

EGALITARIAN ECONOMIC INEQUALITY

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EGALITARIAN ECONOMIC INEQUALITY

Ronald Dworkin proposes a concept of egalitarian distributive justice based on equality of resources and hypothetical insurance. He concludes that participants in a hypothetical insurance market would choose to insure against a low level of income—setting a floor above what is currently provided by government assistance in the United States—but would not desire insurance at a level that would eliminate inequality. Daniel Markovits comes to a similar conclusion, and suggests that he is able to provide “a more deeply principled” theory why significant inequality is consistent with egalitarian ideals.

In this paper, I argue that neither Dworkin nor Markovits establishes the degree of inequality that is consistent with egalitarian theory. Both Dworkin and Markovits base their conclusions on Dworkin’s concept of hypothetical insurance. Although it is generally understood that the degree of risk aversion plays an important role in actual insurance markets, the level of risk aversion is not a major part of Dworkin’s or Markovits’s analysis. I show that in settings in which labor is a factor in production, the level of people’s risk aversion is an important element of hypothetical insurance. Depending on the extent of people’s risk aversion, egalitarianism understood in terms of hypothetical insurance might tolerate substantial income inequality, or very little inequality.

We hold these truths to be self-evident, that all men are created equal....¹

From the protection of different and unequal faculties of acquiring property, the possession of different degrees and kinds of property immediately results.²

I. INTRODUCTION

A. *From traditional tax policy criteria to distributive justice*

In legal scholarship, evaluation of tax policy generally places great weight on the potential effect of a policy on the distribution of income.³ Ditto economics scholarship, in fact.⁴ Tax legal scholarship is beginning to

¹ The Declaration of Independence para. 2 (U.S. 1776).

² The Federalist No. 10, at 78 (James Madison) (Clinton Rossiter ed., 1961).

³ See, e.g., Liam Murphy & Thomas Nagel, *The Myth of Ownership: Taxes and Justice* 38 (2002) (“Tax Justice must be part of an overall theory of social justice and of the legitimate aims of government.”); Kaplow & Shavell, *Fairness versus Welfare* 33-34 (2002); Joseph Bankman & Thomas Griffith, *Social Welfare and the Rate Structure: A New Look at Progressive Taxation*, 75 *Cal L. Rev.* 1905, 1907 (1987) (“[A]ll rate structures must be premised upon, and measured by, a theory of distributive justice.”); Marjorie E. Kornhauser, *Choosing a Tax Rate Structure in the Face of Disagreement*, 52 *UCLA Law Rev.* 1697, 1706 (2005) (“[T]axes never simply raise revenue but invariably implicate distributive justice. In fact, in a capitalist society, taxation is the state's primary tool for distributive justice because most distributional decisions are left to the market.”); Lawrence B. Solum, *Procedural Justice*, 78 *S. Cal. Law Rev.* 181, 238 (2004) (“[M]any questions of tax policy are questions of distributive justice.”); Deborah M. Weiss, *Liberal Estate Tax Policy*, 51 *Tax L. Rev.* 403, 403 (1996) (“Many of the most interesting questions in tax policy involve issues of distributive justice.”); Michael J. Graetz, 112 *Yale L.J.* 261, 263, 265 (2004) (concluding that “repeal of the estate tax was a mistake” because, among other things, “the estate tax has long been an important factor contributing to the progressivity of the federal tax system.”); Alvin Warren, *Would a Consumption Tax Be Fairer Than an Income Tax?*, 89 *Yale L.J.* 1081, 1091 (1980) (“The case for taxing income can be stated by identifying as a plausible assumption the view that...the distribution of social product is a matter for collective decision.”)

⁴ E.g., Richard W. Tresch, *Public Finance: A Normative Theory* 8 (1981) (“[D]ecisions concerning the distribution of income are the first order of business in public sector economics.”); Martin F. Hellwig, *A Contribution to the Theory of Optimal Utilitarian Income Taxation*, 91 *J. Pub. Econ.* 1449 (2007); Alberto Alesina & Eliana La Ferrara, *Preferences for Redistribution in the Land of Opportunities*, 89 *J. Pub. Econ.* 897 (2005) (“Amongst the three traditional roles of the government, provision of public goods, stabilization and redistribution, the latter is increasingly important in today’s industrial countries. In 1960, the average share

consider sophisticated formulations of distributive justice instead of relying on criteria such as vertical equity, horizontal equity and conformity to the Haig-Simons definition of income.⁵ The latter, old-school approach has been characterized by Liam Murphy and Thomas Nagel as “traditional criteria of tax equity” in their fashionable monograph *The Myth of Ownership: Taxes and Justice*.⁶ Murphy and Nagel survey the traditional criteria for evaluating tax justice—vertical equity, ability to pay and horizontal equity—and discount their usefulness on the grounds that “[t]ax justice must be part of an overall theory of social justice and the legitimate aims of government.” Murphy and Nagel argue that focusing on the distribution of tax burdens is distracting, even misleading, because it suggests that the pretax distribution of income has moral significance.⁷

One swallow does not a summer make,⁸ and some legal scholars are skeptical of the long-term compatibility of tax policy scholarship and sophisticated political philosophy. The distinguished tax scholar Joseph Dodge is wary of “distributive justice megatheorists.”⁹ Dodge thinks

of the government transfers was about 8% of GDP in OECD countries versus 15% of provision of public goods and services. Today these two figures are about 16% and 17%, respectively. Thus, while the share of social spending and transfers has doubled, that of government consumption has stayed roughly constant.”); A.B. Atkinson, Horizontal Equity and the Distribution of the Tax Burden, in *The Economics of Taxation 3* (Henry J. Aaron & Michael J. Boskin eds. 1980).

⁵ Daniel N. Shaviro, Households and the Fiscal System, 23 *Social Philosophy and Policy* 186 (2006). That is not to say that there is a consensus either that acceptance of a particular theory of distributive justice will largely resolve tax policy disputes, see Deborah H. Schenk, Saving the Income Tax with a Wealth Tax, 53 *Tax L. Rev.* 423, 457 n.168 (2000), or that the aims of distributive justice can be realized exclusively via tax policy, see, e.g., Chris William Sanchirico, Deconstructing the New Efficiency Rationale, 86 *Cornell L. Rev.* 1003, 1069 (2001); see also Kyle Logue & Ronen Avraham, Redistributing Optimally: Of Tax Rules, Legal Rules and Insurance, 56 *Tax L. Rev.* 157, 252 (2003) (“[L]egal rules in some circumstances...can usefully supplement the tax system in reducing income inequality.”).

⁶ Liam Murphy & Thomas Nagel, *The Myth of Ownership: Taxes and Justice* 12 (2002).

⁷ *Id.* at 38.

⁸ Stephanos Bibas, Judicial Fact-Finding and Sentence Enhancements in a World of Guilty Pleas, 110 *Yale L.J.* 1097, 1130 n.266 (2001); cf. Frank N. Coffin, Judicial Balancing: The Protean Scales of Justice, 63 *N.Y.U. Law Rev.* 16, 40 (1988) (“Several swallows do not make a summer.”).

