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An Unworkable Idea or a Promising Alternative? Sen's Capability Approach Re-examined.

by

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DISCUSSION PAPER

An unworkable idea or a promising alternative? Sen's capability approach re-examined

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Abstract

This paper presents an analysis and an assessment of Amartya Sen's capability approach. In the first part, it gives a detailed explanation of the capability approach. It analyses the core concepts and tries to clarify confusions in the literature by looking at different interpretations and usages. In the second part of the paper the major critiques on the capability approach are scrutinised. It is argued that some of those critiques are based on mistaken interpretations, while others follow from a too narrow reading. At the same time it is recognised that theoretical and empirical applications of the capability approach nevertheless remain to address a number of difficulties. The paper also includes an annotated survey of the existing empirical applications. Ultimately, both the assessment of the critiques as well as the survey of applications provide support for Sen's claim to see the capability approach as a framework of thought, which can address diverse problems and can be applied in quite different ways.

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1. INTRODUCTION

In recent decades, Amartya Sen's capability approach has received substantial attention by philosophers, ethicists, economists and other social scientists. However, the nature of this attention has been mixed. Some authors have praised the capability approach as a substantial contribution to economics, ethics and development studies (e.g. Atkinson 1999; Clark 2000; Pressman and Summerfield 2000). The capability approach has also been judged as superior to other theories or approaches in a number of more specific discussions. For example, Anderson (1999:316) has argued that "egalitarians should seek equality for all in the space of capabilities." Nelson (1996:35) sees in the capability approach a way to redefine economics from a discipline centrally concerned with preferences, choice and exchange to a discipline that focuses on the needs of related individuals who are embedded in their environment. Others, however, have uttered scepticism in general or criticism on a particular point. For example, Rawls (1999:13), while acknowledging that the idea of basic capabilities is important, calls it "an unworkable idea" for a liberal conception of justice, while Roemer (1996:191-193) has criticised the capability approach for being not sufficiently specified.

Unfortunately, some of the assessments do not really discuss much of the details or nuances of the capability approach or have only a mono-disciplinary or partial and thus limited perspective. Moreover, some of the assessments refer to one or a couple of Sen's articles and books. This is quite problematic, as Sen has developed his capability approach gradually, and in a sense organically, and has substantially refined it over the last three decades. Another observation is that Sen has not only published a number of books in which he developed the capability approach, but wrote a number of crucial articles in journals *across different disciplines.* Hence, understanding the capability approach requires reading the earliest until the most recent of Sen's work, and in quite different journals. Sen (1993:31) himself has acknowledged the need for "a clear and more connected account of the [capability] approach, particularly in view of some interpretational problems that have arisen in its assessment and use", and has clarified much of this in his overview article (Sen 1993).

In this paper I want to discuss the capability approach in greater detail based on Sen's original writings. I hope to give a clear description of what the capability approach is, and remedy some of the confusions and lack of clarity that have arisen in this literature. I will further assess the critiques it has evoked both in economics and philosophy and draw some conclusions from the empirical applications that it has generated. The paper is structured as follows. Section two discusses the capability approach. I will describe the conceptual apparatus, a possible formalisation, and one of its most distinghuising characteristics, namely its attention to human diversity. Attention is also given to the distinction between the notions of 'capabilities' versus '*basic* capabilities', and I propose to complement these with the notion of 'fundamental capabilities'. Section three addresses some of the most frequently raised questions and criticisms made on the capability approach. These concern the selection of functionings, the need for a complementary theory of choice and the issue of preference formation, the individualistic nature of the capability

approach, the question of operationalisation, and whether it is paternalistic and would lead to too much government intervention. The last section draws some conclusions.

2. SEN'S CAPABILITY APPROACH

2.1. The core concepts: functionings and capabilities

One of the major points I want to make in this paper is the need to distinguish between three different levels at which the capability approach is operating:

1. As a framework of thought
2. As a critique on other approaches to welfare evaluation
3. As a formula to make interpersonal comparisons of welfare

For Sen, the order of importance is the order in which they are listed here. The capability approach is primarily and mainly a framework of thought, a mode of thinking. He has stressed "the plurality of purposes for which the capability approach can have relevance" (Sen 1993:49). At the second place of importance is the capability approach a critique, mainly on the welfarist approaches in welfare economics and on utilitarian and Rawlsian theories. This second level of the capability approach is widely discussed in Sen's own writings and will not be addressed here.[1] On a third, and for Sen least important level, is the capability approach as a formula for interpersonal comparisons of welfare. The focus is here on a *formula*, in the sense that the capability approach would provide a neat recipe or even an algorithm to carry out exercises in welfare comparisons. It is quite likely that a number of economists have tried to read Sen's writings on the capability approach looking for such a formula, and have consequently been disappointed when they discovered that this has not been Sen's primary focus. As I will argue in section 3, some of the critiques and questions addressing the capability approach follow from an implicit assumption that the capability approach should be read on this third level. Once its three-level structure and the importance that Sen attaches to each level are appreciated, most of those critiques either weaken considerably or evaporate. At the same time this three-layeredness forces us to consider some other issues which, in my opinion, have not yet received enough attention.

Hence the capability approach is a framework offering a way to think about normative issues and make evaluations. It provides a framework to analyse a variety of social issues, such as well-being[2] and poverty, liberty and freedom, development, gender

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[1] Sen's critique on traditional welfare economics can be found in e.g. Sen 1977, 1979, 1992. For his critique of utilitarianism and Rawls, see e.g. Sen 1980, 1987, 1992. A discussion of the differences and similarities of Rawls' and Sen's approaches can be found in Roemer (1996), among others.

[2] In fact, the capability approach can also be used to make interpersonal comparisons of the standard of living and agency achievement. The main differences between these concepts are as follows: The standard of living is "personal well-being related to one's own life." If we add the outcomes resulting from sympathies (i.e. from helping another person and thereby feeling oneself better off), we measure well-being. If well-being is supplemented with the outcomes resulting from commitment (i.e. an action which is not beneficial to the agent herself), then we are focusing on agency achievement. (see Sen 1987:27 - 29). Sen has explored the differences between well-being, agency, freedom and achievement in detail in his Dewey lectures (Sen 1985b). In this paper I use the term well-being but some theoretical examples could be argued to discuss commitments and hence agency achievement.

bias and inequalities, justice and social ethics (Sen 1993:30). The capability approach points to the information necessary to make such a judgement, and consequently rejects alternative approaches which it considers normatively inadequate. It also identifies social constraints that influence and restrict both well-being as well as the evaluative exercises. The capability approach can be used to measure poverty or inequality, or can be used as an alternative for traditional utilitarian cost-benefit analysis. It is a perspective that can be applied to efficiency evaluations.[3] It can serve as an important constituent for a theory of justice, however as Sen (1995:268) argues, the capability approach specifies an evaluative space, but this does not amount to a theory of justice. He argues that a theory of justice must include both aggregative considerations as well as distributive ones, whereas the capability approach does not specify an aggregative principle.[4]

Some elements of the capability approach have their roots in Aristotle, Smith and Marx (e.g. Basu and López-Calva 1999; Sen 1987:16-17; 1992:32; 1993:46-48), but in recent history Sen proposed it as a coherent theory, which he also partially formalised (e.g. 1980, 1985a, 1987, 1992, 1999). Sen's work has inspired many to further develop the capability approach, most notably Martha Nussbaum (e.g. 1995, 1999, 2000).[5]

The capability approach involves "concentration on freedoms to achieve in general and the capabilities to function in particular" (Sen 1995:266). The major constituents of the capability approach are *functionings* and *capabilities*. Functionings are the "beings and doings" of a person, whereas a person's capability is "the various combinations of functionings that a person can achieve. Capability is thus a set of vectors of functionings, reflecting the person's freedom to lead one type of life or another" (Sen 1992:40). A person's functionings and her capability are closely related but distinct. "A functioning is an achievement, whereas a capability is the ability to achieve. Functionings are, in a sense, more directly related to living conditions, since they *are* different aspects of living conditions. Capabilities, in contrast, are notions of freedom, in the positive sense: what real opportunities you have regarding the life you may lead" (Sen 1987:36).

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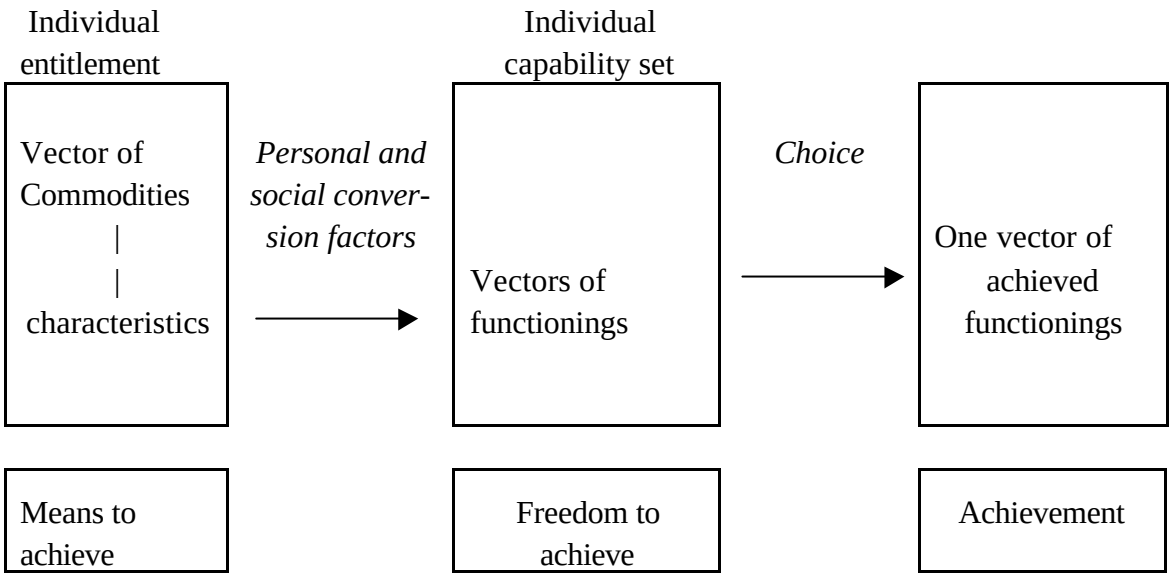
[3] This might sound somewhat strange, as Sen's work has predominantly been concerned with poverty and inequality issues. Nevertheless, Sen himself has stressed that the capability approach can also be used for examinations of efficiency issues (e.g. Sen 1992:6-8, 25, 136-138; 1993:49-50).

