

Foundations for measuring equality: A discussion paper for the Equalities Review

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CASE/111
June 2006

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Editorial Note

The author is a Senior Research Fellow at the ESRC Centre for Analysis of Social Exclusion at the London School of Economics.

Acknowledgements

I am grateful to Howard Glennerster, Polly Vizard, Andrew Burchardt and members of the Equalities Review panel and team for helpful comments and discussion in preparing this paper. Responsibility for any errors or omissions, and for the opinions expressed, rests with myself alone. In particular, the paper does not represent the view of the Equalities Review.

Abstract

The Equalities Review is an independent panel set up by the UK government in 2005 to investigate the persistence of social inequalities and to make recommendations for the development of a unified Commission for Equality and Human Rights. This paper was originally written for the Review. It canvasses possible responses to the questions, ‘equality between whom?’ and ‘equality of what?’. It argues that equality of outcome is intuitively appealing but risks ignoring variations in need, differences in values and preferences, and the importance of individual agency. A broad interpretation of equality of opportunity, such as is provided by the capability approach, can address these limitations, by focusing on the *substantive freedom* enjoyed by individuals. Substantive freedom may be limited by a lack of personal resources, or by the economic, social, political, cultural, and environmental conditions context in which the individual is operating. The paper concludes by identifying, and indicating solutions to, a number of measurement issues that arise in operationalising the capability approach.

Keywords: Equality, opportunity, capability approach
JEL number: I31, I32

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Summary

Human rights specify minimum standards, whereas equality is concerned with people getting the same, or being treated the same, in some respect. Different concepts of equality can be distinguished by their responses to two key questions:

- equality between whom?
- equality of what?

The response to the first question has already been determined to some extent for the Equalities Review – the body overseeing the establishment of the single Commission for Equality and Human Rights in the UK. The Equalities Review is to be concerned about equality by sex, ethnicity, disability, sexual orientation, religion, and age. The selection of these characteristics is not random but is because they share two features:

- they are treated as beyond individual control;
- they are a source of significant discrimination and inequality.

On the basis of these two criteria, a key omission from the list is social class; its exclusion from the list would have to be justified explicitly on other grounds.

Responses to the question, ‘equality of what?’ can be grouped under three headings:

- equality of process
- equality of outcome
- equality of opportunity.

Equality of process may be an important component of discrimination but the concept is not sufficient to capture all forms of discrimination, let alone broader concerns about inequality.

Equality of outcome is intuitive and straightforward but risks ignoring:

- variations in need;
- differences in values and preferences;
- individual agency and responsibility.

Equality of opportunity can be interpreted in a variety of ways. A broad interpretation, such as the capability approach, addresses the limitations listed above for concepts based on equality of outcome.

Analysis of inequality according to the capability approach focuses on differences in the *substantive freedom* enjoyed by individuals, that is, in the things that they are able to do or be in their lives. Substantive freedom may be limited by a lack of personal resources, but also by the context in which the individual is operating – the economic, social, political, cultural, and environmental conditions.

A number of measurement issues arise:

- Selection of dimensions of inequality (capabilities). One possibility is to use existing frameworks, such as human rights instruments, as a starting point. An alternative is to engage in democratic deliberation (for example through public consultation) in order to develop or refine a list of important capabilities.

- Measuring opportunity. Distinguishing between differences in outcome which are due to differences in underlying values and preferences, and those which are due to differences in substantive freedom is always difficult. Direct measures of autonomy (choice and control) may be useful. More generally, progress can be made using a hierarchy:

basic capabilities, where any difference in outcomes can be safely assumed to be the result of differences in substantive freedom;

intermediate capabilities, where any difference in outcomes can be assumed, for the purposes of public policy, to be the result of differences in substantive freedom;

complex capabilities, where supplementary evidence is needed on whether there are relevant differences in values and preferences between groups.

- Aggregation. Attempting to summarise inequality across dimensions is tempting but fails to respect the plurality of human ends and faces technical difficulties. Instead, the volume of information can be made manageable by using ‘headline indicators’. ‘Partial ranking’ provides an alternative way to identify potential policy priorities.
- Inequality within groups. Further analysis is helpful to identify sub-groups which may be particularly disadvantaged. However additional

sensitivity needs to be balanced against the risk of ‘losing the message in the detail’.