⁹ Joseph M. Dodge, Theories of Tax Justice: Ruminations on the Benefit, Partnership, and Ability-to-Pay Principles, 58 *Tax L. Rev.* 399, 455 (2005).

megatheories “breed contention and division.”¹⁰ With the endearing bluntness of a rich uncle, Dodge defends traditional tax policy norms as “much easier for the masses to grasp.”¹¹ Yet tax scholars’ interest in political philosophy is consistent with an earlier development in private law scholarship. As Jeremy Waldron observes, “Legal reform proposals that fail to refer to philosophical discussion are regarded in some legal circles as inadequately theorized, and for that reason condemned as unsatisfactory.”¹²

John Rawls,¹³ Robert Nozick,¹⁴ Ronald Dworkin¹⁵ and G.A. Cohen¹⁶ have each promulgated a theory of distributive justice that has received some attention in legal scholarship. Next to Rawls, the most influential of these accounts may be Dworkin’s egalitarian theory. Dworkin concludes that egalitarianism requires that each person be guaranteed a substantial income, but that it is consistent with a substantial degree of inequality. Daniel Markovits comes to a similar conclusion by a slightly different route and suggests that toleration of significant inequality is more fundamental to egalitarianism than Dworkin’s analysis reveals.¹⁷

In this paper, I argue that neither Dworkin nor Markovits establishes the degree of inequality that is consistent with egalitarian theory. Both Dworkin and Markovits base their conclusions on the concept of hypothetical

¹⁰ Id. at 460; see also id. at 457, 461. Actually, Dodge states that “metatheories” are divisive, but he appears to use the terms “megatheory,” id. at 455, metatheor[y],” id. at 460, and “meta-theory,” id. at 459, 460, to mean the same thing.

¹¹ Id. at 455, 452.

¹² Legal and Political Philosophy, in *The Oxford Handbook of Jurisprudence and Philosophy of Law* 360 (Coleman & Shapiro eds. 2002); see, e.g., Ernest J. Weinrib, *The Case for a Duty to Rescue* 90 *Yale L.J.* 247, 251 (1980) (“[A] general duty of easy rescue can find support either on Benthamite-utilitarian or Kantian-deontological grounds.”); Stephen R. Munzer, *A Theory of Property* 227 (1990) (“This chapter argues for a combined principle of justice and equality. This principle maintains that unequal property holdings are justifiable if (1) everyone has a minimum amount of property and (2) the inequalities do not undermine a fully human life in society.”); J.E. Penner, *The Idea of Property in Law* 187 (1997) (“[U]nderstanding property tells us little about how we would go about justifying any particular distribution of property, or of wealth generally.”).

¹³ John Rawls, *A Theory of Justice* (1971).

¹⁴ Robert Nozick, *Anarchy, State and Utopia* (1974).

¹⁵ Ronald Dworkin, *Sovereign Virtue* (2000); Ronald Dworkin, *Sovereign Virtue Revisited*, 113 *Ethics* 106 (2002); Ronald Dworkin, *What is Equality? Part 1: Equality of Welfare*, 10 *Phil. & Pub. Aff.* 185 (1981); Ronald Dworkin, *What is Equality? Part 2: Equality of Resources*, 10 *Phil. & Pub. Aff.* 283 (1981).

¹⁶ G.A. Cohen, *On the Currency of Egalitarian Justice*, 99 *Ethics* 906 (1989).

¹⁷ Daniel Markovits, *How Much Redistribution Should There Be*, 112 *Yale L.J.* 2291 (2003).

insurance. Although it is generally understood that the degree of risk aversion plays an important role in actual insurance markets, the level of risk aversion is not a major part of Dworkin's or Markovits's analysis. I show that in settings in which labor is a factor in production, the level of people's risk aversion is an important element of hypothetical insurance. Depending on the extent of people's risk aversion, egalitarianism, understood in terms of hypothetical insurance, might tolerate substantial income inequality or very little inequality.

B. Ronald Dworkin's theory of distributive justice

Ronald Dworkin maintains that a legitimate government “must show equal concern for the fate of all [its] citizens.”¹⁸ Dworkin believes that equal concern requires government to promote equality of resources.¹⁹ Dworkin's ideal of equality of resources balances two competing principles of government.²⁰ First, government must “adopt laws and policies that insure that its citizens' fates are, so far as government can achieve this, insensitive to who they otherwise are—their economic backgrounds, gender, race, or particular set of skills and handicaps.”²¹ Second, government must, to the extent possible, insure that citizens' choices influence their fortunes.²² To reconcile these principles, Dworkin uses the conceptual scheme of hypothetical insurance to determine the proper scope of redistributive taxation.²³

[T]he general goal of equality of resources—that distribution should be sensitive to choice but not to circumstances—is satisfied by a welfare scheme that places people in the circumstances we assume they would have enjoyed had insurance [providing a stipulated income if unemployed or employed at a rate yielding less than that income] been available to them on equal terms.”²⁴

¹⁸ Ronald Dworkin, *Sovereign Virtue* 1 (2000).

¹⁹ *Id.* at 3. “My claim is that theories of distributive justice should use a metric of resources rather than a metric of welfare to describe their goals and that a distribution is genuinely egalitarian only if it satisfies as well as possible the goals of equality of resources.” Ronald Dworkin, *Sovereign Virtue Revisited*, 113 *Ethics* 106, 130 (2002).

²⁰ Ronald Dworkin, *Sovereign Virtue* 91 (2000).

²¹ *Id.* at 6.

²² *Id.* at 6. “Equality requires that those who choose more expensive ways to live—which includes choosing less productive occupations measured by what others want—have less residual income in consequence. But it also requires that no one have less income simply in consequence of less native talent.” *Id.* at 102.

²³ *Id.* at 7.

²⁴ *Id.* at 334, 332.

Not to insult your intelligence, but to be clear: This is hypothetical insurance not just in the sense that it offers options that might not have existed; they cannot exist. You imagine a decision that would be made before an individual's life starts. Dworkin assumes that a person knows his or her talents, but does not know how much income can be earned with those talents.²⁵ The distribution of income is known, however, and a person must assume that the odds of earning any particular income are proportional to the number of persons who do.²⁶

The upshot of this is a justification for redistribution, but one that might sanction a degree of inequality: "Transfers modeled on hypothetical insurance will mitigate but by no means erase the inequality generated by unemployment, because no hypothetical prudent person would buy insurance that would guarantee him even the average wage of those in employment."²⁷ Dworkin believes that his model justifies significant transfer payments,²⁸ but he mentions a number of considerations indicating that transfers should not be expected to eliminate income disparities. One is that obtaining a guarantee of receiving a large indemnity if a person's particular talents turn out to be poorly compensated would require the insured to commit to working intensively if the talents were highly compensated, to afford the premium.²⁹ Another factor is moral hazard—the potential change in the behavior of the insured on account of the existence of insurance. (For example, in the case of conventional insurance, the owner of a burning factory might not fight the fire as passionately knowing insurance would cover any damage.³⁰) In the present context, the moral hazard is presumably a reduced incentive to work because of the receipt of supplemental income.³¹ Dworkin expects that in light of moral hazard, the

²⁵ Ronald Dworkin, *Sovereign Virtue* 94 (2000). Dworkin adopts this conception on the grounds that the compensation commanded by particular skills "is contingent in a hundred dimensions." *Id.* at 327. "The qualities of mind that have made Bill Gates the richest person in the world were once dismissed as unattractive." *Id.* Although the counterfactual scenario in which a random talent attracts high compensation raises some interesting conceptual challenges regarding the structure of the corresponding economy, this approach is generally thought to be less troublesome than requiring people to imagine that they are someone else or—what Dworkin believes amounts to about the same thing—have someone else's talents.

²⁶ *Id.*

²⁷ *Id.* at 340.

²⁸ *Id.* at 97, 332.

²⁹ *Id.* at 96.

³⁰ Karl Borch, *Economics of Insurance* 208-09 (1990).