[4] Sen advocates equality of capability, but does not defend one particular aggregative principle. Consider a hypothetical situation with two individuals, Chris and Christine, whose capability-well-being is cardinally measured. In social state A Chris' capability-level is 6 and Christine's is 8. In social state B their respective capability-levels are 7 and 20. Given all other things equal, the Rawlsian 'difference principle' (Rawls 1971:75-80) would judge B a better social state than A (as the least well-off has a higher well-being), whereas Sen's capability approach does not prescribes which of those social states it considers more desirable than the other.

[5] According to Nussbaum (2000:70), her version of the capability approach "began independently of Sen's work through thinking about Aristotle's idea of human functioning and Marx's use of them". There are a number of differences between Sen's and Nussbaum's capability approach, which do demand further investigation. Discussing this in detail would outstrip the frame of this paper; therefore I will only refer to some major differences. For Nussbaum's summary of the differences between hers and Sen's capability approach, see Nussbaum (2000:12-15). For Nussbaum's writings on the capability approach, see Nussbaum (2000) and the references on p. 34, footnote 2 therein. Sen has touched upon some of their differences in Sen (1993:46-48).

Crucial for the approach is the distinction between commodities[6] on the one hand and functionings on the other hand.

Figure 1: A schematic representation of the capability approach



A good (or a service) has certain characteristics, which makes the good of interest to people. For example, we are not interested in a bike because it is an object made from certain materials with a specific shape and colour, but because it can bring us to places where we want to go and this in a faster way than if we would be walking. These characteristics of a good enable a functioning. In our example, the bike enables the functioning to be mobile, to move oneself freely and more rapidly than walking by foot.

However, the relation between the good and the functionings to achieve certain beings and doings is influenced by two *conversion factors*. First, *personal characteristics* (e.g. metabolism, physical condition, reading skills, intelligence, …) influence how a person can convert the characteristics of the commodity into a functioning. If a person is handicapped, or in a bad physical condition, or has never learned to cycle, than the bike will be of limited help to enable the functioning to be mobile. Secondly, *social characteristics* (e.g. infrastructure, institutions, public goods, public policies, social norms, discriminating practises, gender roles, societal hierarchies, power relations …) play a role in the conversion from characteristics of the good to the individual functioning: if there are no paved roads, or if a society imposes a social or legal norm that women are not supposed to cycle, then it becomes much more difficult or even impossible to use the good to enable the functioning. Hence, knowing the goods a person owns or can use is not enough to know

[6] Commodities are goods and services. They should not necessarily be thought of as exchangeable for income or money – as this would restrict the capability approach to analyses and measurement in market-based economies which it does not intend.

which functionings she can achieve; therefore we need to know much more about the person and the circumstances in which she is living.

The capability approach does not consider the functionings that a person has achieved as sufficient to determine her over-all well-being. Consider the following variation on Sen's classical illustration of two persons who both don't eat enough to enable the functioning of being well-nourished. The first person is a victim of a famine in Africa, while the second person decided to go on a hunger strike in front of the Chinese embassy to protest against the occupation of Tibet. Although both persons lack the functioning of being well-nourished, the freedom they had to avoid being well-nourished is crucially distinct. To be able to make this distinction, we need the concept of capability, being the functionings that a person *could* have achieved. While both hungry people lack the achieved functioning of being well-nourished and hunger-free, the protester in London has the capability to this functioning, which the African person lacks.

The functionings of a person are thus the set of things that she does in life, whereas the capability of that person is the alternative combination of functionings that this person can achieve and from which she can choose one vector of functionings. Capability is thus closely related to the idea of opportunity or advantage, but, as Sen (1985a [1999:4]) warns, not understood in the limited traditional sense, but more as a (positive) freedom-type notion.[7]

2.2. How does the capability approach account for diversity?

One of the major strengths of the capability approach is that it can account for interpersonal variations in conversion of the characteristics of the commodities into functionings. These interpersonal variations in conversion can be due to either individual or social factors. This is not a side-effect or by-product of the capability approach, but is of central importance to Sen: "Human diversity is no secondary complication (to be ignored, or to be introduced 'later on'); it is a fundamental aspect of our interest in equality" (Sen, 1992:xi). Indeed, if human beings would not be diverse, then inequality in one space, say income, would more or less be identical with inequality in another space, like functionings or capabilities (Sen 1991). Sen's insistence on the importance of human diversity is thus crucial for his defence of functionings and capabilities as the relevant space for well-being evaluation.

The capability approach accounts for diversity in two ways: by its focus on functionings and capabilities as the evaluative space, and by the explicit role it assigns to individual and social conversion factors of commodities into functionings.

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[7] The political philosophical literature on the capability approach shows that philosophers differ quite substantially in their interpretations of the capability approach. For example, according to Hamilton (1999), Sen's capability approach should be read as a theory of true interests, whereas Carter (1996:9) labels Sen a "moderate" positive libertarian. Sen's reply to a number of his philosophical critics (e.g. Sen (1996) on Carter, or Sen (1993) on Cohen (1993)) seem to suggest that there is a real problem of potential misinterpretations of his capability approach.

For the 'standard human agent' who is working full time, who is in good health and physical and psychological condition, and does not bear the responsibility to care for children or dependent elderly, income might reveal much of their well-being; but for an unemployed person, or a person suffering from emotional or psychological stress, or a care taker, or a dependent person - what does it tell us?[8] Therefore we need to investigate inequality or poverty between very diverse people based on a *multidimensional distribuendum* that can account for non-financial and non-material elements – and the capability approach offers this. This, however, requires a radical shift away from the traditional welfare-based evaluation, because, as Sen (1992:101) puts it, "these standard measures are all basically parasitic on the traditional concentration on the income space and ultimately ignoring the fundamental fact of human diversity and the foundational importance of human freedom."

Secondly, the conversion of the characteristics of the commodities into functionings can also differ over individuals. Some of these differences will be individual (e.g. If I want to read a book I need glasses, while my neighbour only needs the book itself). Others will be structural differences in society, related to gender, class, race, caste … Take the case of gender as an example. Sen (1992:112-113) is aware that there might be differences in conversion-ability between an average man and woman. Gender discrimination on the labour market is one of those factors influencing conversion, not only for income but for other commodities as well. Suppose a man and a woman have equal access to higher education and receive the same scholarship. Both eventually receive the same educational degree, and both want to use this degree to enable some functionings (like the functioning to lead an interesting life by means of one's profession, the functioning to develop one's self-worth, to secure financial autonomy, to be able to provide support for dependent others, to develop interesting social contacts, to live one's professional ambitions, and so on). Now, if women are discriminated on the labour market,[9] then it will be more difficult for the woman to use her degree to enable all those functionings, compared with the man who has the same degree. Hence, group-dependent constraints[10] (e.g. social norms, habits, traditions) can affect the conversion of the characteristics of the commodities into functionings and thus capabilities.

2.3. What are 'capabilities', 'basic capabilities' and 'fundamental capabilities'?

The difference between capabilities and basic capabilities has an intrinsic importance, but is also relevant as the source of quite some conceptual confusion and contradictory readings of Sen's work.

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[8] There are a number of empirical applications providing evidence that income is a limited and not the best indicator of well-being. See e.g. Schokkaert and Van Ootegem (1990), Ellman (1994), Balestrino (1996), Ruggeri Laderchi (1997), Phipps (1999) among others.

[9] Which I do not consider an unrealistic assumption, even not for 'liberal democratic societies', given the evidence provided by recent innovative research (e.g. Goldin and Rouse 2000; Neumark, Bank and van Nort 1996; Wennerås and Wold 1997)

[10] For an excellent economic theory of group-dependent structures on constraints, see Folbre (1994).

Basic capabilities are a subset of all capabilities; they refer to the freedom to do some basic things. The relevance of basic capabilities is "not so much in ranking living standards, but in deciding on a cut-off point for the purpose of assessing poverty and deprivation" (Sen 1987:109). Hence, while the notion of capabilities refers to the freedom of all kinds of functionings, ranging from very necessary and urgent ones to highly complicated ones, basic capabilities refers to the freedom to do some basic things. As Sen (1993:41) writes, "the term 'basic capability', used in Sen (1980), was intended to separate out the ability to satisfy certain crucially important functionings up to certain minimally adequate levels." Basic capabilities will thus be crucial for poverty analysis and more in general for studying the well-being of the majority of people in developing countries, while in rich countries well-being analysis would rather also include capabilities which are less necessary for physical survival.

As the capability approach could best be seen as a framework of thought, the relevance of either basic capabilities or all capabilities depends on the issue at hand. But it is important to acknowledge that the capability approach is not restricted to poverty and deprivation analysis, or development studies, but can also serve as a framework for, say, project or policy evaluations or inequality measurement in rich communities. Despite this clear conceptual distinction between capabilities and basic capabilities, there has been some confusion over this terminology. I see four possible causes for this, and will propose a terminology that will hopefully be less prone to these different and confusing usages.

First, in his very first paper on the capability approach, Sen (1980) referred to basic capabilities while, I believe, his discussion was concerned with capabilities in general. The fact that the capability approach has been developed somewhat 'organically' implies that we should read the use of basic capabilities in Sen (1980) as a first step towards the development of the concept, and not as a statement of Sen that only basic capabilities matter.[11]

A second source of confusion comes from the fact that Sen's writing on development often refers to basic capabilities. However, this should not be read as if only basic capabilities matter, but that in the context of development basic capabilities are for most questions the relevant focal variable.

