such indices, and is, arguably, at the heart of the broader problem of devising a theory of social justice.

In several cases, the problem of paternalism in expert-based approaches has been addressed by restricting the role of experts to the definition of procedural rules and criteria for selecting dimensions of wellbeing. Robeyns (2003), for instance, has proposed a set of 5 basic criteria for selecting dimension[7]. Similarly, Atkinson et al. (2002) have proposed a more specific list of technical and

[6] It should also be noted, however, that the rejection of the expert-based approach for selecting and weighting dimensions does not necessarily mean that there should be no place for experts in the construction of indices. Experts can, for instance, play an important role in selecting indicators necessary to measure specific dimensions that have been chosen through participatory or other methods.

[7] (1) The criterion of explicit formulation; (2) The criterion of methodological justification; (3) The criterion of sensitivity to context; (4) The criterion of different levels of generality; (5) The criterion of exhaustion and non-reduction.

normative criteria for selecting indicators when constructing multidimensional wellbeing indices[8]. Alkire (2002) has formulated one of the most detailed procedural proposals for selecting dimensions within the capability approach, based on the theories of John Finnis (Finnis, 1980). The proposed procedure involves iteratively asking "Why do I do what I do?" in order to arrive at irreducible and intrinsically valuable motivations for action, such as life, knowledge, play, aesthetic experience, friendship, practical reasonableness and religion. In Alkire (2002) this procedures was used in combination with participatory approaches at the community level to identify valuable capabilities for the community in the context of small-scale development project evaluations.

Policy-maker:

Among approaches that rely on a restricted group of decision makers, we will distinguish those that rely on the assessments of policy-makers. Insofar as we assume that policy-makers have been chosen through democratic procedures to represent citizens and make expert decisions on their behalf, this approach need not necessarily imply any stronger form of paternalism than that inherent in any indirectly representative political system. There may also be more pragmatic reasons for focusing on policy makers and policy-making when constructing indices: if we assume that individual wellbeing is influence largely by policy decision, then aligning the construction of welfare indices on relevant policy-making variables will ensure the most direct relevance of the index for influencing wellbeing outcomes.

Several approaches have been used that in one way or another seek to link the construction of the index to policy-making processes. The most basic of these asks for the perceptions and attitudes of relevant policy-makers working in the relevant, such as development or environment (Saaty, 1987; Nardo, Saisana, Saltelli, Tarantola, Hoffman, & Giovannini, 2005; Chowdhury & Squire, 2005; Drewnowski, 1974, pp. 19-33; Harbison & C.A.Myers, 1964, pp. 23-24). Another approach involves aligning the weights on budget allocations, which can be actual or hypothetical (Moldan & Billharz, 1997; Mascherini & Hoskins, 2008; Chowdhury & Squire, 2005). The rationale being that budget allocations reflect collective valuation of different policy objectives. Finally, weights can be chosen so as to reflect the marginal rates of substitution or trade-offs faced by policy-makers (Ravallion, 2011). That way the index can provide direct guidance to policy makers as to the relative allocations of resources required to achieve the policy objectives measured by the index.

There are also less direct ways of ensuring that the weighting scheme is relevant to policy-making. Betti and Verma (1998), for instance, have suggested that deprivations should be given a weight that is inversely proportional to their frequency in the population. Hence, deprivations that are less common in

[8] 1. An indicator should capture the essence of the problem and have a clear and accepted normative interpretation; 2. An indicator should be robust and statistically validated; 3. An indicator should be responsive to policy interventions but not subject to manipulation; 4. An indicator should be measurable in a sufficiently comparable way across Member States, and comparable as far as practicable with the standards applied internationally; 5. An indicator should be timely and susceptible to revision; 6. The measurement of an indicator should not impose too large a burden on Member States, on enterprises, nor on the Union's citizens; 7. The portfolio of indicators should be balanced across different dimensions; 8. The indicators should be mutually consistent and the weight of single indicators in the portfolio should be proportionate; 9. The portfolio of indicators should be as transparent and accessible as possible to EU citizens.

a population are given a higher weight on the ground that they are likely to be more severe (Deutsch & Silber, 2005, p. 150). This approach does have some intuitive appeal for applied work, since it could be argued that targeting for public policy purposes ought to be based on criteria that allow for the clear identification of realistic sub-groups of the population. It may, for instance, be difficult to determine an adequate targeting strategy for a population of refugees, if poverty is assessed only in the dimension 'housing'. The drawback of this approach may come when the urgency or depth of a particular deprivation may be unrelated to its spread. In the case of a famine or an epidemic, we may, for instance need to target the hungry or the sick before the homeless even though they are more numerous.