³¹ See, e.g., Richard J. Butler, B. Delworth Gardner & Harold H. Gardner, *More than Cost Shifting: Moral Hazard Lowers Productivity*, 65 *J. Risk & Insurance* 671 (1998).

insurance scheme would include a form of coinsurance, in which the insured bears some portion of a loss.³² He also points to the administrative costs of providing insurance. Taken together, Dworkin considers these factors to demonstrate that, financially, “insurance is a bad bet,” so that “hypothetical wage insurers would not insure at high levels of coverage.”³³

C. Daniel Markovits’s gloss on Dworkin’s egalitarian theory

Building on Dworkin’s work, Daniel Markovits offers “a more deeply principled” explication why significant inequality is consistent with egalitarian ideals.³⁴ Markovits observes that an insurance program is sustainable only if it indemnifies, at most, against the risk of falling below the average talent level, since not everyone can end up with more income than society’s average level of income.³⁵ He concludes that in fact people would not even be willing to pay the premiums necessary to fund insurance that guaranteed receiving three-fourths of average income.³⁶ Like Dworkin, Markovits believes that this conclusion is driven by aversion to the risk of talent slavery.³⁷ Markovits states, “In order to maintain the mean wage level while also paying the premiums on her insurance policy (which depend on her earnings potential ...) [a policyholder would have to] work flat out and only at that job which, given her talents, pays most ... even if she hated the work involved.”³⁸ Markovits does not think a reasonable person would risk that outcome in order to lock in the average level of earnings.

Markovits’s conclusion that people would not be willing to pay the premium required to lock a guaranteed income of even three-quarters of the average is based on the dispersed income distribution found in most economies. Figure 1, below, illustrates the shape of a typical income distribution.

³² Ronald Dworkin, *Sovereign Virtue* 101 (2000).

³³ Ronald Dworkin, *Sovereign Virtue Revisited*, 113 *Ethics* 106, 108 (2002).

³⁴ Daniel Markovits, *How Much Redistribution Should There Be?*, 112 *Yale L.J.* 2291, 2321-23n76 (2003).

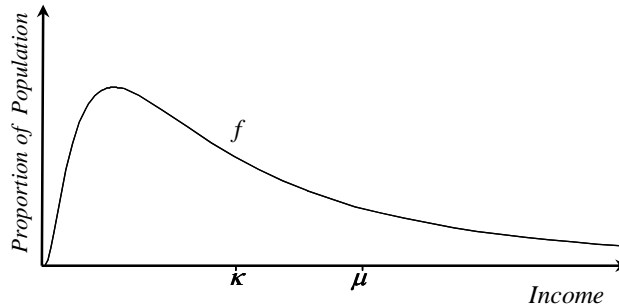
³⁵ *Id.* at 2307.

³⁶ *Id.* at 2313.

³⁷ *Id.* at 2309.

³⁸ *Id.* at 2308. (“She would be forced to work at this job, and this job only, even if she hated the work involved, had ambitions that she could fulfill only in another job, or just preferred the other job.”)

Figure 1 Typical Income Distribution



The curve indicates the proportion of the population earning various levels of income. (The median income is at κ , the average is μ .) Although figure 1 represents a theoretical benchmark rather than an empirical distribution from an actual economy, it conforms to the normal pattern of income distribution in which there are many people with fairly similar incomes and a smaller number with large incomes.³⁹ The distribution is skewed because the distribution of income is spread out more to the right (for high incomes) than to the left (corresponding to low incomes)).

Markovits also maintains that the variety of jobs diminishes as the level of compensation increases.⁴⁰ According to Markovits, this phenomenon would mean that committing to a high premium entails a significant risk of committing to working at a well-paid job that is unfulfilling, in the event a person does end up talented.⁴¹ Markovits presents some evidence that talent—or at least actual (rather than potential) wage distribution—is spread out in many economies.⁴² Combining these factors, Markovits arrives at his estimate that hypothetical insurance would not even guarantee an income 25 percent below the average income.⁴³

Markovits's argument can be illustrated with the following numerical example. Suppose there are 160 people, with the number of people at various income levels as indicated in table 1.

³⁹ See generally James B. Davies & Anthony F. Shorrocks, *The Distribution of Wealth*, in 1 *Handbook of Income Distribution* 605 (Anthony B. Atkinson & François Bourguignon eds. 2000).

⁴⁰ Daniel Markovits, *How Much Redistribution Should There Be?*, 112 *Yale L.J.* 2291, 2310 (2003).

⁴¹ *Id.* at 2313.

⁴² *Id.* at 2311-12.

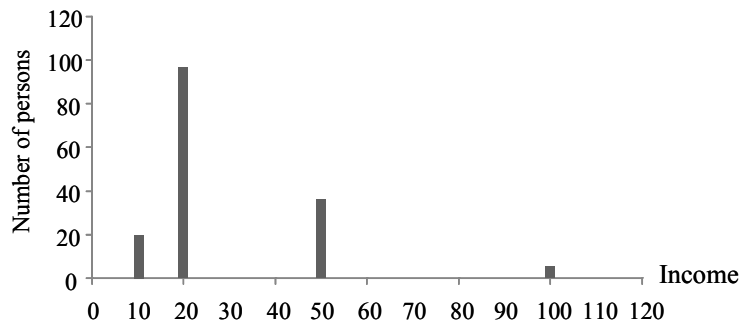
⁴³ *Id.* at 2313.

Table 1 Distribution of Income

| Income (Thousands of dollars) | Number of persons | Percent of population |
|----------------------------------|-------------------|-----------------------|
| 10 | 20 | 12.5 |
| 20 | 96 | 60 |
| 50 | 36 | 22.5 |
| 100 | 5 | 3.125 |
| 500 | 2 | 1.25 |
| 1000 | 1 | 0.625 |

Average income in this example is just over \$40,000; the median income is \$20,000. The distribution in table 1 corresponds to the proportions graphed in figure 2, except that the two highest levels of income (500 and 1000) have been truncated in the graph.

Figure 2



The hypothetical insurance paradigm imagines that in this society each person would have a 12.5% chance of having the capacity to earn \$10,000, a 60% chance to have the capacity to earn \$20,000, and so on, up to a 0.625% shot at the capacity to earn a million dollars. An income tax with a one hundred percent tax rate on potential income and a refundable \$40,000 credit would leave everyone with the same after-tax income: the average income of \$40,000. Most people would receive a subsidy, but the person with the capacity to earn a million dollars, for example, would face a \$960,000 liability. Markovits notes that the person who turned out to face the \$960,000 tax/premium “could not afford to work at almost any middle class job (she could not, for example, be a doctor or a university professor or

an engineer).”⁴⁴ Therefore, Markovits surmises, people would accept the risk of ending up with a below average after-tax income because a guarantee of receiving the average after-tax income would entail a commitment to what could be very unfulfilling, perhaps intolerable employment. Markovits argues that insuring up to 75% of the average wage would require accepting essentially the same unsatisfactory bargain; the tax burden might be a bit less, but the risk of unacceptable employment options would not be significantly diminished.

II. RISK AND INSURANCE

“As far as this insurance is concerned, the Loch Ness Monster shall be deemed to be: 1) In excess of 20 feet in length 2) Acceptable as the Loch Ness Monster to the curators of the Natural History Museum, London. In the event of loss hereunder, the monster shall become the property of the underwriters hereon.”⁴⁵

Dworkin’s analysis of distributive justice draws inspiration from the principles of resource allocation of the economic theory of general equilibrium: “[T]he idea of an economic market, as a device for setting prices for a vast variety of goods and services, must be at the center of any attractive theoretical development of equality of resources.”⁴⁶ To Dworkin, the appeal of the contemporary economic theory of competition is that it offers a framework for identifying opportunity costs, which Dworkin believes provide indicia of equality: “[T]he true measure of the social resources devoted to the life of one person is fixed by asking how important, in fact, that resource is for others.”⁴⁷ Dworkin and Markovits opt for an informal approach to demonstrating their conclusions about the economic considerations bearing on a financially viable insurance scheme, although their discussions are quite rigorous in other respects. This paper evaluates the claims of Dworkin and Markovits about the outcome of a hypothetical insurance scheme emphasizing concepts of economic theory that are implicit in those authors’ work.