Thirdly, Martha Nussbaum (1995, 1999, 2000) also uses the term "basic capabilities", but it seems that "basic" for Nussbaum is not the same as "basic" for Sen, nor are their uses of the notion of capabilities identical.[12] For example, Nussbaum (2000:84) defines basic capabilities as "the innate equipment of individuals that is the necessary basis for developing the more advanced capabilities, and a ground of moral concern. These capabilities are sometimes more or less ready to function: the capability for seeing and hearing is usually like this. More often, however, they are very rudimentary, and cannot be directly converted into functioning. A newborn child has, in this sense, the capability for

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[11] See also Sen (1993:41), who points to his own slight shift of terminology in his development of the capability approach, and stresses that "it is important to recognize that the use of the capability approach is not confined to basic capabilities only."

[12] Sen (1993:41, note 32) warned against the confusion which could arise from the different usage which Nussbaum and himself adopt for the notion basic capability.

speech and language, a capability for love and gratitude, the capability for practical reason, the capacity for work." Here basic capabilities are more defined like natural and innate capacities, or talents, and have little to do with the cut off point for poverty or deprivation analysis.

Fourthly, Bernard Williams (1987) has used the notion basic capability in yet another meaning. Williams has argued that it is important to distinguish between the capability to choose for yet another new brand of washing powder or say, Adam Smith's often referred to capability to appear in public without shame. Williams (1987:101) rightly notes that "what you need, in order to appear without shame in public, differs depending on where you are, but there is an invariant capability here, namely that of appearing in public without shame. This underlying capability is more basic." I agree with the need of the distinction which Williams makes, but I would rather call these underlying capabilities the *fundamental capabilities*, so as to avoid confusion with Sen's use of basic capabilities. These fundamental capabilities are the deeper, foundational, more abstract, aggregated (not over persons but over different capabilities in one person) capabilities. Interestingly enough, several empirical applications of the capability approach[13] *use* the concept of fundamental capabilities, without using this terminology or conceptually acknowledging this distinction. Although I do not intend to present nor defend at this point a list of those fundamental capabilities, we might, based on these empirical studies, think of fundamental capabilities as including the following: housing and spatial living conditions; health and physiological well-being; education and knowledge; social relations and interactions; emotional and psychological well-being; safety and bodily integrity.[14]

It seems then that the following terminology and definitions would account for the main concepts in both Sen's own writings on the capability approach as well as in the work of scholars who have applied it.

A person's capabilities consists of a number of fundamental capabilities which are each made up by a number of more specific capabilities, some of which are basic and some of which are non-basic. The basic capability of a person is then some kind of aggregate of the basic capabilities in each of these different fundamental capabilities. The following figure might clarify these distinctions.

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[13] See especially Brandolini and D'Alessio (1998), Chiappero (2000), Klasen (2000), and Schokkaert and Van Ootegem (1990).

[14] Some of these studies also include some kind of financial functioning. While having financial means is not a functionings in itself, an index of financial security is used as an approximation of functionings that have intrinsic value. While it is understandable that some of the applications are forced to include financial variables due to data restrictions, it should be kept in mind that in the capability approach financial means and possibilities can only be a proxy for the functionings and capabilities that really matter. Money only matters instrumentally, in so far as it can help us secure functionings and capabilities. I therefore believe that financial functionings or capabilities should not be included in a list of fundamental functionings or capabilities.

Figure 2: Distinghuising different levels of capabilities

A PERSON'S CAPABILITY SET

Fundamental Capabilities:	Fundamental capability of health and physiological well-being	Fundamental capability of housing and living conditions	Other fundamental capabilities
	Non-basic functionings of health	Non-basic functionings of housing	…
Basic Capabilities:	Basic functionings of health	Basic functionings of housing	…

For example, the fundamental capability of health and physiological well-being will be made up by a number of basic health capabilities (e.g. avoiding premature death, being sufficiently nourished, having access to save water) and a number of non-basic health capabilities (e.g. having daily access to the gym, being free from mild headaches or back pain, or having access to cosmetic surgery).

2.4. Is the capability approach an opportunity or an outcome-based theory?

The capability approach clearly gives choice a central place. This makes the theory belong to the class of "opportunity-based" theories instead of "outcome-based" theories. It allows for (some kind of) responsibility to be introduced: if you are able-bodied and there is a job on offer for you (implying the individual and social conversion of the characteristics of the commodities runs smooth), then having a job and earning money (enabling functionings like self-worth, increased human capital, being part of social networks ...) is an opportunity. Not taking the job would mean those functionings will not (to the same degree) be achieved, but these functionings were part of your capability set, hence you had the opportunity to take it.

Does the fact that the capability approach is an opportunity based theory imply that it can handle the problem of expensive tastes and cheap tastes? An expensive taste means that a person has developed preferences for certain goods and services (e.g. expensive luxury goods) and requires a lot of resources to reach a certain welfare level. A utilitarian well-being concept which equalises resources will then lead to a lower level of well-being for the person with expensive tastes. Thus, if we want to equalise well-being we have to give the person with expensive tastes more resources - which is counter-intuitive and seems unfair to most people.[15]

Can the capability approach solve this problem? There is no simple answer to this question. Generally speaking, insofar as an amount of resources leads to similar levels of

[15] For a clear discussion of the expensive taste problem in the context of egalitarian theories, see Cohen (1993:10-16).

capabilities, but lower levels of utility for the person with expensive tastes, this will not bother the capability egalitarian. A problem arises in the fact that some functionings, such as enjoying social status or psychological well-being, might be preference dependent. Hence, a snobbish upper class man might "need" an expensive car in order to get respect from his peers, while an alternative environmentalist needs only a bike. Similarly, employees in most corporations need relatively expensive clothes to work, while most academics or social workers can do their job in relatively cheap clothes, in order to have the functioning of not having to be ashamed when appearing on the work floor. Thus, it seems that the capability approach can handle the expensive taste problem in so far as the expensive taste cannot be justified by environment-dependant functionings, but that the difficult question remains in how far expensive tastes can be justified and should be respected when they impinge upon functionings and capabilities.

The problem of cheap tastes is similar: if a person with low capability well-being is contented with her situation and requires only low levels of resources to reach high utility levels, then the capability approach will assess her capability level, and disregard her utility level.

But while some functionings (such as mortality or morbidity) are objectively observable, the same problem of evaluation remains for those functions which are influenced by or a function of societal factors such as norms regarding social status. In short, the problem of expensive and cheap tastes will remain to be addressed for those functionings which have a subjective component, in other words where the evaluation of the well-being of the person is dependent upon her preferences which might have been shaped by societal processes.

There is another difficulty with respect to the fact that the capability approach is an opportunity based theory. It concerns the question of how to measure opportunities instead of outcomes. There are a number of reasons why it is much more difficult to measure the capability of a person than her actual functionings. The first reason is quite obvious: functionings are (at least indirectly) observable, whereas the person's capability would also include all the opportunities this person had but did choose not to have – unobservable facts indeed. The second reason is that whereas the achieved functionings are a vector of beings and doings, a capability is a combination of *potential* beings and doings, where it is not obvious how this set should be measured let alone be evaluated. Thirdly, the transition from achieved functionings to capabilities involves the process of choice, and I will argue further on that choice itself should be evaluated if we want to make interpersonal comparisons. For all these reasons, almost all the empirical applications are limited to achieved functionings, which is an outcome-based evaluation.

Even theoretically the dichotomy between measuring opportunities through capabilities versus measuring outcomes through achieved functionings should not be seen as absolute. Sen (1987:36-37) proposed the concept of 'refined functioning', being functionings which take note of the available alternatives. The capability of a person could then partly be reflected in her refined functionings-level. The idea of refined functionings will help in some cases, but not necessarily in all. Again, the two hungry persons can serve as an example. Both have not eaten for days so their achieved functioning of being

nourished is zero for both of them; but the African in the famine had no option to choose, whereas the Tibet-activist chose to fast. When an evaluation would be based on refined functionings, we would take the options both persons have into account (e.g. by giving the activist a higher score on the refined functioning of being nourished.)

2.5. How can the capability approach be formalised?

The need to discuss the possibility to formalise the capability approach has raised eyebrows among some philosophers and scholars in development studies. Nevertheless, it is important to know whether it is possible to formalise the capability approach for two reasons, an intrinsic one and one related to sociology of science. Firstly, some empirical applications, most notable those using large scale micro-level data, methodologically require such a formalisation. If it would be impossible to formalise the capability approach, we would expect serious limitations to applying it empirically with quantitative techniques. Secondly, the methodology of mainstream economics attaches great importance to mathematical formalisation. If the capability approach wants to gain the academic status of not only being a philosophical theory but also being an economic theory, we have to be able to present a formalisation.[16]

Sen (1985a) himself has developed a formalisation which should, giving his emphasis on the capability approach as a framework of thought, be regarded as *one possible* formalisation. The following formalisation is based on Sen (1985a).

Let x_i be the vector of commodities possessed by person i, and $c(x_i)$ the function converting this vector into a vector of characteristics of those commodities. Let $f_i(c(x_i))$ be a function converting the vector of characteristics into a vector of functionings b_i, so that $b_i = f_i(c(x_i))$. Sen calls $f_i(.)$ a personal 'utilisation function', which is i-specific because of the personal conversion factors which can make the conversion of (the characteristics of) commodities into functionings different for every individual. As there are different ways in which a person can transform these commodities into functionings, each person will be able to choose one f_i out of the set F_i.

At this point I would like to extend Sen's (1985a) formalisation slightly, by accounting for the social and environmental conversion factors (such as public goods, infrastructure, social norms, public policies, and so on) which influence the conversion of the characteristics of the commodities into functionings. Call z_i those conversion factors that affect person i. As each conversion factor might affect persons differently, z has to be indexed on i (for example, gender roles affect every person, but men differently from women). Then $b_i = f_i(c(x_i; z_i))$

Once a person has chosen $f_i(.)$, the achieved functionings are given by $b_i = f_i(c(x_i; z_i))$, which represents a person's being.

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[16] This does not mean, of course, that it would not be economic theory, even if it would not be (easily) formalisable. On the tendency in economics to reduce economic theory to *mathematical* economic theory, see e.g. Strassmann (1994).