The paper concludes that the capability approach provides the foundation for measures of inequality which meet a number of desirable criteria. The measures should be:

- well-grounded theoretically;
- multi-dimensional;
- transparent;
- quantifiable;
- capable of tracking change over time;
- applicable to inequality for each group (as defined by sex, ethnicity, disability, sexual orientation, religion and age).

However, the choice of measurement tool is, ultimately, a normative decision, because it depends on the underlying concept of equality.

1. Background

This paper was written to inform the deliberations of the Equalities Review, an independent panel set up by the UK government in 2005 to investigate the persistence of social inequalities in the UK and to make recommendations for the development of the Commission for Equality and Human Rights. The Commission is due to be established in 2007 and will combine the roles of the current Commission for Racial Equality, Equal Opportunities Commission, and Disability Rights Commission together with taking responsibility for overseeing the Human Rights Act. Promoting age equality, equality between people of different sexual orientation, and of different religions will also become part of Commission’s remit.

2. Equality and human rights

We can start from the assumption that equality of some kind is important in its own right. Valuing equality means placing value on people getting the same, or being treated the same, in some respect. Although this may seem uncontroversial, it is worth noting that equality is a distinct value from, say, the principles of *sufficiency*, *priority* or *desert*.¹

¹ See Arneson (2002).

- Sufficiency: everyone should reach at least a minimum threshold (eg a minimum standard of living).
- Priority: the needs of the worst off should take priority.
- Desert: people should get what they deserve.

The concept of equality needs further specification before it can be applied. Two critical questions are:

- (i) equality between whom, and
- (ii) equality of what.

These are considered in the following two sections.

The interpretation of the concept of **human rights** is contested, but human rights are generally understood to be minimum standards to which every individual is entitled. In this way they are closest to the principle of sufficiency. They serve to give priority (for example, over other claims on resources) to achieving a basic minimum for everyone.

Consistent with the principle of sufficiency, everyone has the same minimum entitlement, but there is nothing objectionable from the point of view of human rights in inequality between individuals above that threshold level. For example, everyone has the right to life (Article 2 of the European Convention on Human Rights, ECHR), but the existence of large inequalities in life expectancy for different social groups is consistent (potentially) with a state having met its obligations under the ECHR.

Human rights are unconditional and this is one feature which distinguishes them from other kinds of rights. Entitlement is on the basis of your humanity. For other kinds of rights, entitlement may be based on having fulfilled certain conditions or having attained a certain status. Thus linking rights to responsibilities at an individual level makes sense in the context of other rights, but not in the context of human rights.

3. Equality between whom

Some of the parameters for the Equalities Review are already set. The basic comparisons will be between individuals in the UK according to their sex, ethnicity, disability, sexual orientation, religion and age. This identifies the relevant *unit of analysis* as the individual (rather than groups or nation states, for example); it identifies the relevant *population* as the UK; and it identifies the principal *characteristics for analysis* as the six listed.

Each of these specifications raises further questions, however. With respect to the **population**, one important issue is the distinction between residents and citizens. If current patterns of international migration continue, resident non-citizens will become an increasingly important minority.²

With respect to the **characteristics for analysis**, it is useful to consider the rationale for selecting these characteristics rather than any others. These characteristics share two relevant features:

- (i) the characteristic is treated as beyond an individual's control³;
- (ii) historically, the characteristic has been a source of significant discrimination and inequality.

The first feature is relevant because it is an important component of our belief that inequality due to this characteristic is unjust. To take a counterexample: even if wearing a mohican is associated with significant discrimination in employment (a plausible assumption), it is not a form of inequality which merits serious attention because the decision about whether or not to wear a mohican is clearly within an individual's control.

The second criterion, concerning whether the characteristic has historically been a source of significant discrimination or inequality, is necessary to avoid getting distracted by trivial or spurious inequalities. For example, eye colour is beyond individual control but since it is not, and has never been, a source of significant discrimination, it would be pointless to analyse inequality along these lines.