⁴⁴ Id at 2313. (Markovits selects this example “in part based on [his] casual observation that many, if not most, doctors, engineers and professors would have succeeded as lawyers and bankers.” Id. at 2313 n.56)

⁴⁵ Karl Borch, *The Monster in Loch Ness*, 33 *J. Risk & Insurance* 521, 521-22 (1976) (quoting Anthony Brown, *Hazards Unlimited: The Story of Lloyds of London* 146 fig. 27 (1973)).

⁴⁶ Ronald Dworkin, *What is Equality? Part 2: Equality of Resources*, 10 *Philosophy & Public Affairs* 283, 284 (1981).

⁴⁷ Id. at 289.

Although uncertainty is at the core of modern egalitarian theory and insurance, set uncertainty aside for a moment and consider the problem of determining the meaning of an equal distribution of resources when the resources and the distributees are heterogeneous. Dworkin imagines that everyone is initially given identical interests in material resources. Each person is then allowed to trade with others in an auction process in which people sell items that they have too much of, by their tastes, to the highest bidders. The precise combination of goods that any one person ends up with at the conclusion of this process could be duplicated by anyone else. Dworkin maintains that the result of such a hypothetical auction process—everyone starts out with exactly the same interests in material resources and ends up with different interests as the result of an appropriate auction—is compatible with egalitarian ideals.⁴⁸ General equilibrium theory, in economics, has the same fundamental structure, and at one point Dworkin remarks in a note that he “means to describe a Walrasian auction in which all productive resources are sold.... I make all the assumptions about production and preferences made in G. Debreu, *Theory of Value*.”⁴⁹ (Debreu’s book is a classic monograph on the economic theory of equilibrium.)

In the case without uncertainty, under certain assumptions about the nature of production and people’s preferences (no one prefers to see others suffer, for example—at least to the point of being ready to pay for it), the outcome of a competitive market is an optimum. The optimum is an allocation of resources, goods and services. What makes it an optimum is that there is no other allocation that everyone prefers.⁵⁰ There is nothing necessarily egalitarian about this, but if everyone starts out with identical interests in resources, that may not be an optimum, but the outcome of a competitive market will produce an optimum. That optimum will have the added property that no one should envy the allocation obtained by anyone else, since anyone could have chosen any allocation that anyone does obtain.⁵¹

Dworkin’s hypothetical auction, and neoclassical general equilibrium theory, can be extended to cover certain types of uncertainty.⁵² The economics of uncertainty provides a framework for analyzing insurance

⁴⁸ Ronald Dworkin, *Sovereign Virtue* 66-71 (2000); see also Ronald Dworkin, *Do Values Conflict?: A Hedgehog’s Approach*, 43 *Arizona L. Rev.* 251, 253 (2001).

⁴⁹ Ronald Dworkin, *What is Equality? Part 2: Equality of Resources*, 10 *Philosophy & Public Affairs* 283, 287 n.2 (1981).

⁵⁰ Gerard Debreu, *Theory of Value* 91 (1959); Mas-Colell et al., *Microeconomic Theory* 547 (1995).

⁵¹ John E. Roemer, *Theories of Distributive Justice* 49-50 (1996).

⁵² Gareth D. Myles, *Public Economics* 197 (1995).

(and finance). Uncertainty is represented by various states of the world, identified as state 1: s_1 , state 2: s_2 , state 3: s_3 , and so on. Exactly one state actually happens. Goods—say x , y and z —are distinguished by state: x_1 standing for a particular amount of good x provided in state 1, for example. Suppose that there are two possible states, each equally likely. You start with \$100 at some point before the state is determined. You could spend \$80 on goods to be delivered if state 1 happens and \$20 on goods to be delivered if state 2 occurs. All money could change hands before the state become known. If state 1 results, your \$80 of goods are delivered. If state 2 happens, \$20 of goods arrives. If there were \$100 of good available in each state, someone would have to want \$20 of goods in state 1 and \$80 in state 2; otherwise prices would have to adjust until demands balanced. Commodities futures contracts operate something like this.

The conventional economic analysis of uncertainty assumes that a person's decisions maximize the person's expected utility. In contemplating uncertainty, a person considers that his or her consumption depends on which state of the world occurs. In state 1, for example, a person's consumption would be (x_1, y_1, z_1) ; in state 2, (x_2, y_2, z_2) and so on. The probability that a state occurs is p_i ; the probabilities add up to one-hundred percent. Say there are four possible states. A person's expected utility is

$$U = p_1u(x_1, y_1, z_1) + p_2u(x_2, y_2, z_2) + p_3u(x_3, y_3, z_3) + p_4u(x_4, y_4, z_4)$$

The state utility function u evaluates the utility of a particular state and the expected utility function U is a weighted sum of the state utilities, the weights determined by the relative likelihoods of the states. The state utility does not have to be fixed across states, but to obtain insight into utilitarianism the way in which state utility varies across states will have to be restricted. I assume state utility is the same in each state.⁵³

⁵³ For further discussion of expected utility theory, see, e.g., Stephen F. LeRoy & Jan Wenner, *Principles of Financial Economics* 77-86 (2001); Jonathan E. Ingersoll, Jr., *Theory of Financial Decision Making* 30-39 (1987); Edi Karni and David Schmeidler, *Utility Theory with Uncertainty*, in *4 Handbook of Mathematical Economics* 1763-1831 (Werner Hildenbrand & Hugo Sonnenschein eds. 1991); Hal R. Varian, *Microeconomic Analysis* 155-70 (2nd ed. 1984); Andreu Mas-Colell, Michael D. Whinston & Jerry Green, *Microeconomic Theory* 167-215 (1995). The first, third, and fifth works just cited also contain significant discussions of the limitations of expected utility theory. As one of the works notes, "It is very easy to work with expected utility and very difficult to do without it.... [T]he use of expected utility is pervasive in economics." Mas-Colell et al. at 178, 181.

From the standpoint of economic theory, insurance is a type of contingent claim.⁵⁴ A contingent claim is a right to receive a specified amount of money, but only in certain circumstances. A financial security is another type of contingent claim. A lottery ticket is a third example. The character of the insurance market and the markets for other contingent claims depends on attitudes toward risk.

The systematic analysis of risk in economics (and finance) is based on the expected utility hypothesis. The hypothesis is that in the face of uncertainty, economic decisions are consistent with behavior that maximizes the utility of various possible outcomes, each weighted by the probability that it happens.⁵⁵ A special case of particular importance in insurance⁵⁶ and finance⁵⁷ involves outcomes expressed purely in monetary terms. A central question in finance, for example, is the value of a security. The expected utility hypothesis provides an answer. For example, suppose that there are two possible outcomes for an investment security. In a bull market, the return is \$100. In a bear market, \$60. Each outcome is equally likely; each has probability $\frac{1}{2}$. The investment security is a risky asset. The expected value of a risky investment is the sum of the possible returns weighted by the likelihood of the outcome. A fifty-percent chance of winning one-hundred dollars has an expected value of fifty dollars. So the expected value of the security is \$80, but—setting arbitrage considerations to the side—\$80 will be the value of the security only to a risk-neutral investor. For a risk-neutral investor, by definition, the expected utility of a risky investment is always the same as the (expected) utility of a risk-free investment.

