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Why Measure Inequality? A discussion of the concept of equality

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In February 2007, we shared the teaching in an upper level Microeconomics seminar at the University of Otago in Dunedin, New Zealand. Sophie Elliott was one of the students. Sophie's scholarly term paper, 'Why measure inequality? A discussion of the concept of equality', presented here in slightly abridged form, was easily the best essay on equity and equality either of us had ever read. Sophie completed her degree in November 2007 and was on the brink of an exciting career. And then we learned of Sophie's death. Sophie died on January 9th 2008, just one day before she was supposed to travel to Wellington to take up her first position at the New Zealand Treasury. She was brutally attacked and stabbed to death in her own bedroom.

In her paper, Sophie examined the contrasting viewpoints and analyzes of a dozen of the main thinkers - both philosophers and economists - who are today concerned with equity as a fundamental value in society, and indicated at many points, gently but firmly, what she herself believes. We found Sophie's essay stunningly to-the-point, thoughtful and mature. Jean-Yves Duclos, editor of the Journal of Economic Inequality, wrote to one of us about Sophie's paper in these terms: 'It is a remarkable piece of research for such a young person. In just a few paragraphs, the paper is able to strike right to the core of welfare economics and to grasp with many of its complex philosophical and ethical issues. Elliott certainly had a beautiful mind'.

In Sophie's paper, the reader will find many questions to ponder. Should a policy be about the people who deserve to be treated equally rather than those who are treated equally? How should we treat benevolence in society? Do we wish to make people in society equal in terms of the things that do generate welfare, or in terms of the things that should generate welfare? Does the prosperity of one person negatively affect the fortunes of some others? What do we mean by equal opportunities, and by equal reward for equal effort? Are market-generated outcomes necessarily unfair? If so, is the lack of compensation for this unfairness morally wrong?

We have both felt Sophie's loss, in this awful calamity, very deeply indeed. We are proud to have been her teachers and we commend her inspirational essay to the readers of Oxonomics. There was something magical about Sophie Elliott - everybody who knew her felt it, and everybody who knew her loved her, all but for one person. Rest in peace, Sophie.

Introduction

Equity is probably one of the most fundamental values common to all people in a society. Equity can be elusive, however. It is usually defined in terms of how equals are treated by government policies and the legal system, and how we decide who these equals are. The concept of equality is multifaceted; the literature on theories of equality is immense and the application of these theories is complex. Nevertheless, the great philosophical and legal minds of our time recognize that a comprehensive investigation of equality, and its measurement, is vital in the quest for justice. In this essay, I consider some of the major theories of equality as defined by various players in the literature, each of whom attempts to answer the question, 'What type of equality will promote equity in society?'

Equity, equality and efficiency

Horizontal equity is conventionally defined as the principle that equals should be treated equally, and vertical equity, that unequals should be treated unequally. Galbiati and Vertova (2008) focus on horizontal equity, arguing that the above definition is flawed, as policies, by default, treat those they define as 'equals' equally. The correct assessment of the horizontal inequity caused by a policy is in the policy's choice of relevant characteristics[1] that determine the 'equals'. If these characteristics are seen to be normatively inappropriate in reference to the intended effect of the policy, then the policy is said to be horizontally inequitable to some degree. That is, if those who should be treated as equals under the policy, in that they share relevant characteristics, are treated as unequals by the policy rule, the policy is considered unfair under this definition. It is as Peter Westen states in his book on equality (see Westen, 1990): the presumption of equality is that people should be treated equally in the absence of good reasons for treating them unequally, such as a difference in relevant characteristics.

Lambert and Yitzhaki (1995) explain that horizontal and vertical equity serve different purposes. The former is an idea relating to justice, helping to 'ensure that the law does not serve anybody's self-interest'. The latter is a principle that prevents warped applications of the former, and, if satisfied, is sufficient to implement the former. Consider a country with two types of people, those who love ducks and those who hate ducks. If the government gives everyone three ducks each, it has treated all the duck-lovers equally, and all the duck-haters equally, thus satisfying the principle of horizontal equity when given its conventional definition. However it does not satisfy the principle of vertical equity, as the two distinct groups are treated the same in relation to a characteristic that must be considered relevant in the distribution of ducks. Distributing the ducks in this apparently even-handed way actually results in an unfair outcome; hence we have an example of an equal distribution that does not achieve its fundamental aim of equity.[2] This illustrates the importance of considering both horizontal and vertical equity in theories of equality.