The question then becomes how to evaluate b_i. Sen (1985a [1999:8]) stresses that the valuation of b_i is the valuing of a life, and should clearly remain distinct from measuring the happiness generated in that life. The value of person i's achieved functionings can then be written as

$$v_i = v_i(f_i(c(x_i; z_i)) \quad (1)$$

with $v_i(.)$ the valuation function. Brandolini and D'Alessio (1998) introduce the possibility that i's well-being is valued either by i herself or by another 'evaluator', which modifies v_i as follows:

$$v_{ei} = v_{ei}(f_i(c(x_i; z_i)) \quad (2)$$

where it may be that e=i.

Now, for a given commodity vector x_i, define $P_i(x_i)$ as the set of functionings vectors feasible for person i, given that person i has a choice of any f_i out of the set F_i; then

$$P_i(x_i) = \{b_i | b_i = f_i(c(x_i; z_i)), \text{ for any } f_i(.) \in F_i\} \quad (3)$$

Given that person i's choice of commodity vectors is restricted to her entitlement X_i, the set of feasible functionings is given by

$$Q_i(X_i) = \{b_i | b_i = f_i(c(x_i; z_i)), \text{ for any } f_i(.) \in F_i \text{ and for any } x_i \in X_i\} \quad (4)$$

The set Q_i is then the capability of person i, hence the various combinations of functionings she can achieve.[17]

The question arises whether further, and perhaps full, formalisation is necessary and possible. A further formalisation as such can prove to be useful when addressing specific questions. For example, Basu and López-Calva (1998:19) argue that formalisation can help to solve problems of comparing sets of functionings, or in other words, of comparing capabilities. They describe one possible formalisation of the capability approach as developed by Herrero (1996).

Three points are worth noting here. First, if these further formalisations are developed axiomatically thereby relying upon unrealistic or strongly reductive assumptions, it is crucially important that these assumptions do not reduce the capability approach from a framework of thought to a formula which has lost much of its intuitions and informational richness. Given the strong emphasis in neoclassical economics on formalisations and mathematical modelling, this is not an imaginary risk. The epistemological status given to a further formalisation seems crucial here. If a formalisation would be seen as part of, and embedded in the capability approach as a broader framework of thought, it can contribute to the advancement of the capability approach; if, on the other hand, it receives the epistemological status of *being* the capability approach, it might well reduce the capability approach to something it was never meant to be.

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[17] Sen (1985a [1999:9]) denoted Q as the capabilit*ies* of person i, but when over time the capability approach became more developed, Q_i would be denoted as i's capability.

Second, if these formal analyses of the capability approach would co-exist next to the more conceptual, verbal and empirical work, the question arises where our priorities should lie. Although I do not intend to criticise formal elaborations of the capability approach as such, I would argue that the 'comparative advantage' of the capability approach compared to other evaluative approaches lies in its informational richness and its possibility to account for social constraints and diversity among individuals – three characteristics which make mathematical modelling much more difficult. It is possible that formalisations of the capability approach will reduce or even eliminate much of those three characteristics. No doubt that the formalisations will be elegant and intellectually stimulating puzzles for economists interested in applied maths, but *if* this is done at the costs of losing those characteristics which make the capability approach attractive, then I would argue that this should not be given priority among economists, philosophers or other social scientists, but be done by applied mathematicians.

Third and finally, the existing empirical studies show that a minimal formalisation suffices for a number of interesting quantitative empirical applications. Thus, from the perspective of applications, it is the question whether we *überhaupt* need any more detailed or full formalisation, as it is not immediately clear how this will improve the empirical applications. The development and search for appropriate empirical methods and especially the questions regarding data collection and survey design might be much more pressing if the aim is furthering quantitative empirical applications.

3. AN ASSESSMENT OF THE CAPABILITY APPROACH

3.1. Which functionings should we take into account?

It is clear that the capability approach replaces the traditional concern with utilities (in theory) or incomes (in applications) by a more intrinsic concern with "what people manage to do and to be". However, Sen himself (quoted in Basu and López-Calva, 1999:5) has warned for an "embarrassment of the riches" as there are innumerable functionings which can be taken into account to provide a picture of people's well-being. Any normative analysis will thus be confronted with the selection or identification of the relevant functionings.

The capability approach does *not* prescribe a list of functionings which should be taken into account.[18] As a consequence, every evaluative exercise will require a selection of the functionings. Some economists have been critical about the fact that Sen hasn't proposed a list of relevant functionings. However, Sen has responded to those criticisms that selecting functionings will always be an "act of reasoning". There are two (closely

[18] At least, Sen does not do so. Nussbaum (1995, 1999, 2000) has offered a list of 'central human functional capabilities'. However, this list is not uncontested. Its introduction can be seen in two ways: either one could argue that it tends to shift the capability approach from a framework of thought to a formula, or alternatively one could regard Nussbaum's capability approach as a more specified version of Sen's general framework.

related) aspects worth considering here: first, the question whether the process of selecting functionings can fall prey to biases, and second the question according to which criteria this selection should be done.

First, the "act of reasoning" runs the risk of becoming the source of potential biases in the evaluative exercise. In other words, the life world, values and social embedding of the researcher might influence which functionings will be included or not. I will illustrate this claim by focussing on gender inequality research, but similar arguments can be made for e.g. poverty or inequality research in a society one does not know or other research on situations one is not familiar with.

Functionings and capabilities make it possible to take into account many (non-monetary) activities and concerns that are highly gendered. For example, the following functionings could be measured: to control or manage one's care-responsibilities; to exercise a profession without being discriminated on the labour market; to choose a profession autonomously; to be free from sexual and familial violence; to combine a family life with a job and career; to be paid the same wage for the same work others perform, regardless of irrelevant characteristics such as race or sex; and so on.

However, the observation that most contemporary inequality researchers know little about gender and how gender inequality arises, and the prevailing androcentrism in the inequality literature both in political philosophy and in economics (Robeyns 1999, 2000), might lead to a gender bias in the selection of functionings. The epistemological importance of knowledge on descriptive gender inequality for gender inequality measurement is important here: if an inequality researcher does not know what the major constituents and causes of gender inequality are, she or he will probably not think about the related functionings when selecting them. For example, as many normative welfare economists do not consider the division of household labour and care responsibilities to be part of their object of study or academic field, it is doubtful whether they will consider to include the functioning e.g. to control and manage one's care-responsibilities in the list of functionings constituting well-being. In short, moving from traditional informational bases to functionings and capability does not *guarantee* that the measurement would become less gender-biased, although it opens up a possibility to be more inclusive. More generally, it seems that the capability approach needs to be supplemented with methodological tools which will enable us to correct for biases in the selection of functionings which result from the social positioning of the researchers. As a framework of thought, the capability approach allows for those issues to be taken into account; however, if the capability approach is used as a formula, there is no guarantee that these wider considerations which affect the ultimate evaluative exercise, will be appreciated. This supports Sen's prioritising to see the capability approach in the first place and foremost as a framework of thought, and only to a lesser extent as a formula for welfare analysis.

The second point we need to consider is the suggestion to limit the selection of functionings and capabilities, and if so, how it should then be done. Bernard Williams, among others, has suggested that it is necessarily to put some constraints on "the kinds of capability that are going to count in thinking about the relation between capability on one hand and well-being or the standard of living on the other" (Williams 1987:100). The

difficulty is, however, where these constraints which will single out these capabilities from the set of all capabilities are going to come from. Williams notes that traditionally they have come either from nature or from convention. It is easy to see that we all need safe water and clean air, but as soon as we leave these straightforward examples of some basic capabilities behind us, we run into difficulties. Again, take the functioning to lead a life where one is not forced to "choose" between care and household work on the one hand, and a job on the labour market on the other hand. Traditionally, most men and almost all people without children or frail parents enjoy this functioning, as they did not have any, or only very limited, responsibilities for household work and the day-to-day care of others. So, for the majority of people, this functioning is not high on their list of priorities, as they can take this functioning quasi for granted. Nevertheless, for many women, especially young mothers and the daughters (in law) of frail old people, this has been one of their most pressing needs. If we leave it to either nature or convention to decide whether this is a relevant functioning, then the outcome is predictable, but, I would argue, also highly questionable. The same problems will arise if we would agree on the list of relevant functionings, but if we still need to decide on the weights to attach to them. This is not a critique of the capability approach as such, but again an indication that the capability approach, which as a framework of thought would critically question both nature and convention and stress social constraints, can be used in a partial and distorted way which does injustice to its ethical underpinning.

3.2. Is the capability approach too individualistic?

The critique that the capability approach would be too individualistic is most often found in writings or talks by social scientists or philosophers who in general argue that neoclassical economics or liberal egalitarianism is too individualistic.[19] This critique states that any theory should regard individuals as part of their social environment, and hence agents should be recognised as socially embedded and connected to others, and not as atomised individuals.

I think this critique suffers from the mistake of collapsing different kinds of individualism into one. We should distinguish between ethical individualism on the one hand and methodological and ontological individualism on the other hand.

Ethical individualism makes a claim about who or what should count in our evaluative exercises and decisions. It postulates that individuals, and only individuals are the units of moral concern. In other words, when evaluating different states of social affairs, we are only interested in the effect of those states on individuals.

Methodological and ontological individualism are somewhat more difficult to describe, as the debate on methodological individualism has suffered from great confusion

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[19] For example, Flavio Comim has uttered this critique quite forcefully at seminars in St. Edmunds College, Cambridge, on 27 January and 13 June 2000. Comim defends the notion of "social capabilities", which would not be "individualistic". See also Nussbaum's (2000:55-59) analysis of critiques on individualism. The critiques which Nussbaum analyses and her arguments for the principle of treating individuals as an end are different than the ones presented here, but they are compatible and could support one another.

and obscurity. Nevertheless at its core is the claim that "all social phenomena are to be explained wholly and exclusively in terms of individuals and their properties" (Bhargava 1992:19). It is a doctrine which covers semantic, ontological and explanatory individualism. The last is probably the most important in the doctrine, and this can also explain why many people reduce methodological individualism to explanatory individualism. Ontological individualism states that only individuals and their properties exist, and that all social entities and properties can be identified by reducing them to individuals and their properties. Ontological individualism hence puts a claim on the nature of human beings, on the way they live their lives and their relation to society. In this view society is built up from only individuals and nothing than individuals, and hence is nothing more than the sum of individuals and their properties. Similarly, explanatory individualism is the doctrine that all social phenomena can in principle be explained in terms of individuals and their properties.[20]

The crucial issue here is that a commitment to ethical individualism is not incompatible with a personal ontology that recognises the connections between people, their social relations, and their social embedment. Similarly, a social policy focussing and targeting certain groups or communities can be perfectly compatible with ethical individualism.