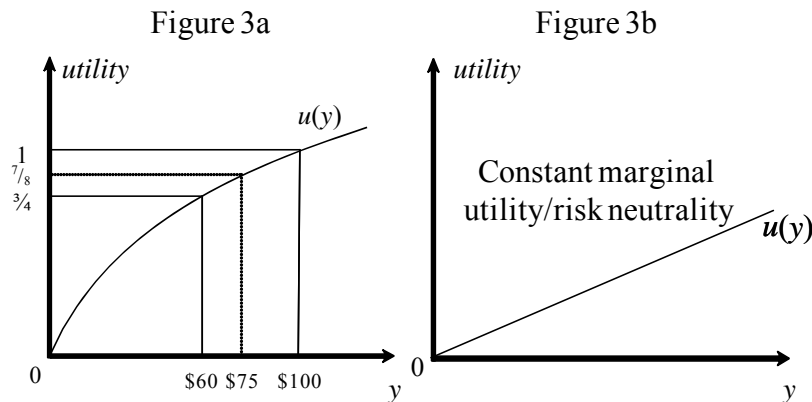
Let y represent an amount of dollars, and $u(y)$ the utility of that amount. Say $u(\$100) = 1$ and $u(\$60) = \frac{3}{4}$. The utility of various amounts can be represented by a formula, a table, or, as in figure 3, below, a diagram. The expected utility of an investment in the security is $\frac{1}{2}u(\$100) + \frac{1}{2}u(\$60) = \frac{7}{8}$. The value of the security, v , is the amount of a riskless asset that has the same expected utility, $u(v) = \frac{7}{8}$.

⁵⁴ Karl H. Borch, *Economics of Insurance* 210 (1990) (“It is useful to see an insurance contract as a contingent claim.”); *id.* at 376. cf. John E. Roemer, *Three Egalitarian Views and American Law*, 20 *Law and Philosophy* 433, 440 (2001) (“There is, it turns out, a standard way of modeling Dworkin’s insurance scheme . . . called the market for contingent claims.”).

⁵⁵ Chi-fu Huang & Robert H. Litzenger, *Foundations of Financial Economics* 1 (1988); see also Borch, *supra*, at 198 (“Bernoulli Principle”); Andreu Mas-Colell, Michael D. Whinston & Jerry R. Green, *Microeconomic Theory* 167-208 (1995); Stephen F. LeRoy & Jan Werner, *Principles of Financial Economics* 77-86 (2001).

⁵⁶ Karl H Borch, *Economics of Insurance* 139-40 (1990).

⁵⁷ Jonathan E. Ingersoll, *Theory of Financial Decision Making* 35-36 (1987).

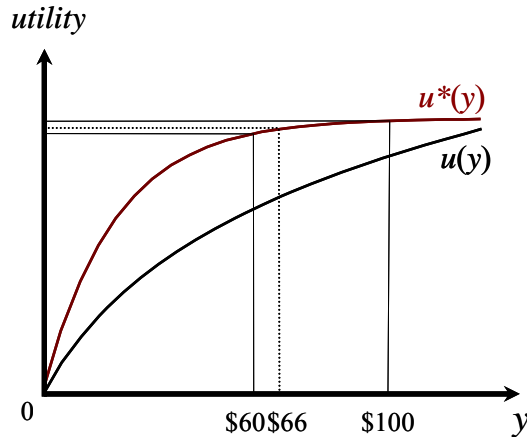


As depicted in figure 3a, $v = \$75$. The utility function illustrated by figure 3a corresponds to a risk-averse investor. To a risk-averse investor, a risky investment is always worth less than the investment's expected value.⁵⁸ This follows from diminishing marginal utility, evident from the declining slope of the curve. Although each dollar of income increases utility, at larger incomes the increase in utility is smaller. The utility function in figure 3b corresponds to a risk-neutral investor; the slope is constant; the investor's marginal utility is constant.

The more rapid the decline in marginal utility, the greater the degree of risk aversion, and the more an investor will discount a risky investment below its expected return. Figure 4 superimposes a utility function u^* , reflecting a higher degree of risk aversion, on the function u displayed in figure 3a.

⁵⁸ I will use this definition of a risk-averse investor in this paper, but often in economics and finance a risk-neutral investor is an extreme case of risk aversion, and the term strict risk aversion is used when risk neutrality is excluded. See, e.g., Stephen F. LeRoy & Jan Werner, *Principles of Financial Economics* 88 (2001); Chi-fu Huang & Robert H. Litzenberger, *Foundations of Financial Economics* 17 (1988); but see Jonathan E. Ingersoll, *Theory of Financial Decision Making* 37 (1987); Kenneth J. Arrow, *Essays in the Theory of Risk Bearing* 100 (1970). The definition of a risk-neutral investor here is conventional.

Figure 4



The slope of the new function, u^* , declines more rapidly than the slope of u , reflecting more rapidly diminishing marginal utility. The value of the security to an investor with utility function u^* is only \$66, a discount of \$16 to expected value, versus a \$5 discount in the first case. For the more risk-averse investor, utility does not rise by that much between \$66 and \$100—no more than it increases between \$60 and \$66. Faced with a certain income of \$66 or equal odds of an income of \$60 or \$100, the investor is indifferent, because the \$6 loss and the \$34 gain represent, in opposite directions, the same change in utility.

The size of the premium a person is willing to pay for insurance also turns on the degree of the person's risk aversion. Consider, first, the risk-neutral case. Say a person with an income of \$100 faces a fifty-percent chance of a loss of \$40. A risk-neutral person would pay \$20 for the right to be compensated in full in the state of the world in which the loss occurs. That represents a tradeoff of an expected income of \$80 for a certain income of \$80. Investor *B* would pay \$25 and Investor *C* \$34. In the last case, for example, we already know from the discussion of the investment security that investor *C* is willing to trade an expected income of \$80 for a certain income of \$66. That establishes the maximum premium the investor would pay to eliminate uncertainty; the maximum rises the greater the risk aversion.⁵⁹

By the way, neither the economics of uncertainty nor the expected utility hypothesis depends on or implies any form of utilitarianism. For purposes of the economic analysis of risk, the absolute level of an investor's utility is

⁵⁹ J.W. Pratt, Risk Aversion in the Small and in the Large, 32 *Econometrica* 122 (1964).

irrelevant. The analysis is the same if a particular utility function is multiplied by a constant or a constant term is added. An investor with the utility function $u^*/100$ values investments the same way, and makes the same investment decisions, as an investor with utility function u^* .⁶⁰ So a person's behavior in response to risk does not identify his or her utility on a scale that is comparable to another person's.⁶¹ That does not demonstrate that utilitarianism is not a viable political philosophy, but it is important to recognize that the economics and the philosophy are independent.

In this paper I concentrate on how the availability of a hypothetical insurance would affect the distribution of resources in terms of a complete competitive market with contingent claims. Everyone has the same information and forms the same beliefs about the likelihood of particular events happening. This is the symmetric information case. The economic theory of insurance is not limited to the case of symmetric information or complete markets. Significant features of the actual market for insurance can be explained as a response to moral hazard and adverse selection, factors that are inconsistent with symmetric information. Nevertheless, it is important to examine whether the model of hypothetical insurance is consistent with egalitarian ideals in the case of symmetric information, or whether its appeal is limited to situations in which there are significant market imperfections. After all, hypothetical insurance is a conceptual guide to determining the proper amount of compensation for the absence of markets for certain types of insurance. It would be interesting if the ability to completely compensate for the lack of insurance markets turned out to be less egalitarian than cases in which only imperfect compensation were possible.

III. RISK AVERSION AND INEQUALITY IN DWORKIN'S THEORY

Ronald Dworkin concludes that his egalitarian theory implies that a legitimate government must guarantee a substantial income to all members of society, but should not seek to eliminate inequality. Dworkin reaches this conclusion through the conceptual device of hypothetical insurance. In this section, I suggest that Dworkin's theory does not support his conclusion. The outcome Dworkin expects is a possible result, but depending on the extent of people's risk aversion, hypothetical insurance is consistent with a wide range of inequality.⁶²

⁶⁰ See Jonathan E. Ingersoll, *Theory of Financial Decision Making* 32 (1987).