We can consider taxation with reference to the tenets of horizontal and vertical equity. In New Zealand, we have a progressive income taxation system, where the tax rate on a marginal dollar of income is a function of one's total income. Two people with equal incomes under this system will contribute the same amount of tax to government revenues each year. In this way, this system is treating equals as equals. But income taxation is only one half of the redistribution story. Also pertinent are the various welfare programmes that provide income support to those deemed to be in need. Are equals treated equally (and unequals unequally) in this process? Certainly, if two people have the same circumstances, they will both be eligible for the same benefits. But from Galbiati and Vertova's definition of horizontal equity, that 'the individuals treated equally by a policy should be those who are deemed normatively equals', we see that the correct question to ask is, 'Do the eligibility criteria for New Zealand welfare programmes include all and only those characteristics considered normatively relevant for the redistribution of income to achieve equality?' The answer to this question is complex, and beyond the scope of this essay[3], however it is a pertinent one for

[1] Note that these characteristics should be determined by someone wishing to evaluate the policy, not by the policymaker.

[2] One might also wonder about the equity of awarding ducks to duck-haters in terms of duck welfare!

[3] But see my University of Otago dissertation, 'Participation in New Zealand Welfare Programmes: Just Plain Good (Cents) Sense?' an edited version of which appears as Elliott (2008).

policy makers concerned with achieving greater equality in the distribution of income in New Zealand.

An important consideration in the pursuit of equity is whether equality is an efficient means of achieving it. Few would argue that equality (under whatever definition is chosen) is a 'fundamental property' of an ideal society. Given an alien society of clones — individuals born equal in every way, with identical tastes and abilities[4] — for whom equality naturally exists, we would not say prima facie that this society will be inefficient. Equality may be inefficient in terms of the process of achieving equity, but not in and of itself. A progressive taxation scheme causes disincentives to effort for both the benefactors and the beneficiaries: the former feeling under-rewarded for their efforts and the latter believing any lethargy on their part to have led to worthwhile benefits. These disincentives are repercussions of the distortionary effects of the progressive tax, which skew employment away from its optimal level, lowering the effectiveness of the scheme on the economy as a whole. While the solution to the problem of taxation being distortionary is far from clear, there must be value in the acknowledgement that equality and efficiency are not necessarily mutually exclusive states.

The equality of welfare

We shall consider three major theories of equality, beginning with the equality of welfare. This theory is discussed (and rejected) by egalitarian philosopher Ronald Dworkin (see Dworkin (1981, Part I)), where resources are distributed to achieve the most equal distribution of welfare possible. Equalizing welfare as opposed to resources has the theoretical advantage that it focuses on making people equal in what is fundamentally valued by each of them, but the practical disadvantage of having a basis that is intangible. In short, it is a nice ideal, but essentially unworkable. Nevertheless, Dworkin scrupulously considers the theoretical implications and concludes that impracticability alone is not the only downfall of the equality of welfare.

Dworkin divides theories of equality of welfare into two categories: success theories and conscious state theories. The former view welfare as a function of a person's success in fulfilling their preferences, goals and ambitions, whereas the latter attempts to make people equal in some aspect or quality of their lives, such as the enjoyment they gain from living. 'A good society is one which treats the conception of equality that society endorses, not simply as a preference some people might have but as a matter of justice that should be accepted by everyone because it is right,' Dworkin writes. How should we treat benevolence in society, for example? Should the altruistic be given more resources, since they are likely to act less selfishly, spending additional resources in a way that will benefit society as a whole? Under the equality of success, it is selfish people who need extra compensation, since they do not benefit from reductions in inequality unless those reductions directly affect their level of welfare. In response to this conundrum, Dworkin writes, 'It is surely a mark against any conception of equality that it recommends a distribution in which people have more for themselves the more they disapprove [of equality].'

Success theories of the equality of welfare are divided into theories pertaining to relative success and those relating to overall success. The equality of relative success requires that people are equal in the degree to which they fulfill their goals. However this is a problematic formulation. Imagine two people with identical qualifications, jobs, incomes, assets and families, but differing in that the standards of the first are as low as the standards of the second are high. The first believes he has achieved the perfect life: he wants for nothing and is happy. The second believes herself to be a failure, feeling that she has added little value to the world. The disparity between these two individuals is a difference in their beliefs, not a difference in their lives. Does anyone really believe the 'failure' deserves more resources than the 'success'?