The capability approach embraces ethical individualism, but does *not* rely on ontological individualism. On the theoretical level, the capability approach does account for social relations and the constraints and opportunities of societal structures and institutions on individuals in two ways. First, by recognising the social and environmental factors which influence the conversions of commodities into functionings. For example, suppose that Janneke and Joseph both have the same individual conversion factors and possess the same commodities. Both have a bike and are able bodied. However, Janneke is living in a typical Dutch town with cycle lanes and low criminality rates, whereas Joseph is living in Antananarivo in Madagascar, a capital with massive poverty, and high levels of criminality and theft. Whereas Janneke can use her bike to cycle everywhere she wants, on any moment of the day, Joseph will be faced with a much higher chance that he will be robbed or that his bike will be stolen. Hence, the same commodity (a bike) leads to different levels of the functioning to transport oneself safely, due to characteristics of the society in which one lives (its public infrastructure, poverty, crime records and so on.)

The second way in which the capability approach accounts for the societal structures and constraints is by theoretically distinguishing functionings from capabilities. More precisely, the crossing from capabilities to achieved functionings requires an act of choice. Now, it is perfectly possible, and as I will argue in 3.3, even necessary to take the societal structures and constraints on those choices into account. For example, suppose Sarah and Sigal both have the same intellectual capacities and human capital at the age of 6, and live in a country where education is free and children from poorer families receive scholarships. Now, Sarah was born in a class were little attention was paid to intellectual

[20] Needless to say that an in-depth study points at much more nuances and different streams within methodological individualism. See Bhargava 1992.

achievement and studying, whereas Sigal's parents are both graduates pursuing intellectual careers. The social environment (in this case their family and class) of Sarah and Sigal will greatly influence and shape their preferences for studying. In other words, while initially Sarah and Sigal have the same capability set, the social structures and constraints which influence and shape their preferences, will influence the choice they will make to pick one bundle of functionings. However, I have argued that Sen's capability approach *allows* to take those structures and constraints on choices into account, but that it does not offer such a full account, and that this complementary theory of choice has ultimately far reaching consequences for our evaluative exercises.

Once more this shows that the capability approach is an *approach* to interpersonal comparisons which argues for functionings and capabilities as the relevant evaluative space where each application (be it theoretical or empirical) can, and perhaps has to, be supplemented with other theories. These other theories are normative theories (for example a normative theory of choice or a theory on the normative relevance of class, gender or race) which are in turn based on positive theories of human behaviour and societal processes.

Thus far I have argued that the capability approach does not rely on ontological individualism, while it does embrace ethical individualism. Can the latter be the basis of the critique that the capability approach would be too individualistic? I do not believe so. In fact, by its very nature the evaluation of functionings is an evaluation of the well-being of individuals. Therefore I believe it is a mistake to talk of 'social functionings' or 'community functionings' (or social or community capabilities, for that matter). Just as it is ontologically impossible to speak of the well-being of a community (- what is often meant is an aggregation, e.g. an average of the well-being of its individuals -), it is also impossible to speak of the capability of a community. It is true that certain public goods or structural characteristics of society, or "irreducible social goods" (Gore 1997), like social norms or traditions, increase or decrease the capability of individuals -- but this is quite something different than to say that these public goods or structural features would enable a social capability or community capability.[21] The only exception would be if the latter would be defined as an aggregative function of individual capabilities. But then I believe the use of the notion of capability is no longer the way it is defined in Sen's approach and hence might give rise to conceptual obscurity and confused debates.

Note that the claim for ethical individualism does not imply that empirical applications of the capability approach on aggregate data are by definition inappropriate. For some issues, aggregate data (e.g. country averages) will be all that is available, or will be the relevant unit given the nature of the research question (e.g. country comparisons). The work on the Human Development Index (UNDP 1990-99) is a particular forceful case, and will be discussed in section 3.4.

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[21] Gore (1997) provides a sensible analysis of this discussion, arguing that ultimately it boils down to the view of personhood between liberals and communitarians. I think that the capability approach fits the idea that social goods and community properties *are* relevant in the evaluative space, but only instrumentally. I disagree with Gore (1997:246) that this would be an untenable position in multicultural or heterogeneous societies, -- a debate which is analysed at length in Pierik (2000).

3.3. Does the capability approach require a supplementary theory of choice?

The choice-element of the capability approach allows us to avoid the fallacy in contemporary economic theory to assume that people choose what maximises their utility (being the indicator for welfare and well-being), leading to a conflation of maximal utility (hence maximal welfare) with the value of the revealed preference. Whereas in economic theory it is very difficult to question the motivations and processes behind a choice, due to the assumption of utility-maximising rational individuals and choice as revealed preference, the capability approach makes choice explicit in its theory. Moreover, as Sen (1985a [1999:3]) puts it, in the capability approach the "motivations behind choice … may or may not coincide with the pursuit of self-interest."

The difficulty lies in the fact that the capability approach *as such* contains no normative theory of choice. This does not mean that Sen has not written on choice, quite on the contrary, as his bibliography in e.g. Atkinson (1999) or Pressman and Summerfield (2000) overwhelmingly shows. The only point I want to make here, is that it is quite possible to use functionings (and capabilities) as the evaluative space in combination with many different normative accounts of choice. For example, despite Sen's repeated criticism on choice as revealed preference (e.g. Sen 1977, 1982, 1997), one could in principle make interpersonal comparisons of functionings assuming revealed preference theory. Depending on the choice theory one adopts the capability approach will be applied appropriately or not, or, to put it somewhat vulgarly, will lead to 'good' or 'bad' research. Thus, applying the capability approach demands more than just measuring or theorising about functionings.

Furthermore, it could be argued that a general theory of choice will have to be applied and refined for every specific choice of a vector of functionings from the capabilities set or alternatively, when assessing the refined functionings. This is closely related to the discussion on how the capability approach can (or should) handle cheap and expensive tastes (see 2.4). I will try to make this argument clear by discussing two examples: educational choices by class and choices between paid and unpaid work by gender.

First the example of educational choices by class. It is a general finding in the social sciences that children and youngsters from disadvantaged background have a higher probability to drop out from school or start working before the age of 18 instead of pursuing higher education. It is often argued that even if *formally* the opportunities to study are equal for all (which is the case in many continental European countries, where higher education is virtually free), that youngsters from disadvantaged backgrounds will not be encouraged to do so, will have no role models, will not become aware of the advantages of further education etc. In short, the lower social and cultural capital in their communities will work as a constraint on their choices.

An evaluative exercise in the space of functionings and capabilities will lead to different results depending on whether it embraces these constraints on choice or not. Again, the capability approach shows to be a mode of thinking instead of a fixed formula: for example, the normative analysis could be conducted under different assumptions about the constraints of choice and the normative results could be compare to see how sensitive they are with regard to our assumptions.

This second case is the choice for paid (labour market) or unpaid (care and household) work by gender. In all societies women do much more household and care work, whereas men do much more paid work. Both kinds of work can generate a number of different functionings; however, I would argue that in general work on the labour market enables more (and more important) functionings than care work (psychological functionings like increased self-esteem, social functionings like having a social network; financial functionings like being financially independent and securing financial needs for one's old age or in the event of divorce).[22] Now, political philosophy and normative welfare economics have typically seen the gender division of labour as ethically unproblematic, in the sense that this division would be the result of men's and women's free choices which reflect their preferences. I have argued elsewhere that this is an inadequate way of explaining and evaluating this division, because gender related structures and constraints convert this choice from an individual choice under perfect information into a collective decision under socially constructed constraints with imperfect information and asymmetrical risks. Moreover, evaluating the gender division of labour can only be done if we scrutinise the constraints on choice, and these turn out to be very different for men and women (Robeyns 2000).

What is crucial for the discussion here is that both positive theories of the gender division of labour bear different normative implications: if a housewife is held fully responsible for the fact that she works at home then the logical consequence would be that she had the capability to work on the labour market. However, if we embrace a positive theory of choice that focuses on gender specific constraints, then we will not hold the housewife fully responsible for her choice but acknowledge that her capability set was smaller and did not contain the possibility for unconstrained choice to work on the labour market. It seems, thus, that it is perfectly possible to apply the capability approach in combination with different accounts of gender-specific constraints on choices.

By giving choice such a central position and making its place in well-being and social justice evaluations more explicit, the capability approach opens up a space for discussions on how certain choices are constrained by gender-related societal mechanisms and expectations. But again, the capability approach provides no guarantee for this. Therefore, if my claim that there are gender-specific constraints on choices holds, I would argue that the applications and further developments of the capability approach should be sensitive to this. However, my reading of normative political philosophy and welfare economics is that there is surely no general acceptance of the existence and ethically problematic nature of gender-specific constraints on choice, especially regarding the division of labour, so that we might first have to get deeper into that discussion.

A number of authors have discussed the issue of choice in the capability approach. Two arguments require special attention here.

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[22] As is also suggested by the empirical findings of Chiappero-Martinetti (2000) who measured achieved functioning levels for Italy. For a general theory on the importance of group-dependent constraints on the division of market versus care work, see Folbre (1994). For a discussion of some of the reasons why domestic work would enable less functionings than labour market work, see Robeyns (2000).

Chiappero-Martinetti (1996:43) has argued that "…through a comparison of resources, assessed capabilities and the level of functionings, we should be able to deduce whether the achieved results are a consequence of free choice or are due to the lack of adequate resources and/or basic capabilities to achieve". It might be helpful to think about this argument as follows. If we have information on the achieved functionings and the capability set, we can then deduce whether the non-achievement of a certain functioning is the result of a free choice to forego this particular functioning or simply because it was not available in the capability set. The problem, obviously, is that it will be extremely difficult to gather information on the capability set so that the question how to assess whether a choice was 'free' or not remains unsolved.