⁶¹ See John E. Roemer, *Theories of Distributive Justice* 142 (1996).

⁶² Robert van der Veen attributes this conclusion to John E. Roemer, *Equality of Talent*, 1 *Economics & Philosophy* 151 (1985), but this is a misreading of Roemer.

There is something to the intuition that if people were able to insure against a bad position at the start of life, there would be less inequality. There are contexts in which the availability of insurance is guaranteed to reduce, even eliminate, inequality that would otherwise result from luck. Unfortunately, those contexts do not include using labor in production, an element that has made formulating a satisfactory theory of distributive justice an enduring challenge.

Abstracting from the role of labor in production, hypothetical insurance would seem to favor equality in a very straightforward way. Take a simple case is one in which there are two persons, *A* and *B*, one good, a consumption good, *x*, there is one period, and two possible states of the world (state 1 and state 2). Suppose that absent insurance or an equivalent arrangement, in state 1 *A* would have 2 units of *x* and *B* 1 unit; in state 2, the amounts going to *A* and *B* are reversed. Suppose there is a 50% chance that state 1 occurs and a 50% chance that state 2 occurs. Now say that each party has the opportunity to insure against the possibility of receiving a low allocation of *x*. (There is no production in this case, no labor/leisure tradeoff, and no administrative costs to the operation of an insurance market.) Then if both *A* and *B* are risk averse, to any degree, each will fully insure, so that whichever state occurs, after payment of premium and award of indemnification, each person has 1½ units of *x*. In other words, before the state is determined, each person agrees to pay a premium of ½, and when a particular state occurs, the person who would otherwise receive the lower level of *x* receives an indemnity of 1.⁶³ In a competitive insurance market, this outcome happens even if one person is much more risk averse than the other, because at the equilibrium allocation both *A* and *B* value consumption in state 1 and state 2 equally.⁶⁴

So this outcome is consistent with an intuition that insurance tends to reduce inequality; in this case, it eliminates inequality, at least under the assumption that differences in *x* constitute the only potential dimension of inequality. The illustration above does assume that both persons' assessments of the odds of the states' occurring is consistent with reality; if, say, *A* were (in error) certain that state 2 would occur and *B* (in error) were

See Robert van der Veen, Equality of Talent Resources: Procedures or Outcomes?, 113 Ethics 55, 69 & n. 21 (2002). Roemer develops an example in which the outcome of a *different* procedure (an "equal-division mechanism") depends on the degree of risk aversion. The equal division mechanism is not part of Dworkin's egalitarian theory.

⁶³ See, e.g., Andreu Mas-Colell, Michael D. Whinston & Jerry R. Green, Microeconomic Theory 692-93 (1995).

⁶⁴ At equilibrium, the marginal value of consumption is the same in each state.

certain that state 1 would occur, the outcome would be that whichever state occurred, one person would have all the x and the other none.

The result can be generalized to parallel Dworkin's hypothetical insurance model with a greater variety of persons, goods and states. Suppose, for example, that there are two goods, x and y , divided among three persons, A , B and C , as specified in table 2:

Table 2 Actual Allocation

| Person | x | y |
|--------|-----|-----|
| A | 7 | 6 |
| B | 3 | 1 |
| C | 2 | 2 |

In this setting, hypothetical insurance would operate by supposing that each person could expect to end up with the allocation that someone else really has, and that everyone has the same odds of obtaining a particular distribution. Absent insurance, there are six possible outcomes, displayed in table 3 below.

Table 3 Hypothetical Distributions

| Person | s_1 | | s_2 | | s_3 | | s_4 | | s_5 | | s_6 | |
|--------|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|
| | x | y | x | y | x | y | x | y | x | y | x | y |
| A | 7 | 6 | 7 | 6 | 3 | 1 | 2 | 2 | 3 | 1 | 2 | 2 |
| B | 3 | 1 | 2 | 2 | 7 | 6 | 7 | 6 | 2 | 2 | 3 | 1 |
| C | 2 | 2 | 3 | 1 | 2 | 2 | 3 | 1 | 7 | 6 | 7 | 6 |

If the participants are all risk averse, then each party will insure so that he or she receives, post insurance, exactly the same combination of x and y .⁶⁵ Further, the outcome can be said to be egalitarian in the sense that no person would prefer to have the allocation obtained by any other person.⁶⁶ For example, table 4 illustrates a possible result, post insurance.⁶⁷

⁶⁵ See Andreu Mas-Colell, Michael D. Whinston & Jerry R. Green, *Microeconomic Theory* 692 (1995); John H. Cochrane, *Asset Pricing* 54-56 (Rev. ed. 2005); John E. Roemer, *Equality of Talent*, 1 *Economics & Philosophy* 151 (1985).

⁶⁶ See, e.g., William Thomson & Hal R. Varian, *Theories of Justice Based on Symmetry*, in *Social Goals and Social Organization: Essays in Memory of Elisha Pazner* 107 (Hurwicz et al. eds. 1985); see also John E. Roemer, *Theories of Distributive Justice* 317-22 (1996).

⁶⁷ This more specific result is based on the assumption that the preferences of person A are represented by state utility function $u_A(x,y) = (1/20)[9\text{Log } x + \text{Log } y]$; person B by $u_B(x,y) = (1/4)[\text{Log } x + \text{Log } y]$ and person C by $u_C(x,y) = (1/10)[\text{Log } x + \text{Log } y]$.

Table 4 After Insurance

| Person | x | y |
|--------|------|------|
| A | 5.68 | 0.82 |
| B | 3.16 | 4.09 |
| C | 3.16 | 4.09 |

A person insures to receive a net transfer resulting in the specified allocation in each of the six states; in some states a person might be required to relinquish some units of x and y ; in others the person might receive additional amounts of both. It is also possible that someone gains one good and must give up some of the other good.

So in a setting without production and with just a single dose of uncertainty, a complete, competitive market for contingent claims can eliminate all the incidents of uncertainty, leaving only differences attributable to each person's deliberate choices. Administrative costs and other practical considerations might justify something less than total elimination of the effects of chance, but as long as people were at all risk averse, hypothetical insurance would move things in the direction of equality. What a pretty world that would be. Incorporating production, in particular the labor-leisure tradeoff, clouds the picture considerably.

As George Stigler has pointed out, "Labor is the most important productive service" and "the conditions and nature of a man's work are a major part of his life."⁶⁸ While any theory of distributive justice abstracts from many details of the economic system, the role of labor is too central to ignore. When the role of labor is considered as part of the hypothetical insurance contract, it is no longer clear that insurance redistributes in the direction of equality. Depending on the extent of people's risk aversion, the availability of insurance might make the distribution of both consumption and labor more unequal. If risk aversion is high, insurance might equalize consumption but leave labor contributions unequal. The availability of a complete market for contingent claims might motivate an individual to insure to be better off in the state in which he or she would otherwise be worse off, and worse off in the state that would, absent insurance, be preferred. In this section I illustrate these points by several examples.

There is a variety of ways in which labor can be integrated into a theory of distributive justice. I follow a simple economic model in which labor plays an essential role in production and time devoted to labor is a cost to workers. I also assume that increased leisure time enhances the enjoyment

⁶⁸ George J. Stigler, *The Theory of Price* 268 (4th ed. 1987). (The Royal Swedish Academy of Sciences selected Stigler as the recipient of the 1982 Sveriges Riksbank Prize in Economics in Memory of Alfred Nobel.)

of the goods and services that justify production in general and labor in particular; this is equivalent, in my formulation, to increased labor diminishing the enjoyment of consumption. This is all conventional economics but there might be other approaches, also in the mainstream, that would yield different conclusions. And of course mainstream, conventional approaches may turn out to be inappropriate. I focus on my particular model because I only mean to suggest that the redistributive implications of hypothetical insurance are quite diverse once labor is considered. It may be difficult to rule out, a priori, the cases that I do consider on the basis of political philosophy.