Perhaps the concept of overall success, where a person's situation is compared with some set ideal (or anti-ideal), is less problematic. This judgement is a more difficult one for a person

[4] One finds this an amusing thought until the irony that this is the basis for many an economic model dawns.

to make than one regarding their relative success however, and one wonders about anyone's ability to summarize their own success in life. There is also the complication that a person may be fooled by the illusion of success. To make this point, Dworkin asks which the reader would choose, before beginning their life, between being a success in life, but thinking that they have failed, and being a failure in life, but believing themselves to be a success. I would be very surprised to find a person who does not hesitate in his answer upon first hearing this question. Dworkin eventually rejects overall success theories as he considers the concept too difficult for people to evaluate.

Another problem related to equalizing welfare is the inefficiency inherent in the process due to the heterogeneity of individual agents. Consider a group in society who are difficult to please because of their so-called 'champagne tastes'.[5] In order to be as happy as a person without expensive preferences, these people need far more resources. Should the social decision maker ignore these people in order to preserve average utility, even if, in doing so, he prevents the attainment of 'perfect equality' and discourages the formation of new, interesting preferences? Dworkin writes that discouraging expensive tastes 'might well end, for all we know, in a dull, conformist, unimaginative, and otherwise unattractive community'. Clearly this should not be taken to the point of absurdity, however. A person who cultivates expensive tastes in order to be allocated more resources, or an eccentric who shuns normal society to live an unconventional life, should not be pampered by the authorities, if for no other reason than that it would encourage such antisocial behaviour in others.

The consideration of champagne tastes gives rise to another policy-related question: do we wish to make people in society equal in terms of the things that do generate welfare, or in terms of the things that should generate welfare? We can imagine a situation in which certain members of society get the most pleasure from a pastime the state considers indecent, say, writing economics essays. In order to equalize the welfare of these people, should the social decision maker require some of them to increase this activity, even though society on average disapproves of it? This writer fears that a government which answers no to this question is at risk of becoming totalitarian. Certainly, while we may disapprove of many of the activities of others, few of us wish to lose our liberty, perhaps the most sacrosanct of all the rights we have.

One influential author in the literature on inequality is Amartya Sen, who discusses the equality of welfare in Sen (1980). Sen describes utilitarian equality, which is achieved when the marginal utility of each person in society is equal and total utility is maximized. Advocates of utilitarianism argue that equalizing marginal utility implies that everyone's interests are treated equally. Sen quotes Harsanyi's 1977 claim that utilitarianism has an exclusive ability to avoid 'unfair discrimination' between 'one person's and another person's equally urgent human needs'. If we accept the assumption of diminishing marginal utility, utilitarianism provides support for rich-to-poor transfers, which will decrease the utility of the rich person less than they increase the utility of the poor person. Equalizing marginal utility thus is not only hailed as treating equally the interests of all, but is also said to result in higher total utility (provided we believe that these sorts of transfers do not affect the level of output available for redistribution in an economy). Sen criticizes utilitarian equality as a very narrow concept, concentrating on distributional questions at the marginal level only, ignoring, for example, the extra resource claims of disadvantaged people.

Sen argues that 'the concept of needs does not get adequate coverage through the information on... utility'. He states that the framework for assessing equality is missing some notion of 'basic capabilities', insisting that a person who is unable to do basic things should be compensated with more income.[6] Is it a well-founded conception, that people should have equality in the basic things they are able to do? Consider the example of a 'jolly cripple'. He is happy with

[5] We will see shortly that this discussion can also be applied to those with disabilities.

[6] One might note the similarity between this concept and John Rawls' concept of primary goods, which he proposed should be equalized instead of utility in his seminal book (Rawls, 1971) .

his lot, despite his unfortunate circumstances, and has an average level of utility. In consideration of the favourite economic truism that resources are scarce, it does not seem expedient to redistribute resources towards jolly cripples purely on the basis of their disadvantage.[7] Provided these individuals have access to the same opportunities in life as those with normal capabilities, there seems to this writer no reason to allocate to them additional resources to further improve their level of utility. On that note, we move on to a consideration of another type of equality: the equality of resources.