Using these two criteria, one key omission from the list of characteristics for analysis is social class.⁴ Social class is determined very largely by family of origin and it is therefore reasonable to treat it as beyond individual control; it has also been a source of significant discrimination and inequality across most aspects of life since the advent of class society. There is a compelling case for

² Another issue which has recently come to the fore is the entitlement of people abroad subject to UK control, for example in the occupied territories in Iraq. This is mainly a question of human rights rather than equality, so it is not discussed further here.

³ The expression '*treated as beyond individual control*' is important because, for example, an individual can in principle choose to change his or her sex, or his or her religion. However, it would not be reasonable to expect him or her to do so in order to avoid discrimination.

⁴ In societies in which caste systems operate, caste would also be a strong candidate for inclusion in the list of potential grounds of discrimination.

including social class alongside other characteristics for analysis; its exclusion from the list would have to be justified explicitly on other grounds.

Taking individuals, rather than groups, as the **unit of analysis** is an important statement of what is sometimes called ‘ethical individualism’. It means that each individual is regarded as important in his or her own right and that in no case should the interests of a group itself override the interests of individuals.⁵

Ethical individualism should not be confused with methodological individualism. The latter is criticised for failing to recognise that individuals are members of groups (and of many different groups simultaneously), and that they are acted upon by larger social structures such as the economy, public attitudes and so on. It is perfectly possible to combine ethical individualism (placing value on each individual) with methodological pluralism (individuals influence, and are influenced by, groups and wider social structures).

Further questions relating to taking individuals as the unit of analysis are addressed in section 4 below on measurement issues.

4. Equality of what

Responses to the question, ‘equality of what?’ can be grouped under three broad headings, although as will become clear in the discussion below, the distinctions between them are not always clear cut:

- equality of process
- equality of outcome
- equality of opportunity.

4.1 *Equality of process*

Equality of process is concerned with ensuring that people are treated in the same manner. One example is equality of respect (Wolff, 1998). Although maintaining equality of respect almost certainly requires avoiding very wide inequality of material resources or opportunities, nevertheless it is the quality of

⁵ To be clear, this applies in instances where the interests of a group entity conflict with the interests of individuals. For example, if the survival of a religious group is threatened because an insufficient number of young people choose to observe that religion, ethical individualism asserts that the individuals’ freedom of belief takes priority over the need of the group to sustain itself. Ethical individualism does not imply that the effects of one individual’s behaviour on other individuals (who may or may not form part of a group) should be disregarded.

relations between people, the interactions between them, and the interactions between people and institutions which are the focus of analysis, not the distribution of any particular outcomes.

Some human rights, for example, the right to a fair trial (ECHR Article 6), can be seen as enshrining aspects of equality of process. It is tempting, too, to think of non-discrimination as a matter of equality of respect and indeed some aspects of non-discrimination (freedom from being insulted in the workplace, for example) could be conceptualised in this way. However, discrimination does not always imply disrespect. Discrimination against disabled people often takes the form of lack of access to buildings, transport and information for example, which is better captured by the idea of inequality of opportunity (and outcome) than inequality of respect.

4.2 Equality of outcome

The most intuitive idea of equality is probably equality of outcome – equal shares of the cake. Outcomes may be defined in terms of material resources, resources more broadly (including, for example, education, health, and social capital), or some overarching concept of welfare or subjective well-being. Inequalities of outcome are easier to measure than either inequality of process or inequality of opportunity, because one can simply observe who has how much of what. The most widely used example is the distribution of income across individuals and indeed this concept is sometimes treated as synonymous with ‘inequality’.

Despite its convenience and popularity, equality of outcome in its crudest form is not well-supported philosophically. In particular, allocating equal shares of some or all goods to all individuals risks ignoring:

- variations in need;
- differences in values and preferences; and
- individual agency and responsibility.

Variations in need mean that the same allocation of resources does not facilitate the same opportunity to achieve a valuable goal (say, an adequate standard of living) for everyone, and this is, arguably, unjust. A disabled person needs more resources than a non-disabled person, for example, in order to achieve the same standard of living.