Suppose that there are two persons, *A* and *B*, and two things that they care about, a consumption good, *x*, and leisure, *l*. Each individual begins with no endowment of the consumption good and an endowment of leisure that is the same for each; I will call that amount one unit of leisure per person. The consumption good is produced solely by the labor, *L*, of individuals, which is time taken from leisure, so $L = 1 - l$. There are two possible states of the world, state 1 and state 2, each state equally likely. In state 1, *A* has wage rate 2 and is twice as productive as *B*, who receives a wage of 1. In state 2, the tables are turned and *A* has wage rate 1 and is half as productive as *B*, who receives the wage of 2.⁶⁹ Each individual's utility $U(x_{s=1}, x_{s=2}, l_{s=1}, l_{s=2})$ is given by $\frac{1}{2}(x_{s=1}l_{s=1})^z + \frac{1}{2}(x_{s=2}l_{s=2})^z$. In other words, in a given state, utility is the product of the amount of consumption and the amount of leisure, on the grounds that enjoyment of consumption could be proportional to the availability of leisure. The parameter *z*, which ranges between 0 and $\frac{1}{2}$, determines the person's level of risk aversion. As *z* approaches $\frac{1}{2}$, risk aversion diminishes to risk neutrality; as *z* approaches 0, risk aversion becomes extreme. (The fact that the utility functions are the same for each person does not indicate that the persons' utilities can be compared; it only means that they have the same relative valuations of leisure and consumption and a common aversion to risk.) Table 5, below, illustrates the effect of hypothetical insurance on person *A*, depending on the degree of risk aversion. (The corresponding outcomes to person *B* are the same except that the states are reversed.)

⁶⁹ The example is not inconsistent with Dworkin's framework in which each person's talents are known from the outset. The marginal productivity, and market compensation, associated with a talent depends on the nature of the capital stock, the state of technology, and the demand for products the production of which may depend on particular talents; these factors may vary between states of the world.

Table 5 Allocation to Person A

| | State | w | l | L | y | π | τ | x |
|-------------------------------------|-------|-----|-------|-------|------|-------|--------|------|
| No Insurance | 1 | 2 | 0.5 | 0.5 | 1 | — | — | 1 |
| | 2 | 1 | 0.5 | 0.5 | 0.5 | — | — | 0.5 |
| Moderate risk aversion $z = 1/4$ | 1 | 2 | 0.31 | 0.69 | 1.38 | 0 | 0.76 | 0.62 |
| | 2 | 1 | 0.88 | 0.12 | 0.12 | 1.51 | 0.76 | 0.88 |
| Risk Neutrality | 1 | 2 | 0 | 1 | 2 | 0 | 2 | 0 |
| | 2 | 1 | 1 | 0 | 0 | 4 | 2 | 2 |
| Extreme Risk Aversion | 1 | 2 | 0.375 | 0.625 | 1.25 | 0 | 0.5 | 0.75 |
| | 2 | 1 | 0.75 | 0.25 | 0.25 | 1.25 | 0.5 | 0.75 |

Notes: Column heading abbreviations refer to the following: w wage rate (and productivity), l leisure, L labor, y production and compensation, π indemnity, τ insurance premium, x consumption.

If no insurance is available, then each person uses half of available time for leisure and keeps the proceeds of labor for consumption, which amounts to two units of consumption when a person is more productive, one unit of consumption in the other state. Once the state is known, consumption is the only tradable commodity; without trade between states, there is no basis for trade. This result is independent of the level of risk aversion.

If both persons have a moderate degree of risk aversion ($z = 1/4$) and insurance is available, an individual will work more in the higher productivity state, work a little even when less productive, and consume less in the more productive state. Consumption is shifted to the state with more leisure because of the higher marginal value of consumption in the state with more leisure. Expressed in terms of insurance, each person commits to paying a premium of 0.76 units of consumption in each state and receives an indemnity of 1.51 in the state in which the person is less productive. The availability of insurance has made consumption somewhat more equal: from a split of $1/2$: 1 versus $1/2$, to a difference of 0.26: 0.62 to 0.88, although labor and leisure have gone from equal to somewhat less equal (assuming that one person's leisure is commensurable with another's).

Table 5 also presents the limiting cases of risk neutrality and extreme risk aversion. As individuals' risk aversion approaches risk neutrality, they would be content to shift all labor to the productive state and all consumption to the leisure state. Average income is greatest in this risk-neutral state, since the more productive labor is fully exploited and less productive labor is not employed at all. In comparison to the previous case, despite the fact that risk aversion is lower, more insurance is purchased and the indemnity is larger. In this case, the availability of hypothetical insurance makes both the distribution of consumption and the distribution of labor more unequal—with the same party getting the better of each. This

hypothetical case of substantial inequality, however, is not congruent with *laissez faire*, since it would be the unproductive who would benefit. (I do not try to illustrate the full range of possible outcomes under hypothetical insurance; there might be alternatives in which inequality favors the talented.⁷⁰)

As individuals' risk aversion increases, the level of insurance approaches a limiting case in which individuals seek to guarantee the same consumption in each state; this does mean insuring to the average level of income in each state. With insurance, a person works more in the productive state, so while there is equality of incomes, the less productive person enjoys more leisure. Thus if people share a sufficiently high level of risk aversion, everyone will purchase insurance so that whether they are more productive or less productive, they end up with about the average level of income.

The cases illustrated in table 5 demonstrate the possibility that the existence of a market for contingent claims, economically equivalent to an insurance market in this context, can increase inequality.⁷¹ It is also possible

⁷⁰ On occasion, Dworkin expresses uneasiness with some of the assumptions of the economic theory of choice under uncertainty. For example, he thinks that "it is highly misleading to say that people buy insurance (or make any decision...) so as to maximize their expected welfare." Ronald Dworkin, *Sovereign Virtue Revisited*, 113 *Ethics* 106, 134 (2002). Dworkin does not, however, entirely reject the economic model of choice and appeals to it on other occasions. E.g., Ronald Dworkin, *What is Equality? Part 2: Equality of Resources*, 10 *Philosophy & Public Affairs* 283, 287 n.2 (1981) ("I make all the assumptions about production and preferences made in G. Debreu, *Theory of Value*..."). In any event, my arguments about the diversity of possible outcomes of hypothetical insurance do not turn on the existence of a "single metric" of welfare that is the same for all persons. Assuming that each person has a single metric just makes the exposition simpler and the methodology more familiar.

⁷¹ Relying on a special type of preferences, John Roemer finds that individuals would always insure so that they receive identical amounts of a consumption good in each state, but have greater leisure when less productive, regardless of their level of risk aversion. John E. Roemer, *Equality of Talent*, 1 *Economics & Philosophy* 151 (1985). Based on that special case, Roemer concludes, "In trying to compensate those who draw a bad lot in the talent lottery, the insurance mechanism appears to overcompensate them: they end up better off in *welfare* than the more talented. This apparently perverse consequence of taxation of talent has been noted in other contexts.... I do not think it is ... "pervers[e]" that] the talented end[] up worse off than the untalented.... But if all agents have the *same* preferences, it seems any suitable equality of resource mechanism should bring about equality of welfare." *Id.* (emphasis added). Dworkin rejects evaluations of outcome in terms of purported measures of welfare. Dworkin "argues that whatever appeal welfarist goals might have depends on [ambiguities in the idea of welfare] and drains away when that ambiguity is resolved one way or another." Ronald Dworkin, *Sovereign Virtue*

that people would seek to eliminate inequality of consumption, if risk aversion is high. Neither of these outcomes is anticipated by Dworkin: Dworkin assumes that hypothetical insurance would reduce inequality, but not eliminate it. That is one possibility, but Dworkin's argument does not show that that possibility is inevitable, or even likely.