Balanced Approaches

The final set of approaches we review share the fact that they seek to avoid the pitfalls of paternalisms and subjective biases that have been identified above. In the first case, they do so by attempting to correct for observed preferences, as revealed in market prices, by using additional information. In the second, they rely on procedural safeguards to ensure that individual preferences are subjected to scrutiny and validation.

Shadow-prices:

A popular technique among neoclassical economists has involved the use of so-called shadow prices. The idea is that for many goods markets do not exist or are distorted. Therefore, underlying prices ned to be imputed from observable data, or derived from market prices that have been corrected for various biases and imperfections (Ravallion, 2011). There is a long tradition in economic theory of estimating shadow prices for goods with missing or distorted markets, such as education (Card, 1999), health (Murphy & Topel, 2006), environment (Aiken & Pasurka, 2003; Coggins & Swinton, 1996) and even, controversially, life (Becker, Philipson, & Soares, 2005).

There are several objections that can be made to this practice. First, accurately estimating shadow prices can often be extremely difficult, given the need to take into account numerous and often unobservable factors that may affect shadow prices. Secondly, even if it were possible to accurately estimate underlying shadow prices, this would still, from the point of view of the capability approach, be the wrong space in which to estimate wellbeing, since it is measuring inputs to wellbeing (i.e. consumption) rather than outputs or opportunities. Finally, insofar as it attempts to approximate true underlying marginal rates of substitution between goods, (i.e. preferences), it will be liable to the standard critique of Sen against preferences as a normative basis for value judgments (Sen, 1977; Sen, 1979; Sen, 1997; Sen, 2002, p. 21) .

Rights-Based:

The final approach we review here is the so-called rights-based approach, which involves deriving the choice of weights and dimensions from legal frameworks, and in particular from international human rights instruments (Vizard, 2007; van Rensburg, 2007). The rationale for adopting this approach has a lot to do with the avoidance of the two extremes that we have identified above. On the one hand, it is assumed that, insofar as legal frameworks have been agreed through proper democratic procedures,

they will in some sense be reflective of the underlying preferences or general will of the citizens who will be subjected to those laws. In this sense, the rights-based approach respects the principle of self-determination, that was important to the earlier approaches we reviewed, for which individual preferences constitute the ultimate source of normative power.

On the other hand, the rights based approach takes seriously the concern for adaptive or otherwise illegitimate preferences that had been central to the expertise based approaches. This is why it does not focus directly on individual preferences, but uses the output of highly complex processes for collective decision making and consensus building. These mechanisms act as a filter that subjects individual preferences to a process of inter-rational validation.

It is interesting to note that the recognition of the procedural importance of democratic decisions in normative assessments of wellbeing pre-dates the challenge to neoclassical welfare economics posed by the capability approach. Indeed there is a long tradition in monetary poverty measures of aligning the poverty line on the minimum income level offered by the social security system (Abel-Smith & Townsend, 1965). This is based on the assumption that these rates "represent a consensus on the minim level of income acceptable in society" (Callan & Nolan, 1991). Despite these points of convergence, however, the rights-based approach implies a fundamental shift away from the traditional approach of neoclassical welfare economics, which goes beyond the mere selection of weights and dimensions. First of all, right are universal and equal and independent of merit, effort, or desert. Second, the rights-based approach focuses not on aggregate or average achievements, but on the violation or non-fulfilment of rights. It is thus, naturally focused on the most disadvantaged members of society. Finally, the rights-based approach involves the identification for every right of rights holders and duty bearers (Chinkin, 2002), thus recognizing the processes through which rights violations occur and/or through which they can be addressed.