The second difficulty with equality of outcomes is that if individuals differ in their values and preferences, the same outcome will be more valuable to some

than to others.⁶ Participating in music-making is great if that is what you want to do, but not so good if you are an unwilling participant, or if you would rather be spending your time doing something else. What is valuable here is the equal *opportunity* to participate, should you wish to do so, not the equal outcome of everyone actually engaging in music-making.

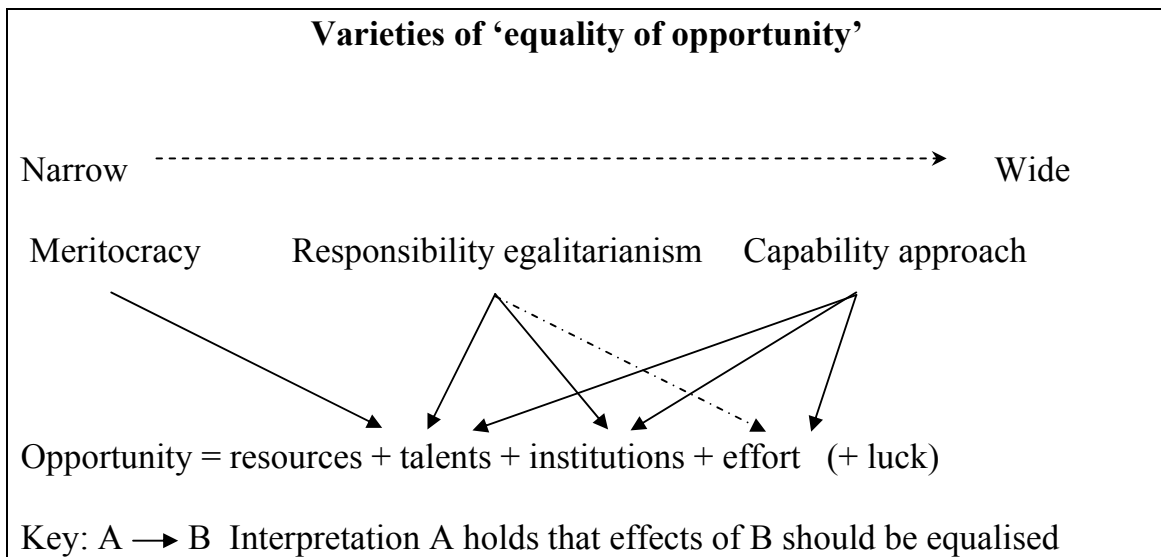
A related point is that equality of outcome, at least in a crude form, leaves little scope for individuals to determine a course of action and have a reasonable expectation of enjoying (or suffering) the consequences of it. If I train to run the marathon, only to find that in the race itself the organisers allocate to me a handicap in exact proportion to my fitness, I have lost the chance to formulate and pursue a plan of action.⁷ In other words, equality of outcome, if applied across the board, leaves little scope for individual agency or responsibility.

4.3 Equality of opportunity

Responding to these three concerns leads one to consider equality of opportunity. Broadly speaking, whether or not an individual has the opportunity to do something, for example, enter higher education, depends on the resources available to her, her skills and talents, the effort she makes, the institutional setting in which she is operating and possibly a certain amount of luck. Interpretations of equality of opportunity differ according to which of these components are considered legitimate sources of variation in the opportunities open to people, and which are not. This is represented in the diagram below.

⁶ This difficulty, and the variations in need problem, might lead one to adopt a subjective measure of well-being, which can reflect both the extra needs some individuals have, and the different values placed by individuals on different outcomes. However, subjective metrics face other significant drawbacks which there is not space to consider here. See Sen (1985).

⁷ It is often argued that equality of outcome would create an incentive for individuals to free-ride. Why should they labour when the benefit they receive will not depend upon the effort they make? Whether or not this is a valid argument, it concerns *efficiency* rather than *equity*. By contrast, the argument in the text seeks to highlight a tension between equality of outcome and individuals' ability to shape their own lives, which is assumed to be ethically desirable.