Basu and López-Calva (1999:26-31) point at two more issues concerning the status of choice in the capability approach. With respect to the individual herself, they argue, drawing on Foster and Sen (1997:202) that the 'ability to choose' is "an essentially different kind of functioning from the other functionings" (1999:27). Therefore it would make sense to conceptualise it as a supervenient functioning, separated from the other functionings.

The second issue concerns the interdependence of people's choices. Capability sets list all the functionings-vectors available to an individual, but Basu and López-Calva rightly argue that this does not mean that an individual is free to choose any point from her set. The choice of a specific functionings-vector of person 1 might limit the actual available options for person 2.

All this suggests that (applications of) the capability approach will inevitably be confronted with difficult questions on the nature of choice. On the one hand this makes the capability approach considerably more complex if one wants to acknowledge these tensions. On the other hand it lifts the illusionary nature and deceiving simplicity of the underlying choice theory in traditional welfare economics, which is crucial for some applications like the ones discussed above.

3.4. Is the capability approach too difficult to operationalise?

One of the critical questions most often asked, is whether the capability approach is not too difficult to apply or operationalise. Robert Sugden (1993:1953) has summarised this (perhaps widespread) critique as follows: "Given the rich array of functionings that Sen takes to be relevant, given the extent of disagreement among reasonable people about the nature of the good life, and given the unresolved problem of how to values sets, it is natural to ask how far Sen's framework is operational. Is it a realistic alternative to the methods on which economists typically rely -- measurement of real income, and the kind of practical cost-benefit analysis which is grounded in Marshallian consumer theory?"

Similarly, John Roemer (1996:191-193) has formulated a number of critiques which lead to the conclusion that the capability approach is not (yet) operational. First, the capability approach does not offer an index of functionings. Second, "even given functioning indices, Sen provides no equivalence relation on the class of capability sets which would enable us to say when one person's capability is better or richer than another's" (1996:192).

Thirdly, Roemer criticises Sen because he wants to equalise capabilities, but does not discuss the equalisation objective precisely enough so that it is not clear how this should be done. Roemer acknowledges that Sen has responded to some of these critiques by arguing that partial orderings are really all we can expect to make; however, Roemer considers this assertion unproven.

The contrast between Roemer's 'equality of opportunity theory' and Sen's capability approach is a perfect illustration of what is really going on here. Roemer's normative theory is fully formalised and provides a neat algorithm to address questions of (re-) distribution. However, the evaluative space is *unidimensional*, and can only be unidimensional, because it is a necessary condition for full orderings which are needed for Roemer's algorithm. I think that there is a trade-off between the number of dimensions and the informational richness of the evaluative space on the one hand and the degree in which the theory can be formalised and can provide complete orderings of interpersonal comparisons on the other hand. The fact that applications of multidimensional well-being analysis are based on simple formalisations, whereas applications of unidimensional well-being are often based on advanced formalisations, and are technically much more sophisticated, provides support for this claim, although it is true that I can not prove my assertion.

While Roemer and a number of other normative welfare economists have provided fully formalised (re-) distributive theories leading to complete orderings or clear redistributive prescriptions, Sen has chosen to do justice to the multidimensional, fuzzy and ambiguous character of well-being. As soon as we investigate a normative question where a focus on one dimension is not necessarily sufficient, where individuals are not homogeneous and more dimensions might have to be taken into account, the available algorithms might cease to be helpful. And because of its multidimensional nature, the capability approach put into operation will inevitably be quite different from unidimensional interpersonal comparisons. It does seem a mistake to expect that the capability approach will be in the same way operational as real income measurement, cost-benefit analysis, or Roemer's equality of opportunity theory or which ultimately are all operating in a unidimensional space.[23]

As Sen and other welfare economists have stressed, there are several ways in which an idea such as the capability approach can be made operational (Sen 1992; Atkinson 1999:185). And indeed, the list of empirical applications includes very diverse ones. These applications are not only interesting for the specific research questions which they have

[23] If one would make an index of achieved functionings which would provide a full ranking, then the capability approach would have the same potential for formalisation and could also be transformed into an algorithm. Formalisations and algorithms may be necessary for all quantitative applications which have to lead to either full ranking of individuals, or, in the case of redistributive theories, to an optimum. However, I hope that by now I have made a strong enough case that this would regard the capability approach on the third level (as a formula) but quite possibly reduce the capability approach as a framework of thought.

addressed, but as a whole they also give us a good idea of the possibilities and limitations of the capability approach.[24]

The two first applications were made by Sen himself, and were meant to illustrate the basic principles and ideas behind the capability approach. The first application (Sen 1985a [1999:46-51]), using data from 1980 to 1982, showed that while the (roughly equivalent) GNP per capita of Brazil and Mexico are more than 7 times the (roughly equivalent) GNP per capita of India, China and Sri Lanka, performances in life expectancy, infant mortality and child death rates are best in Sri Lanka, and better in China compared to India and Mexico compared to Brazil. Another finding was that India performs badly regarding basic education but has considerably higher tertiary education rates than China and Sri Lanka. Thus Sen concluded that the public policy of China and especially Sri Lanka towards distributing food, public health measures, medical services and school education have led to their remarkable achievements in the capabilities of survival and education. What did this application teach us on the capability approach? First, ranking of countries based on GNP per capita is quite different from a ranking based on the selected functionings. Second, growth in GNP per capita should not be equated with growth in living standards.

Sen's second application (Sen 1985a [1999:52-69]) examined sex bias in India. It showed that there is some evidence of gender differences in the perception bias of one's health condition. Moreover, females have worse achievements than males for a number of functionings, like age-specific mortality rates, malnutrition and morbidity.

This kind of quantitative applications based on aggregated data has become widespread, especially in development studies. The most famous one is undoubtedly the concept of human development and the construction of a number of indices: e.g. human development index (HDI) (1990), human freedom index (1991), gender-disparity-adjusted HDI (1993), income-distribution-adjusted HDI (1993), gender related development index (1995), gender empowerment measure (1995) and human poverty index (1997) (UNDP 1990-1999). These indexes clearly show that GDP/capita is an imperfect indicator of human development and that the ranking of countries according to GDP-based indicators and the human development indicators are different. Although using just a few functionings and perhaps in a somewhat crude way, it is probably the application which has had the largest impact on policy making. Perhaps this is one of the best illustration of the *usefulness* of the capability approach.

Ellman (1994) studied the sharp decline in living standards after the collapse of the USSR and argued that there were severe negative effects on mortality and morbidity over

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[24] Note that although I have not deliberately left out any studies this list should not be seen as a complete overview. Moreover, I have not discussed any studies which perhaps *de facto* apply the capability approach but do not refer to it. Studies done by the "Scandinavian school of welfare research" might fall under this category – see e.g. Allardt (1993) and Erikson (1993). Furthermore, it seems that (especially with respect to poverty analysis) similar applications have been made by sociologists and psychologists for several decades. In a sense, one could argue that Sen has introduced into economics a framework which was already used in other disciplines for quite a while (as several psychologists and sociologists have pointed out to me during discussions). Sen (1987:24; 31) himself refers to the literature on basic needs and social indicators and sociological studies such as Mack and Lansley (1985).

the period 1987-1993, which a welfare analysis concentrating on price, income and consumption data did not capture. He concluded that his study "more generally supports the usefulness of the capability approach to the measurement of welfare" (1994:353).

Slottje (1991) used 20 indicators to compute a well-being index for 126 countries. His study showed that "world rankings of the quality of life index vary as we summarize the information from several economic well-being indicators into one summary index" (Slottje 1991:685). Despite his explicit reference to Sen's (1985, 1987) work, his application only loosely follows the capability framework, as some indicators clearly measure capabilities (e.g. political rights and civil liberty) while some represent functionings (e.g. life expectancy) and others are commodities (e.g. telephones per capita).

Balestrino and Sciclone (2000) tested the strength of the correlation between income and functionings on a regional comparison of well-being in Italy. Their study showed that the functionings-based ranking and income based rankings are strongly positively correlated, though the rankings are not identical (it differs for 7 out of 20 regions).

Another group of quantitative applications used micro-data. Schokkaert and Van Ootegem (1990), who were the first to operationalise the capability approach using micro-data, applied the capability approach on 1979 data on the Belgian unemployed. They showed that material factors are almost irrelevant in the determination of the well-being of the unemployed, thus providing support for a broad concept of well-being. For a number of functionings, the size of the income loss, gender, age and family composition matter. Hence, their analysis suggests that the use of non-financial policy instruments targeted at specific groups might be helpful.

Balestrino (1996) analysed whether a sample of officially poor people are functioning poor, income poor or both. Out of the 281 Italian households in his sample, 73 households are pure functioning poor (i.e. education, nutrition or health failure), 71 are pure income poor and 137 are both. The analysis suggests that a sizeable share of the poor in affluent societies is actually not income poor. A policy conclusion which can be drawn from this study is that for pure functioning poor, in-kind transfers would be more effective to fight poverty than cash transfers.

Ruggeri Laderchi (1997) tested on 1992 Chilean data to what extent an income indicator can capture some of the most essential functionings (education, health and child nutrition). She concluded that the income variable appears an insignificant determinant for shortfall in the three selected functionings. Hence, poverty analysis is highly conditional on the indicators chosen and thus "the approach should be kept as broad as possible in order to capture more fully the multidimensional mature of such a complex phenomenon" (1997:345).

Brandolini and D'Alessio (1998) used the Bank of Italy's 1995 household survey covering 6 functionings (health, education, employment, housing, social relationships and economic resources). Despite data limitations the exercise provides an interesting picture of the distribution of functionings achievements and deprivation. They also investigated and discussed a number of techniques which can be used, like sequential dominance analysis and multidimensional poverty indexes.