The equality of resources

Dworkin (1981) considers in detail the equality of privately owned resources in an economy, stating that the aim of this theory is that 'an equal share of resources should be devoted to the lives of each person'. He notes that economic markets have long been blamed for resulting inequalities in the distribution of resources, despite the general belief that they foster liberty, efficiency and prosperity. Indeed, it has been suggested that there is a trade-off between equality and these states of economic wellbeing; a statement which Dworkin refutes, arguing instead that the market system is essential as a foundation for any theory of resource equality. Specifically, the market mechanism for determining the value of a resource - an auction in some form or other - allows a natural distribution of resources that ensures that each unit of resource is awarded to the individual who gains from it the highest benefit.

Dworkin describes an auction amongst shipwreck survivors on an island with plentiful natural resources, each of whom is given an identical number of clamshells with which to bid. This example satisfies what Dworkin calls the envy test: at the completion of the auctioning process, no rational individual will strictly prefer another's bundle to his own. The author says that market auctions are 'an institutionalized form of the process of discovery and adaptation that is at the center of the ethics of [the theory of equality of resources]'. The distribution of resources that results ensures that each person pays for the life he wants to lead, where the value of this life is measured as the resources given up by others so that he can do so. As individuals with varying skills employ their resources differently over time (altering the distribution of resources across the community), will the envy test continue to hold? If envy was simply a case of desiring another person's resources, the envy test would fail as soon as the distribution of resources changed due to the hard work of some and the indolence of others. Dworkin suggests instead that envy needs to be defined over something broader than each individual's stock of resources at a point in time - it should include some consideration of the effort required to improve one's resource bundle. It is apparent that a redistribution based solely on what we might call 'consumption envy' would result in huge disincentives for effort. Dworkin writes, 'Since people are different it is neither necessary nor desirable that resources should remain equal thereafter and quite impossible that all envy should be eliminated by political distribution', adding later that the distribution of resources should be allowed to be 'ambition sensitive' but not 'endowment sensitive'.

Dworkin also argues that provided there is initially equality of resources in an economy, the prosperity of one person will (negatively) affect the prosperity of some others within that economy. He supports this claim by giving the example of a successful, wealthy person bidding up the price of other goods he demands, therefore making it more difficult for others to afford these goods. One could argue however, that the successful person, through his effort and natural ingenuity, may have in his occupation made some good more efficiently than others could have made it, therefore reducing its price (in a perfectly competitive world); it does not seem certain to this writer that a prosperous person will necessarily make worse the fortunes of others.

The jolly cripple strikes again in the equality literature, as Dworkin considers his plight from the perspective of equality of resources. The author suggests that perhaps mental and physical powers be considered in conjunction with

[7] In fact, Dworkin goes one step further than this and argues that the transfers required to make equal the welfare of handicapped and non-handicapped people may be very inefficient in that they drastically reduce total welfare.

the other resources with which people are endowed. An initial equality of resources could be achieved by transfer payments made to disadvantaged people, before all in society are left to live out their lives undisturbed by government intervention. But how should a social decision maker decide who is disadvantaged? Perhaps a 'normal life' is not something that can be pinpointed, but instead a distribution of capabilities, where a disadvantaged person is below some sub-average threshold of this distribution. Dworkin notes that no transfer would be capable of compensating completely for certain disabilities. Consider, for example, how much you would be willing to pay to avoid full body paralysis. For many of us, the answer is, 'everything I have'. This suggests there may be no upper bound on compensation, and thus no way to ensure that handicapped people, through resource redistribution, have the same opportunities as able people.

The equality of opportunity

The equality of opportunity inherent in an economy is discussed as two distinct principles by Robert Sugden (Sugden, 2004). The first, referred to as 'starting-line equality', states that everyone should be able to choose their life from an 'equally rich range of options'. This is an objective requiring the equalisation of resources to ensure equal opportunity before one's life commences and any decisions are made. The second states that if agents expend equal effort, they should be compensated with equal rewards. This form of equality is designed to foster freedom and responsibility: freedom to choose the life one wants to lead, and responsibility to accept the consequences of this decision.[8] It is expected that the reward received will be a function of the choices made, but it should not be a function of circumstances beyond the control of the individual. This idea appears frequently in the literature on equity and equality, and is discussed in detail by John Roemer (1998, 2006).