A **meritocratic interpretation** of equality of opportunity holds that whether an opportunity is open to you should depend only on your talents and the effort you make. Inequalities of outcome which are due irrelevant characteristics, such as gender or social class, are not justifiable. In practice, this is often taken to mean being ‘blind’ to characteristics and influences, other than talent and effort, and this assessment is made at a particular point in time for a particular purpose, for example, university entry. Unfortunately, simply ignoring gender and social class, and in particular failing to take account of the *cumulative* effect of disadvantage on the talents someone has been able to develop or the ‘effort’ someone has able to demonstrate, means that such assessments do not succeed in achieving their goal of meritocratic assessment, let alone any fuller idea equality of opportunity.

The arguments used to support meritocracy often have a certain appeal – selecting the best person for the job, using resources efficiently, and so on – but can lead to unpalatable conclusions. For example, suppose someone is born with characteristics which are not regarded as ‘meritorious’: they are not particularly intelligent, sporty, beautiful or artistic. Such a person may work just as hard as his or her more talented sibling, but end up with limited education, poor employment conditions and a lifetime of poverty, and this is entirely consistent with equality of opportunity interpreted as meritocracy. Discomfort with this conclusion informs the basic premise of **‘responsibility egalitarianism’**: circumstances beyond an individual’s control should not be allowed to influence the opportunity he or she has to thrive (Dworkin, 2000; Roemer, 1998). Since the talents you are blessed with – or the lack of talent you are cursed with – is not something for which you can reasonably be held responsible, you should be compensated for the effects of these on the opportunities available to you. Thus, for example, additional resources should

be devoted to those with lower ability to help them to gain educational qualifications, and disabled people should be given help with extra costs of living, and so on. Under full equality of opportunity of this kind, in principle, inequalities of outcome would arise only as a result of differences in effort or as a result of free choice.⁸

There are two drawbacks to this interpretation. Firstly, it is very difficult both in theory and in practice to distinguish between differences which are due to circumstances beyond individual control and those which are due to free choice/effort. If a school student does badly in his GCSEs, how are we to tell to what extent that is due to his lack of revision and to what extent due to lack of parental support, poor early schooling, and so on? Even if the balance of probabilities is that is due to lack of revision, how can we tell to what extent that in turn was the result of pressures at home or just sheer idleness?

Secondly, by focusing on the distinction between choice and constraint for the *individual*, responsibility egalitarianism runs the risk of ignoring the crucial role played by institutions in shaping the opportunities available to people. Institutions include formal institutions like the criminal justice system, economic institutions such as the labour market, and social institutions including social attitudes and culture. Disregarding the role of institutions can result in underestimating inequality of opportunity, by attributing the poor outcome someone experiences to their lack of effort or their free choice. More seriously, the policy responses which are prioritised tend to be targeted at individuals – personal advisors, attitudinal change, financial compensation – rather than tackling the underlying structural and institutional barriers. Similar arguments are made forcefully by those who identify institutional racism over and above individual instances of discrimination, and by advocates of the social model of disability.

The **capability approach** addresses these two concerns by focusing *substantive freedom*, that is, what people are able to do or be in their lives (eg Sen, 1985, 1998, 1999).⁹ Substantive freedom may be limited by a lack of personal resources, but also, crucially, by the context in which the individual is operating – the economic, social, political, cultural, even environmental conditions which determine what he or she can achieve, given his or her endowments and entitlements. According to the capability approach, the appropriate answer to

⁸ Roemer (1998) acknowledges that some characteristics beyond individual control can affect the amount of effort an individual can make, and attempts to take account of this in his framework.

⁹ ‘Substantive freedom’ and ‘capability’ are used interchangeably: both mean the range of valuable things that an individual is able to be or do in his or her life.

the question with which this section began, ‘Equality of what?’, is ‘substantive freedom’.