Phipps (1999) made a comparison of the well-being of children aged 0-11 in Canada, Norway and the USA, using equivalent household incomes and ten quite specific

functionings (low birth weight, asthma, accidents, activity limitation, trouble concentrating, disobedience at school, bullying, anxiety, lying, hyperactivity). Her study had two main findings. First, the Canadian and USA distributions of functionings can not be ranked, but the Canadian children with incomes in the bottom quintile are better of than the American children. Second, while average incomes are similar in the three countries, Norwegian children are better of in terms of the 10 functionings than the Canadian. This study thus showed, once more, that measurement of functionings and incomes give complementary information; the respective rankings are not the same.

Chiappero-Martinetti (2000) used the 1994 Italian household survey to further the methodological development of the fuzzy set theory to measure well-being in the functionings and capabilities space (Chiappero-Martinetti 1994, 1996). Her study measured 5 functionings (health, education, knowledge, social interaction and psychological conditions), at three levels of aggregation. Women, elderly (especially if they live alone), people living in the South of Italy, housewives and blue-collar workers have lower functionings achievements, no matter how the overall well-being has been determined. Chiappero-Martinetti's study also shows that aggregation is not necessary for many questions that we would like to address. Moreover, aggregation can obscure the human diversity. Depending on the questions asked, other levels of aggregation will be more appropriate, hence there is a strong case to present the analysis at different levels of aggregation, as Chiappero-Martinetti did.

Klasen (2000) measured and compared expenditure poverty and functionings poverty in South Africa. Klasen made a very detailed analysis of 14 functionings[25] (education, income, wealth, housing, water, sanitation, energy, employment, transport, financial services, nutrition, health care, safety, perceived well-being) and constructed an aggregated index. On the aggregated level, the expenditure poverty measure is among the best proxies for the functionings-index, but not equally well for all quintiles; but, as Klasen argues, it is not more difficult to construct the functionings index than measure expenditures levels. Also, some groups are much deeper functionings-deprived than suggested by the expenditure measurement, and 17% of the functionings deprived are not identified by the expenditure measure.

Two more studies remain to be discussed, which are both quite different from all the others. The application which perhaps comes closest to discuss *capabilities* instead of *functionings* might well be Jasek-Rysdahl (2000). Jasek-Rysdahl discusses a community project in a destitute area in California, which wants to strengthen the community and improve the quality of life for its residents, by making an inventory of the inhabitants capabilities through so-called 'asset mapping'. Capabilities are in this context understood as the talents, the abilities and the potential of the individuals of this community. Thus, the focus shifts from what external experts can deliver to this community to what those people can do themselves to improve the quality of their lives. The asset mapping consists of a door-to-door survey where people are asked about their capabilities and what they would

[25] And not, as he claims, capabilities. It is indeed remarkable that Klasen (2000) is one of the finest applications, but does not acknowledge the crucial distinction between functionings and capabilities.

like to do, and whether they would be willing to use their capabilities to help others. As Jasek-Rysdahl points out, the sole matter of *asking* people this question already makes them much more aware of the degree in which they themselves can be agents of change and improve the quality of their lives and of their neighbours. For example, multi-lingual residents could help others who do not understand English with their language skills, while residents with construction skills could improve the housing and living conditions of neighbours.

Finally, despite the fact that it is not written as an application of *Sen's* version of the capability approach, Nussbaum's (2000) account of the well-being and survival of Indian women is instructive for critics wondering about the way in which the capability approach can be put to work. Nussbaum shows that the capability approach can also be used outside the field of *quantitative* analysis, by using other methods like narrative accounts, biographic methods, in-depth interviews, and so on.

Which conclusions can we draw from this list? First, despite the fact that Sen published *Commodities and Capabilities* in 1985, the number of empirical applications is still quite limited. At the same time most of them are published in national journals or minor international journals. It makes one wonder whether these applications are really much more difficult to make than standard poverty and inequality analyses (and e.g. data sets are lacking), or why perhaps welfare economists in general are not more interested in taking up this line of research, and whether the fact that the 'comparative advantage' of the capability approach is informational richness and not formal sophistication has anything to do with this.

Second, in my reading none of the applications were using surveys which were specifically constructed to measure functionings; we are, thus, still working with second-best surveys and the current applications are likely to be limited by possible construction biases in the available data. It would be interesting to see the results which an analysis on surveys specifically designed to measure functionings would give.

Third, despite the fact that the applications are limited in number, together they offer a lot of interesting techniques which can be applied. One of the possible paths for future research would be to analyse the functionings-well being based on one household survey with different methods (like factor analysis and the fuzzy set theory) and analyse to what extent the choice of the techniques determines the results.

Fourth, empirical applications should not be reduced to *quantitative* empirical applications, nor to well-being measurement. Both Nussbaum's (2000) narrative account on Indian women as well as Jasek-Rysdahl's (2000) description of capability asset mapping are illustrations of enlightening, creative and insightful applications outside (mainstream) economics.

In conclusion, I believe that both the theoretical arguments as well as the described empirical applications show that it has proven unfounded to conclude that the capability approach is not operational. However, we should note that the existing quantitative applications are largely descriptive (e.g. by conceptualising and measuring poverty or inequality in terms of functionings rather than using functionings and capabilities in

explanatory research which tries to explain e.g. functionings-poverty). It remains an open question how successful analytical applications of the capability approach will be.

3.5. Is the capability approach paternalistic and does it lead to too much government interference?

In line with its Aristotelian roots, the capability approach provides an objective account of well-being. Indeed, the capability approach is ultimately based on considerations of the social good, and can as such be seen as a search for the truth, more precisely a search for a true answer to the question what a good life would be like (Sugden 1993). By defending and developing this substantive approach to well-being, Sen opposes contractarian and libertarian perspectives.

Now, social scientists and perhaps economists in particular have increasingly lost confidence in government's ability to decide on this social good and to develop policies based on it. It should therefore not come as a surprise that the capability approach is often criticised for leading to a government which is interfering too much in our lives. I would argue, however, that an analysis of this critique shows that it is largely unfounded. The critique of too much government interference is in fact a collapse of two different elements: on the one hand a critique of paternalism, and on the other hand an entanglement of distributive and redistributive concerns.

A critique of paternalism is inherent to any objective account of interpersonal comparisons of well-being. And strictly speaking, all societies (except the Hobbsian world of "Each against All") contain some social arrangements which are partly based on paternalistic considerations. Thus the relevant question should not be whether the capability approach is paternalistic, but whether it is paternalistic to an unjustifiable degree. There are at least two ways in which the capability approach can prevent this. First, Sen has not specified an exact and definite list of functionings. And *if* such a list would be constructed, it would most likely be at the level of fundamental functionings and not at the 'lower' level of more specified functionings. Moreover, this selection will always have to be the object of discussion, either through some deliberative democratic procedure (see e.g. Gutmann and Thompson 1996) or by providing social scientific and political space to allow for different selections which can then be discussed.[26] In the latter case, the social scientists could perform a sensitivity analysis with regard to the selection of functionings, or the weights in case an index is constructed. Second, techniques of empirical analysis allow to some extent to 'let the data speak for themselves', so that the identification of the different functionings is one with minimal intervention by researchers. In that case we are still left with the probability that the survey design and data collection limits the possible functionings or suffers from a bias, but this is a potential problem for all empirical analyses.

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[26] Klasen (2000:36) explicitly considers his own application of the capability approach on the measurement of deprivation in South Africa in this light: "There will always remain considerable room for debate about the most appropriate way to identify, weight and measure capabilities. The index of deprivation proposed [in his paper] is one such measure that may contribute to such debates."

In general, the critique of paternalism seems unfounded to me, especially because of the open character of the capability approach.

The critique of too much government interference is not only based on the assumption that government will decide what is good for us, but also on the fear that applying the capability approach would lead to redistributive policies in domains which fall outside the scope of government intervention. For example, Seabright (1993) argues from a contractarian perspective that in a plural society, where many conceptions of the good life coexist, "nothing is society's business unless it could be the subject of an appropriate hypothetical social contract. Thus it is not the business of society at large whether people have happy marriages or believe in God, because these are not the kind of things people could contract to do" (1993:400). I believe that these kinds of (sometimes implicit and indirect) critiques of the capability approach are based on a confusion of distributive and redistributive considerations. First, strictly speaking the capability approach does not make any recommendations for redistribution; it only claims that the space of functionings and capabilities is the most appropriate and relevant for evaluative exercises of well-being. Hence, happy marriages *are* the business of government, in so far as they contribute to higher levels of capability (and social scientific research provides some evidence for that, as divorce is one of the most important factors of distress). Nevertheless, it does not follow that government should send every couple vouchers for free consultations at a relational therapist. But a government which takes the capability approach seriously, would for example acknowledge that unemployment and bad housing put a serious stress on marriages and families and hence ultimately on people's well-being in terms of their functionings and capability. Secondly, it should also be noted that in principle the capability approach can be used for the measurement of well-being as such, without any intention to derive policy recommendations from it. Moreover, it can also be used to evaluate the well-being effects of different social policies which in a utilitarian (or purely income based) framework would yield the same level of well-being.

But even given these considerations it is a matter of fact that people in most societies do want to have a redistributing government. The relevant question, really, is how much, and according to which principles, the government should redistribute. The capability approach does not propose any redistributive rules, but forcefully argues that redistribution should be designed focussing on what intrinsically matters for people's well-being.

Finally, even if a specific application of the capability approach would make policy recommendations, this does not imply per definition that this kind of policy should be restricted to *governmental* or *state-induced* policy. Policy recommendations could also be directed to, or taken up by NGO's or self-organised community groups, as can be seen in Jasek-Rysdahl's (2000) study. In that case, it becomes very difficult to see how a locally-organised or self-organised organisation who develops a local and arguably small-scale policy can be accused of paternalism or of any unjustified redistributions.