Roemer considers equality by evaluating an 'advantage' and its distribution across a population. This advantage could be income, education or health; or any other societal outcome that is considered significant by the members of that society. Roemer proposes that a person's advantage should be thought of as a function of two main factors. The first is the person's circumstances, defined as environmental factors of a social or economic nature, in addition to any genetic characteristics of the person (such as race, sex, natural talents, and so on) that give them an advantage or disadvantage with respect to the variable of interest. Circumstances, by definition, cannot be affected by the individual; a person with 'good circumstances' might be deemed 'lucky' (this idea is discussed in more detail in the following section). The second main factor determining advantage is effort, also called ambition or drive, which is a catch-all for any part of one's life an individual has control over and thus must take responsibility for. If the advantage is education, a boy living in a poverty-stricken area and having uneducated parents may be said to be disadvantaged; yet his poor grades might also be the result of his tenacious refusal to do his homework. When we consider redistribution of resources, if we ignore effort as an explanatory variable, this boy will be awarded resources such that he is compensated for his idleness, a result that surely cannot be optimal. Another determinant of advantage is the policy that is effective in society, which, as demonstrated in the preceding example of the disobedient boy, can have significant affects on incentives and efficiency.

How can we partition advantage into the part due to circumstances (which are to be compensated for) and that due to effort? Roemer suggests partitioning society into groups of circumstantial type.[9] A distribution of effort within each circumstantial type should then be formed, so that effort (as described by a quantile value) can be compared across types, eliminating the bias of circumstance. If there is equality of opportunity, two people who are in the same place on the effort distribution of their distinct types should have the same level of advantage. 'The philosophical idea behind equality of opportu-

[8] I am reminded of an interesting line from the song 'God is a DJ', by the artist Pink: 'You get what you're given and it's all how you use it'.

[9] Clearly not all circumstances can be taken to be relevant in this exercise or we would have N groups, each containing one distinct individual.

nity,' Roemer writes, 'is that individuals should not be held responsible for their circumstances, but it is morally all right to hold them responsible for their effort.'

Dworkin states that redistribution should offset the effects of different circumstances without changing the consequences of a person's occupational choice. That is, it must not distort the incentives associated with various ways of life (ignoring the possibility that the government may wish to discourage certain occupations). As outlined above, this is a challenging objective for a redistributional tool: how can we know what part of a person's situation is due to effort or ambition, and what part is due to so-called God-given ability?[10] There is no doubt that effort and circumstances such as natural talent are positively correlated, yet it is more complex than this: they may be intertwined in a way that would make it impossible to separate one from the other. We do see occasional examples in society of people with much natural ability but no ambition, and of talentless individuals who bubble with diligence, but for the most part, people lie between these two extremes, making the problem of isolating the two effects a thorny one.

In response to this problem of compensating for poor circumstances, Dworkin discusses a hypothetical insurance market, for the purpose of determining how income should be redistributed via a taxation scheme based on endowments of talent. The theory is that this hypothetical market determines an income threshold below which a compensatory sum is paid out to those insured against the risk of being endowed with what is considered an unsatisfactory level of talent. The market determines an appropriate premium associated with this income threshold, and this premium becomes the levy in our taxation scheme. Everyone pays the tax (we assume), but some people–ironically because they 'lose' in life–win in the insurance gamble, and end up with positive net transfers from the government in the form of income support.

This theoretical idea is problematic in more than just its impossibility. The tax paid by each person is the same in absolute terms, though the problem can alternatively be solved through an insurance premium that is an increasing function of income - corresponding to a progressive taxation system. The welfare payments made to those under the income threshold are designed to compensate exactly for the difference between these persons' earned incomes and the threshold. But once the labour market opens, how can we ensure that people do not flout the system by feigning ineptness, in order to gain a higher level of income support? Theoretical considerations aside, moral hazard is a very relevant problem in reality. There are entire government departments in all Western-world countries devoted to the enforcement of eligibility criteria within their social welfare systems. The level of administration required to ensure the smooth working of a chosen taxation scheme begs a question: is the generated inefficiency worth the achievement of a more equal society?

The role of luck

An extension of equality of opportunity considers the role of luck. Lefranc et al. (2006) introduce, in addition to circumstances and effort (where the latter is considered an acceptable source of inequality, as in Roemer), the possibility of outcomes being determined in part by luck (as exogenous uncertainty). They argue for compensation of those affected by bad luck.