The capability approach has a number of advantages in comparison to the other concepts of equality canvassed in this section:

- it can incorporate many aspects of equality of process. For example, the right to a fair trial can be reformulated as the substantive freedom to seek and receive justice in the legal system. However, the capability approach is not limited to considerations of process.
- it accommodates variations in need. An individual who has greater needs, for example, because she has children to look after, will need more flexible institutional arrangements and greater material resources, in order to have access to the same capability set (including employment, mobility, good health, and so on) as an individual without those additional needs.
- diversity of values and preferences is supported by focusing on the *substantive freedom* individuals have to achieve valuable objectives, rather than on the outcomes themselves. Individuals may choose whether or not to make use of the opportunities they have open to them. This avoids the paternalism or authoritarianism which is sometimes associated with policies framed in terms of achieving equality of outcome.
- the accumulation of advantage and disadvantage over a lifetime is acknowledged, firstly, by emphasising the way in which institutions and policies tend either to enhance or stunt the development of capabilities (for example in education), and secondly, by analysing what an individual is able to be or do in the present, based on his/her current circumstances and the characteristics s/he has acquired to date.
- distinguishing between differences in outcome which are due to differences in underlying values and preferences, and those which are due to differences in opportunity is a difficulty for the capability approach, as for other versions of equality of opportunity. However, some progress can be made within the capability approach, as explored in section 4 below, by enriching narrowly-defined information about outcomes for individuals with information about their values and information on groups, institutions, and policies.

The capability approach has been gaining support in academic circles for some time and there is a growing body of literature (HDCA, 2005). In recent years the

approach has also begun to be applied in policy settings. The United Nations Development Programme annual Human Development Reports are one important application and the most recent report included in-depth analysis of inequality in Western countries as well as in poorer nations (UNDP, 2005). The German government's national action plan on poverty and social inclusion adopted a capabilities framework (European Commission, 2003). A recent speech by the UK Chancellor of the Exchequer quoted the work of Amartya Sen (Brown, 2005). Nevertheless there are some tricky issues in the application of the approach which remain to be resolved, and these are taken up in the next section.

5. Measurement issues

5.1 *Multidimensionality*

A multidimensional measure is appropriate where the underlying concept – in the case of the capability approach, the substantive freedom individuals enjoy – is itself multidimensional. Such an observation immediately raises the question, which dimensions? What capabilities, or aspects of substantive freedom, is it important to measure?

There are two types of response to this in the literature. The first seeks to identify significant dimensions *a priori*. Many frameworks already exist. The human rights framework offers one promising avenue, particularly if extended to include the UN instruments on economic and social rights, in addition to the civil and political rights incorporated into the ECHR (Vizard, 2005). Careful analysis of people's activities and interactions can lead to the derivation of a hierarchy of human need (Doyal and Gough, 1991). The Human Development Reports mentioned above use a stripped-down version of just three basic capabilities: life expectancy, literacy, and income (UNDP, 2005). Alternatively, some work on social exclusion has used four key dimensions: consumption (covering income, standard of living, and access to services), production (including access to, and conditions of employment, but also education and training, parenting, caring and volunteering), social interaction (social isolation, cultural activities, leisure) and political participation (interpreted as having a say over important aspects of your life, as well as more formal types of participation).

The second response to the problem of identifying which capabilities to measure – and the one advocated by Sen, among others - is to acknowledge that there is no uniquely correct answer; rather the selection is a normative process which will be influenced by the context and purpose of the evaluation. For it to have validity, the process of selection needs to be as transparent, well-informed

and democratic as possible. There are examples of this being put into practice in evaluations of development projects (for example, Alkire, 2002). This interpretation of the capability approach therefore provides a strong rationale for engaging in public consultation.

A priori selection of capabilities and public consultation can of course be combined, such that members of the public (in the form of a citizens' jury or some other model) are invited to take a pre-defined list, or a set of criteria, as a starting point for their deliberations.¹⁰

5.2 Measuring opportunity

All attempts to measure equality of opportunity face the problem that whilst the actual activities and states of being of individuals are observable, the activities and so on that individuals *could* do, but are choosing not to do, are **unobservable**. As a consequence, if one person is employed and another person is not, it is difficult to be sure whether this is a result of differences in preferences and values, or whether it is the result of differences in the substantive opportunities open to them (i.e. a difference in their capability set).