This was the theory. In practice, the rights-based approach has been criticized for not taking into account the numerous real-life constraints, which mean that human rights often diverge from the ideal described above. First of all, it is far from the case that all countries in the world today are democracies, and therefore current human rights legislation reflects, in parts at least, the views of power holders rather than those of citizens. Second, even assuming that governments accurately represented the views of their citizens, it would still be the case that inter-state relation still are guided more by sheer power-relations than by principles of equality and fairness. In particular, the international human rights framework has been criticized for reflecting western ideals and being heavily tainted by a legacy of colonialism (Vizard & Burchardt, 2007). In order to address some of these concerns, Vizard and Burchardt (2008) have suggested that a rights based approach could be supplemented by participatory approaches in the measurement of capabilities, in order to ensure a respect for beneficiaries preferences, in particular those of minority groups.

Table 1: Answering the Fell-fund questions in terms of various normative approaches considered in this paper

Method	Purpose	Dimensions	Indicators	Cutoffs	Weights	Procedure	Plural	MRS
Statistical	Reduce redundancy	Exogenous	Exogenous	Exogenous	Determined by data	No one decides	Statistics win	
Equal	Avoid weighting question	Exogenous	Exogenous	Exogenous	Equal weights	No one decides	Not considered	
Stochastic dominance	Achieve robust incomplete ranking	Exogenous	N/A	N/A	N/A	No one decides	Not considered	
Expert	Identify "objective" value	Determined by expert	Determined by expert	Determined by expert	Determined by expert	Expert decides	Not considered	
Policy-maker	Identify priority interventions	Determined by policy maker	Exogenous (e.g. data)	Determined by policy maker	Policy-priorities/ costs	Policy maker decides	(e.g. frequency method)	
Shadow price	Identify true costs	Income/ consumption	Prices + externalities	Exogenous	Prices + externalties	Consumers + experts decide	Determined by economic theory	
Market price	Identify revealed preferences (consumption)	Income / consumption	Market prices	Exogenous (e.g. food basket)	Mix of demand (aggr. pref) and supply	Consumers decide	Determined by economic theory	
Survey	Identify population preferences	Determined by survey data	Exogenous (e.g. expert)	May be determined by survey	Average of self-reported preferences	Survey respondents decide	Determined by statistics theory	
Participatory	Identify community preferences	Determined by participants	Exogenous (e.g. expert)	May be determined by participants	Community preferences	Group / community decides	Not considered	

Hedonic	Identify individual preferences	Determined by individual	Exogenous (e.g. expert)	May be determined by individual	Individual preferences	Each individual decides	Not considered	
Most favrable	Identify revealed preferences for outcomes	Determined by data	Exogenous	Exogenous	Determined by data	Each individual decides	Not considered	
Rights-based	Identify legitimate weights	Determined by treaties/ conventions	Exogenous (e.g. survey)	May be determined by treaties (e.g. MDG)	May be determined by treaties (e.g. MDG)	Consensus (collective decision making process)	Not considered	0 (no substitutability)

Conclusion

In this paper we have looked at some of the most commonly used approaches in the literature on multidimensional poverty, to help make the numerous and unavoidable normative judgments implicit in any such assessment. Each of these approaches has merits and demerits, and the important ethical questions they raise, which translate fundamental moral-philosophical divisions, will certainly not be settled in the foreseeable future, and certainly not within the field of economics, welfare economics or poverty measurement.

This, however, does mean that they are equivalent or equally valid. While there may be leeway for leaning more towards one or the other of these approaches depending on the purpose and nature of the exercise (e.g. more participatory approach in small scale studies or more rights-based in large international comparisons), the quest to critically distinguish and rank these approaches must continue. Crucially, it must continue to engage with the relevant underlying moral-philosophical debates to ensure our measures and theories continue to evolve with the evolution of normative theory. The positivist quest of neoclassical economists to cut themselves off from normative debates has not had the intended effect of freeing the discipline from the uncomfortable burden of ethical ambiguities. Instead, it has frozen the discipline in one peculiar and arguably outdate normative edifice, namely early XIXth century Benthamite utilitarianism.

For all its shortcomings, however, neoclassical economics has been able to construct – admittedly from questionable axioms – a theoretical edifice of unrivalled internal coherence and resilience. And if there is one lesson to learn from that experience, I think it is the need to rigorously and systematically link philosophical concepts, such as freedom, preferences and justice, with the more prosaic notions that furnish contemporary economic theory, such as prices, demand, and equilibrium, so that the unavoidable normative judgments inherent in poverty measurement can be made routine and almost invisible. Until then, we shall not be able to bring down the stupendous palace built on granite that is neoclassical economics – to paraphrase Stigler – and much less rebuild another one in its place.

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