Sugden argues that the pure equality of opportunity theory does not protect people against advantages or disadvantages arising from luck in the form of unanticipated market outcomes. Surprise outcomes spring from various sources: risk-taking entrepreneurs who introduce new products to markets, not knowing ex ante how successful the available technology will be in production or what people will be willing to pay; industry- and firm-specific risk that is born by workers who make the gamble of changing jobs; the choice faced by a high-school graduate of whether to obtain specific training in a field that suits his talents, sacrificing time and money with no guarantee of employment at the conclusion of years of effort. If we consider the representative

[10] The parallel between people who lack this sort of ability and people who have handicaps - since both are impaired in some way in the utilisation of their share of resources - is also noted by Dworkin. I am in agreement with his belief that most arguments which can be made for one, in terms of deserving compensation, can also be made for the other.

consumer's optimization problem over a lifetime, the effects of market uncertainty will be huge.

The idea of luck is also considered by Dworkin, who defines two major forms of luck. Option luck is the uncertainty in a person's life that she chooses to accept by undertaking a gamble. Dworkin asks, should people be given different levels of resources due to differing degrees of option luck? There is an instinctive desire to answer no to this question - a person who chooses to gamble and loses simply experiences the consequence of their own choice. Dworkin makes an even stronger argument, stating that if we taxed winners to compensate losers in an attempt to restore the pre-gambling level of equality, we would make pointless (and thus halt) the act of gambling. The group of those risk-loving individuals who would have chosen to gamble had a higher expected level of utility from gambling than they would have had otherwise: preventing gambling would lower the average utility level of society. Also defined by Dworkin is brute luck, when unexpected events occur in a person's life that they have no control over. Should the government compensate those who are debilitated by random, unpreventable cerebral aneurisms? The existence of an insurance market suggests that it should not: such a market allows the translation of brute luck into option luck. Provided each individual has equality of access to this market and to information pertaining to the likelihood of brute luck, the argument for compensation of unlucky stroke victims is weak.

One might wonder whether the existence of luck is simply too strong for any kind of envy test (as described by Dworkin) to hold. Consider two people who are endowed with identical talents and ambitions. When the labour market opens, one obtains employment as a fabulous movie star earning millions and the other as an exotic dancer earning below the subsistence level. The latter surveys the success of her clone, expressing that had she had the opportunity, she would happily have done the work of the movie star for the movie star's wage -indeed, she would have done it for much less than that wage. Few readers would find this example an exaggeration; certainly, there are numerous cases in reality of people whose earnings must far surpass their marginal product, and to describe many of these cases as superbly good luck does not seem a hyperbole. Sugden comments, 'It is commonplace to say that an individual's success in her career often depends on whether she happens to be in the right place at the right time.' These cases of brute luck are certainly a challenge for the envy test, though we have considered the translation of brute luck into option luck by actual insurance markets. The problem is that, in reality, people are struck down with brute luck before they have the chance to insure. We return to the possibility of compensation awarded to all the exotic dancers who would have liked instead to be movie stars; this writer doubts whether, had she been born the former, any sum of money would compensate her fully for not having the luck of the latter. Dworkin writes, 'The brute fact remains that some people have much more than others of what both desire, through no reason connected with choice.'

Compensating for ill luck sounds like a nice idea, doesn't it? We could imagine a government that promises its citizens certainty in some vital parts of their lives, in order to achieve equal opportunity and improve confidence in potential outcomes. After careful consideration, however, it is clear that this would be no ideal: the compensation of luck has indirect costs associated with it, such as losses of efficiency and distortions resulting from redistributions of resources. The compensation of individuals with bad luck - like trying to equalize the welfare of a fully paralysed person and a person with perfect health - may come with such a hefty price tag in terms of total utility losses that the idea begins to look foolhardy.