4. CONCLUSION

This paper has tried to present the capability approach, discuss a number of critiques and questions, and, as a by-product, includes an annotated survey of the existing empirical applications. Both the discussion of the critiques as well as the survey of applications provided support for Sen's claim to see the capability approach as *a framework of thought*, which can address several different problems and can be applied in quite different ways. This open and somewhat amorphous character of the capability approach makes it possible to apply it in multiple fashions, and can lead to (theoretical and empirical) applications which fit the form but violate the spirit of the capability approach. Therefore it is suggested that open discussions and critiques of both theoretical as well as empirical applications are crucial. Thus, whether the capability approach is an "unworkable idea" or not, clearly depends on one's reading of the capability approach. The reading which I defend in this paper sees the capability approach in the first place as a framework of thought, which allows for quite divers specifications and empirical and theoretical applications. From that perspective, the capability approach will surely not be the easiest framework for well-being evaluation and analysis, but it might turn out to be the most relevant and interesting.

5. REFERENCES

Allardt Erik (1993), "Having, Loving, being: An Alternative to the Swedish Model of Welfare Research", In Nussbaum and Sen (eds.), 88-94.

Anderson Elizabeth (1999), "What is the Point of Equality ?", *Ethics*, 109, 287-337.

Atkinson, Anthony B. (1999), "The Contributions of Amartya Sen to Welfare Economics", *Scandinavian Journal of Economics*, 101, 2, 173-190.

Balestrino Alessandro (1996), "A Note on Functioning-Poverty in Affluent Societies", *Notizei di politeia*, 12, 43/44, 97-105.

Balestrino Alessandro and Ian Carter (eds., 1996), "Functionings and Capabilities: Normative and Policy Issues", *Notizei di Politeia*, 12, 43/44.

Balestrino Alessandro and Nicola Sciclone (2000), "Should we Measure Functionings instead of Income to Measure Well-being? Theory, and some Evidence from Italy", *Rivista Internazionale di Scienze Sociali*, forthcoming.

Basu Kaushik and Luis F. López-Calva (1999), "Functionings and Capabilities", paper prepared for the Handbook of Social Choice and Welfare, edited by Kenneth Arrow, Amartya Sen and Kotato Suzumura, to be published by Elsevier Science-North Holland (draft July 29).

Bhargava Rajeev (1992), *Individualism in Social Science. Forms and Limits of a Methodology*, Oxford: Clarendon Press.

Brandolini Andrea and Giovanni D'Alessio (1998), "Measuring Well-Being in the Functioning Space", Rome: Banca d'Italia, mimeo (draft 5 October).

Carter Ian (1996), "The Concept of Freedom in the Work of Amartya Sen", in Balestrino and Carter (eds.), 7-22.

Chiappero Martinetti Enrica (1994) "A New Approach to Evaluation of Well-being and Poverty by Fuzzy Set Theory", *Giornale degli Economistsi Annali di Economia*, 367-388.

Chiappero Martinetti Enrica (1996), "Standard of Living Evaluation based on Sen's Approach: Some Methodological Suggestions", in Balestrino and Carter (eds.), 47-53.

Chiappero Martinetti Enrica (2000), "A Multidimensional Assessment of Well-being based on Sen's Functioning Theory", *Rivista Internazionale di Scienza Sociali,* forthcoming.

Clark David A. (2000), "Capability and Development: An Essay in Honour of Amartya Sen", University of Lincolnshire and Humberside, Faculty of Business and Management, Working Paper 39, May 2000.

Cohen G.A. (1993), "Equality of What ? On Welfare, Goods and Capabilities", in Nussbaum and Sen (eds.), 9-29.

Ellman Michael (1994), "The Increase in Death and Disease under 'Katastroika'", *Cambridge Journal of Economics*, 18, 329-355.

Erikson Robert (1993), "Descriptions of Inequality: the Swedish Approach to Welfare Research", in Nussbaum and Sen (eds.), 67-87.

Folbre Nancy (1994), *Who Pays for the Kids? Gender and the Structures of Constraint,* London and New York: Routledge.

Foster James & Amartya Sen (1997), Substantive annex to the reprint of Sen (1973), Oxford: Clarendon Press.

Goldin Claudia and Cecila Rouse (2000), "Orchestrating Impartiality: The Impact of "blind" Auditions on Female Musicians", *American Economic Review,* 90, 4, 715-741.

Gore Charles (1997), "Irreducible Social Goods and the Informational Basis of Amartya Sen's Capability Approach", *Journal of International Development,* 9, 2, 235-250.

Gutmann, Amy and Dennis Thompson (1996), *Democracy and disagreement,* Cambridge MA: Harvard University Press.

Hamilton Lawrence (1999), "A Theory of True Interest in the Work of Amartya Sen", *Government and Opposition,* 34, 4, 516-546.

Herrero Carmen (1996), "Capabilities and Utilities", *Economic Design,* 2(1), 69-88.

Jasek-Rysdahl Kelvin (2000), "Applying Sen's Capabilities Framework to Neighborhoods: Using local asset maps to deepen our understanding of well-being", paper presented at the Tenth World Congress on Social Economics, Cambridge, 6-9 August 2000.

Klasen Stephan (2000), "Measuring Poverty and Deprivation in South Africa", *Review of Income and Wealth,* 46, 1, 33-58.

Mack Joanna and Steward Lansley (1985), *Poor Britain*, London: Allan and Unwin.

Nelson Julie A. (1996), *Feminism, Objectivity and Economics,* London: Routledge.

Neumark David, Roy J. Bank and Kelly van Nort (1996), "Sex Discrimination in Restaurant Hiring: An Audit Study", *Quarterly Journal of Economics*, 111, 915-941.

Nussbaum, Martha (1995), "Human Capabilities, Female Human Beings", in Nussbaum and Glover (eds.), 61-104.

Nussbaum Martha (1999), "Women and Cultural Universals", in *Sex and Social Justice,* New York: Oxford University Press.

Nussbaum Martha (2000), *Women and Human Development. The Capability Approach,* Cambridge: Cambridge University Press.

Nussbaum Martha and Jonathan Glover (eds., 1995), *Women Culture and Development: a Study of Human Capabilities*, Oxford: Clarendon Press.

Nussbaum Martha and Amartya Sen (eds., 1993), *The Quality of Life*, Oxford: Clarendon Press.

Phipps Shelley (1999), "The Well-being of Young Canadian Children in International Perspective", LIS-Working Paper No. 197, Differdange: INSTEAD.

Pierik Roland (2000), *Cultural Difference and Liberal Equality. Does the Difference make a Difference?*, Twente University, PhD-dissertation.

Pressman Steven and Gale Summerfield (2000), "The Economic Contributions of Amartya Sen", *Review of Political Economy*, 12, 1, 89-113.

Rawls John (1971), *A Theory of Justice*, Cambridge MA: Harvard University Press.

Rawls John (1999), *The Law of Peoples*, Cambridge MA: Harvard University Press.

Robeyns Ingrid (1999), "How to measure gender inequality?", paper presented at the Gender Theory Study Group, Cambridge University, 23 November 1999.

Robeyns Ingrid (2000), "Contesting Choice: What's wrong with the gender division of labour?", paper presented at the APSA-meetings, Washington.

Roemer John (1996), *Theories of Distributive Justice*, Cambridge MA: Harvard University Press.

Ruggeri Laderchi Caterina (1997), "Poverty and its Many Dimensions: The Role of Income as an Indicator", *Oxford Development Studies*, 25, 3, 345-360.

Schokkaert Erik & Luc Van Ootegem (1990), "Sen's Concept of the Living Standard Applied to the Belgian Unemployed", *Recherches Economiques de Louvain*, 56 (3-4), 429-450.

Seabright Paul (1993), "Pluralism and the Standard of Living", in Nussbaum & Sen (eds.), 393-409.

Sen Amartya (1973), *On Economic Inequality*, reprinted 1997 by Oxford: Clarendon Press.

Sen Amartya (1977), "Rational Fools: A Critique of the Behavourial Foundations of Economic Theory", *Philosophy and Public Affairs*, 6, 317-344, reprinted in Sen (1982), ch. 4.

Sen Amartya (1979), "Personal Utilities and Public Judgements: Or What's Wrong with Welfare Economics?", *Economic Journal*, 89, 537-558.

Sen Amartya (1980), "Equality of What ?" in S. McMurrin (ed.) *The Tanner Lectures on Human Values*, Vol. 1, Cambridge University Press, reprinted in Sen (1982), ch. 16.

Sen Amartya (1982), *Choice, Welfare and Measurement*, Oxford: Basil Blackwell

Sen Amartya (1985a [1999]), *Commodities and Capabilities*, Amsterdam: North Holland, reprinted by Oxford University Press, Delhi.

Sen Amartya (1985b), "Well-being, Agency and Freedom", *The Journal of Philosophy*, LXXXII, 4, 169-221.

Sen Amartya (1987), *The Standard of Living*, Cambridge: Cambridge University Press.

Sen Amartya (1991), "The Nature of Inequality", in: Kenneth Arrow (ed.), *Markets and Welfare*, London: Macmillan, 3-21.

Sen Amartya (1992), *Inequality Re-examined*, Oxford: Clarendon Press.

Sen Amartya (1993), "Capability and well-being", in Nussbaum and Sen (eds.), 31-53.

Sen Amartya (1995), "Gender inequality and theories of justice", in Nussbaum and Glover (eds.), 259-273.

Sen Amartya (1996), "Freedom, Capabilities and Public Action: A Response", in Balestrino and Carter (eds.), 107-125.

Sen Amartya (1997), "Maximisation and the Act of Choice", *Econometrica*, 65, 4, 745-79.

Sen Amartya (1999), *Development as Freedom*, NY: Knopf Publishers.

Slottje Daniel J. (1991), "Measuring the Quality of Life across Countries", *Review of Economics and Statistics*, 73, 4, 684-693.

Strassmann Diana (1994), "Feminist Thought and Economics; Or: What do the Visigoths Know?", *American Economic Review, Papers and Proceedings*, 84, 2, 153-158.

Sugden, Robert (1993), "Welfare, Resources, and Capabilities: A Review of *Inequality Reexamined* by Amartya Sen", *Journal of Economic Literature*, XXXI, 1947-1962.

UNDP (1990-1999), *Human Development Report*, Oxford: Oxford University Press.

Wennerås Agnes and Christine Wold (1997), "Neopotism and Sexism in Peer Review", *Nature*, 387, 341-343.

Williams Bernard (1987), "The Standard of Living: Interests and Capabilities", in Sen (1987), 94-102.