Fortunately, some activities or states of being are so basic that any difference in outcomes can be assumed to be a result of differences in capabilities, rather than differences in preference or values: no-one would choose to be assaulted, for example, so that if one group is consistently found to be assaulted more often than another, it can safely be concluded that this is due to a lack of substantive freedom rather than the result of free choice. Many human rights, including some economic and social rights at a basic level, are likely to fall into this category.

Another category of capabilities are those where although it is possible to imagine differences in values or preferences that would give rise to differences in outcomes between groups, it is nevertheless legitimate for the purposes of public policy to assume that it is due to differences in capabilities. Examples here might include street homelessness: although there probably are some individuals who would choose to remain on the streets, even if there were suitable alternatives readily available to them, their numbers are vanishingly small and their choice would itself be assumed by many to be evidence of mental illness. Literacy and numeracy, income above the poverty line, and decent housing, to name a few obvious candidates, might also fall into this category.

¹⁰ Nussbaum (2000) developed her list of basic capabilities in this way; Robeyns (2003) offers some possible criteria.

Finally, a third category of more complex or sophisticated capabilities might require additional evidence to be brought to bear to determine whether or not differences in outcome are the result of differences in capabilities (Robeyns, 2003). For example, if one observed that participation in civic life varied by religion, one might want to investigate whether this was because religions have differing attitudes towards the value of civic participation. To err on the side of caution, the presumption would have to be that there is no such difference; the burden of proof would rest with those who wish to claim that there is no difference in substantive freedom, despite an observed difference in outcome. One useful observation here is that individual-level differences in taste for civic participation (or whatever), of which of course there are many in any large subgroup of the population, *provided they are not systematically related to the characteristic in question* (in this example, religion), will be differenced out in the comparison between groups (Muslims and Christians). Thus the imaginary critic, who wished to show that the difference in outcome was not the result of a difference in substantive freedom between the two groups, would have to show that there is a relevant systematic difference in values and that these values are freely chosen.

Capabilities could therefore be categorised into a **hierarchy**, looking something like this:

- (i) basic capabilities, where any difference in outcomes can be safely assumed to be the result of differences in substantive freedom;
- (ii) intermediate capabilities, where any difference in outcomes can be assumed, for the purposes of public policy, to be the result of differences in substantive freedom;
- (iii) complex capabilities, where supplementary evidence is needed on whether there are relevant differences in values and preferences between groups.

It is important to keep in mind that inequality of outcome is being used in these instances as proxy for inequality of substantive opportunity. To emphasise this point, it may be worth attempting to add measures of **overall freedom or autonomy**. Some indicators are available, although this is an area is underdeveloped. The 1970 British Cohort Study age 26 survey, for example, included a question asking respondents to choose between two statements: “I usually have free choice and control over my life” and , “Whatever I do has no real effect on what happens to me”. Responses have been analysed by disability status (Burchardt, 2005), and further analysis by other characteristics would be possible. A more rigorous survey instrument, known as the locus of control scale, uses responses to several questions to construct an index of fatalism through to self-efficacy (Rotter, 1966). Alternatively, if appropriate long-run

longitudinal data are available, an assessment can be made of the extent to which individuals have been able at follow-up to achieve the aspirations expressed at the first interview.

5.3 *Aggregation vs prioritisation*

When analysing multiple dimensions and multiple groups, there is always the temptation to aggregate into an index or summary variable so as to be able to arrive at a unique ranking of all individuals or groups. Aside from satisfying a reductionist urge, this has two purposes: to make the information manageable, and to indicate priorities for policy intervention.

However, attempting to summarise inequalities in this way encounters both conceptual and technical difficulties. Firstly, there may be no such thing as “the most unequal individual” (or group); indeed it is difficult to see what meaning can be attached to this idea. Secondly, retaining multi-dimensionality is essential if the analysis of inequality is to reflect the plurality of human ends. My opportunities for social interaction cannot sensibly be traded off against my literacy. Thirdly, calculating inequality across social classes in the distribution of ‘apples and pears’ is possible because we know how many apples can be purchased for the price of a pear, but there is no comparable metric for the distribution of ‘good health and employment’, or indeed for many of the other capabilities under consideration.