Roemer (1998) states that if people expend the same effort but are compensated differently (perhaps due to uncertainty of market outcomes), this is unfair and the state should work to correct for this asymmetry if it wishes to achieve equality of opportunity. Sugden is opposed to Roemer's position, believing that 'unfair' is a loaded word to describe this situation. If we say that it is unfair for equals to receive unequal rewards, do we mean that someone has acted unfairly to bring about the end result, or do we mean only to express regret about an unsatisfactory outcome? We are struck by good and bad luck every day - few would argue that a social decision maker could ever hope to level out the opportunities created by this luck. It seems that Roemer is one of these few; he believes that if society does not compensate those who are negatively affected by circumstances beyond their control, it is guilty of a moral wrong. In protest, Sugden asserts that market-generated outcomes can be unfair, but that lack of compensation for this unfairness is not morally wrong. He concludes that if we want the opportunities that only the free market will provide, we have to live with unfairness, calling it 'an inescapable feature of a market economy'.

Concluding remarks

This paper has considered the issues surrounding the question 'Why measure inequality?' including why equality is desirable (and thus worthy of measurement), and a discussion of three major theories of equality, as well as various extensions and criticisms of these by some of the leading players in the literature. It is difficult to summarize such a maelstrom of ideas in a few words. I refer instead to F.A. Hayek, who writes so poignantly on the topic of equity and equality:

> 'Are we not all constantly disquieted by watching how unjustly life treats different people and by seeing the deserving suffer and the undeserving prosper?... [W]e do cry out against the injustice... if of many people whose endeavours seem equally great, some succeed brilliantly while others utterly fail... And we will protest against such a fate although we do not know anyone who is to blame for it, or any way in which such disappointments can be prevented' (Hayek, 1976).

References

Dworkin, Ronald (1981), 'What is equality? part 1: Equality of welfare, part 2: Equality of resources', *Philosophy and Public Affairs* **10**(3), 283–345.

Elliott, Sophie K. (2008), 'Wondering about welfare? Characteristics of New Zealand beneficiaries', *EcoNZ@Otago* **20**, 1–4.

Galbiati, Roberto and Pietro Vertova (2008), 'Horizontal equity', *Economica* **75**(298), 384–391.

Harsanyi, John (1977), Non-linear social welfare functions: a rejoinder to Professor Sen, *in* R.Butts and J.Hintikka, eds, 'Foundational Problems in the Social Sciences', Reidel, Dordrecht.

Hayek, F.A. (1976), *Law, Legislation, and Liberty*, Vol. 2, The Mirage of Social Justice, University of Chicago Press, Chicago.

Lambert, Peter J. and Shlomo Yitzhaki (1995), 'Equity, equality and welfare', *European Economic Review* **39**(3-4), 674–682.

Lefranc, Arnaud, Nicolas Pistolesi and Alain Trannoy (2006), Equality of opportunity: Definitions and testable conditions, with an application to income in France, Working Papers 53, ECINEQ, Society for the Study of Economic Inequality.

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

Roemer, John (1998), *Equality of Opportunity*, Harvard University Press, Cambridge MA.

Roemer, John (2006), 'Review essay, the 2006 world development report: Equity and development', *Journal of Economic Inequality* **4**(2), 233–244.

Sen, Amartya (1980), *Equality of what? The Tanner Lectures on Human Values*, Vol. 1, Cambridge University Press, Cambridge, U.K.

Sugden, Robert (2004), 'Living with unfairness: The limits of equal opportunity in a market economy', *Social Choice and Welfare* **22**(1), 211–236.

Westen, Peter (1990), *Speaking of Equality: An Analysis of the Rhetorical Force of "Equality" in Moral and Legal Discourse*, Princeton University Press, Princeton New Jersey.

Afterword: Equity and equality

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In the year since Sophie's tragic death, the issues that she treated so well in her essay have come to the forefront of public debate. Her choice of subject exhibited considerable prescience. As people learn about the full extent of the crisis in the financial markets and about the behaviour of those whose decisions led to the crisis, they are increasingly posing questions about the underlying morality of these markets. As they contemplate the consequences for the real economy, with rising unemployment and increased insecurity, they are led to ask about the fairness or otherwise of economic rewards. There is concern now, not with efficient markets, but with equitable economic exchange.

Sophie starts her essay 'equity is probably one of the most fundamental values common to all people in a society'. But, as she rightly goes on to say, the concept of 'equity can be elusive'. This is why welfare economics should return to a central role in the teaching of our subject. Economics is a moral science, and economists need to understand the consequences of different concepts of equality. Many of the ambiguities and disagreements about economic policy stem, not from differing views about how the economy works, but from differences about the underlying values. Sophie's essay is a testament to the way in which clear thinking and hard analysis can contribute to advancing our understanding of these crucial issues.