This is not, though, a counsel of despair. Information can be made more manageable without losing multi-dimensionality by selecting a small number of **headline indicators** corresponding to distinct domains of inequality (for example, consumption, production, social interaction, and autonomy), and presenting other indicators and analysis under each heading. DWP are adopting this approach for their measurements of child poverty (DWP, 2003).

Priorities can be identified by making comparisons within domains of inequality across groups, or within groups across dimensions. Within a given domain, say political participation, it may be possible to determine that the gap between the most and least disadvantaged group by disability status is greater than inequality measured in the same way by sex, for example. However, where the number or size of groups differs substantially, such a comparison may produce little real information (larger groups tend to be closer to the mean).

Finally, cross-group cross-dimension ranking may be possible (if it is considered desirable) for a sub-set of groups or dimensions, namely in those cases where one group is consistently worse off than another. Ranking those instances where one group is worse off on one dimension and another group is worse off on another dimension, requires an additional judgement about the

relative ‘badness’ of inequality in the two dimensions respectively, and this may be best avoided. The result is therefore likely to be a ‘**partial ranking**’. This approach has been discussed and applied extensively in the literature on the capability approach (using terms like partial ordering and vector dominance; see for example, Qizilbash, 2004).

5.4 Inequality within groups

In undertaking analysis by characteristics such as gender and ethnicity, it is of course important to be aware that averages can conceal considerable variation. In particular some sub-groups may be much more disadvantaged than others. Four further kinds of analysis can improve the sensitivity of the measures, in ascending order of complexity:

- (i) **Measures of distribution** around the average for each main classification. For example, if the distribution of white girls’ educational attainment is more widely spread than girls from an Asian background, this may be a cause for concern, even if the mean (or median) is the same.
- (ii) Further breakdowns **specific to the characteristic** in question. For example, when considering inequality between disabled and non-disabled people, further analysis by type and severity of impairment will clearly be important.
- (iii) **Interactions** between different key characteristics *where relevant*. For example, with respect to employment, comparisons by gender and ethnicity jointly are likely to be revealing (for example, whether the gap between male and female employment rates varies by ethnic group).
- (iv) **Other classifications** which could reveal significantly disadvantaged sub-groups across all six key characteristics. One example here might be social class.

With respect to both (iii) and (iv), it is important that the selection of further characteristics for analysis is *hypothesis-driven*, rather than attempting to compute every possible combination (known in the trade as ‘kitchen sink’ analysis). Is there any reason to believe that differences between age groups in employment rates will vary by sexual orientation? If so, that can be tested. If not, the analysis can be skipped. In general there is a need to balance sensitivity (i.e. detecting inequality where it exists) against clarity (i.e. not losing the message in the detail).

6. Conclusion

The ideal measure of inequality for the Equalities Review would meet a number of criteria:

- well-grounded theoretically;
- multi-dimensional;
- transparent;
- quantifiable;
- capable of tracking change over time;
- applicable to inequality for each group (as defined by sex, ethnicity, disability, sexual orientation, religion and age).

The choice of measurement tools depends on what kind of equality or inequality one is seeking to measure – equality of what and equality between whom. This paper has set out a number of options and argued that the capability approach is attractive from a theoretical point of view. Although data availability will impose some limitations on what can be achieved in practice, in principle the capability approach allows all of the measurement criteria listed above to be met.

- The capability approach is inherently multi-dimensional, reflecting the plurality of objectives which people have in their lives. *Substantive freedom* consists in the ability to do or be a wide range of things.
- The transparency of capability-based measures would be enhanced by engaging in public consultation about which particular capabilities should be selected for measurement, and this strategy is given strong support from within the capability literature.
- A hierarchy of measurement, with some capabilities assessed by looking at outcomes, and some evaluated with a mixture of evidence on outcomes and values, allows equality to be quantified without losing the advantages of a concept based on equality of *opportunities*.
- Change over time can be detected by narrowing of gaps within or between groups, or within or between domains of inequality.
- The capability approach is well-suited to analysis of inequality by characteristics of individuals and has been used extensively for that purpose, especially with respect to sex and ethnicity.

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