Dworkin's expectations about hypothetical insurance are based principally on people's perceived apprehension of talent slavery and the implications of transactions costs such as moral hazard and administrative expenses. Dworkin suggests that the prospect of talent slavery would induce hypothetical insurance customers to limit their coverage: "Suppose he ... does have the maximum earning power. He is now in much worse position than if he had never insured, because he must now work at close to his top earning capacity just to pay the high premium just to pay the insurance on which he collected nothing—just, that is, to break even. He will be a slave to his maximum earning power." Dworkin concludes that, on these grounds, full coverage would be rejected, since "it is likely to be a very bad bargain."⁷²

There is a fundamental difficulty in reaching this conclusion, however. Work is generally unpleasant, but conceptually, unpleasant work is not different from the unpleasantness of low levels of consumption. The point at which a person considers the risk of unpleasant work is offset by the risk of unpleasantly low levels of consumption depends on risk aversion and the importance the person attaches to consumption.

The examples in this section make no special assumptions about the appeal or unpleasantness of labor, so they are consistent with work that each person finds very unpleasant but, like committee meetings and holidays spent with in-laws, must be endured in order to achieve other ends. Even a substantial degree of unpleasant work may be preferable to a sufficiently low level of consumption; throughout most of human history this has been more than a hypothetical dilemma. Neither economic principles nor reflection seems to indicate where the line will be drawn.

Revisited, 113 *Ethics* 106, 130 n.45 (2002). The present paper follows Dworkin in not attributing any significance to comparisons of utility between persons. As noted above, the results of the examples would not change if, say, one person's utility function U were replaced by the function $100U$ or the function $U/100$. It follows that for present purposes the fact that $U^A > U^B$ has no significance, since it could simultaneously be true that $U^A/100 < 100U^B$. The examples of this section are not intended to demonstrate that person A is better off than person B in any particular case, even in a state in which person A has both more leisure and greater consumption than person B .

⁷² See Ronald Dworkin, *Sovereign Virtue* 96 (2000).

Dworkin also “relie[s] on the economics of actual insurance markets” to support his conclusion that “judged only financially, insurance is a bad bet, because the discounted pay-off is less than the cost of the wager.”⁷³ That conclusion is the basis for his position that “hypothetical wage insurers would not insure at high levels of coverage.”⁷⁴ While the behavior of actual insurance markets is instructive, some features of insurance markets and other mechanisms for spreading risk—common stock, special contractual terms and government programs as well as insurance—are not due to individuals’ attitudes toward risk.⁷⁵ Some of their characteristics are the result of their historical development and of political compromises. Inferences about the extent of people’s risk aversion based on existing risk management mechanisms may not be entirely reliable.

Insurance is a closely regulated business,⁷⁶ and some of its familiar attributes may be the result of customary practices or legal rules that are not intrinsic to the theoretical concept of insurance. For example, the indemnity principle holds that indemnification should not result in a person becoming better off than if an adverse event had not occurred.⁷⁷ Federal and state gambling laws limit the scope of contingent contracts; many contingent claims financial contracts must satisfy federal guidelines in order to be exempt from gambling laws.⁷⁸ Consequently, if actual insurance contracts and financial instruments typically spread risks in ways that tend to reduce inequality, this may reflect a conservative legal and regulatory environment⁷⁹ rather than lack of demand for the sorts of contingent contracts describe here.

⁷³ Ronald Dworkin, *Sovereign Virtue Revisited*, 113 *Ethics* 106, 108 (2002); *id.* at 135.

⁷⁴ *Id.*

⁷⁵ See, e.g., Kenneth J. Arrow, *Essays in the Theory of Risk Bearing* 134-38 (1970).

⁷⁶ See Emeric Fischer, Peter Nash Swisher and Jeffrey W. Stempel, *Principles of Insurance Law* 187 (Rev. 3rd ed. 2006).

⁷⁷ *Great-West Life Assurance Co. v. General Accident Fire and Life Assurance Corp.*, 452 N.E.2d 550, 555. (Il. App. 1983) (“The principle of indemnification underlying all insurance allows recovery only of the loss suffered by the insured, no matter what the maximum limit of liability specified in the contract of insurance.”); *Koppers Co., Inc. v. Aetna Cas. and Sur. Co.*, 98 F.3d 1440, 1452 (3^d Cir 1996).

⁷⁸ E.g., *Securities Exchange Act of 1934*, § 28(a) (“No State law which prohibits or regulates the making or promoting of wagering or gaming contracts ... shall invalidate any put, call, straddle, option privilege or other security subject to this title....”).

⁷⁹ See generally Lynn A. Stout, *Why the Law Hates Speculators: Regulation and Private Ordering in the Market for OTC Derivatives*, 48 *Duke L.J.* 701, 724-34 (1999).

There are undoubtedly misguided constraints on contingent contracts and restrictions motivated by special interests, but some of the most significant limits are economically rational responses to the moral hazard, adverse selection and administrative cost associated with insurance;⁸⁰ let's call these considerations *transactions costs*. The present paper concentrates on the operation of hypothetical insurance with minimal transactions costs, even though some of Dworkin's conclusions clearly are based on the existence of certain transactions costs. Dworkin appears to assume that with minimal transactions costs, the outcome of hypothetical insurance would resemble the results reported in table 4: complete equality, at least in the sense that each person would prefer his or her own consumption to the consumption of anyone else. Dworkin then appeals to transactions costs to show that complete inequality is too costly, even for a committed egalitarian. In other words, Dworkin really reasons from the position of minimal transactions costs too; he takes it for granted that people would insure completely in the absence of transactions costs.

I have argued in this section, however, that when the role of labor production is incorporated into hypothetical insurance, the minimal transaction cost case is not trivial. There is a range of possible outcomes, turning on the level of people's risk aversion. So the character of the minimal transactions cost case is important in its own right. This case represents an ideal, a benchmark. Even if we thought the more morally significant case would take transactions costs into account, it would be noteworthy to find that though the ideal world has unappealing aspects, fortunately when unavoidable compromises are made, the result conforms more closely to moral intuition.⁸¹

As a rule, higher levels of moral hazard are associated with reduced insurance coverage.⁸² In Dworkin's view, this justifies the conclusion that hypothetical insurance coverage would only partially compensate people for possessing talents commanding below-average wages and salaries. His reasoning seems to be that moral hazard and other transactions costs are evidently quite significant in insurance markets, otherwise, we would observe people choosing more comprehensive coverage of risks. At the level of abstraction Dworkin pitches his egalitarian theory, however, factoring in

⁸⁰ See, e.g., Kenneth J. Arrow, *Essays in the Theory of Risk Bearing* 202-06 (1970); Karl H. Borch, *Economics of Insurance* 317 (1990).

⁸¹ Admittedly Dworkin does not appear particularly troubled by the possibility that the ideal might be less palatable than the practical. See Ronald Dworkin, *Sovereign Virtue* 99 (2000) (“[T]his unfairness, if it is unfairness, would disappear in any plausible translation of the hypothetical insurance market into an actual tax scheme of the sort described in the next section.”).

⁸² See Steven Shavell, *On Moral Hazard and Insurance*, 93 *Q. J. Econ.* 541 (1979).

moral hazard and other transactions costs is not illuminating, because the size of transactions costs in actual insurance markets do not suggest the relative importance of transactions costs in a hypothetical insurance market.

Dworkin's analysis effectively considers only the problem of determining a single distribution of resources in light of persons' lifetime earnings capacities. Dworkin does not address how to distribute resources over the life cycle, how to deal with unexpected losses or windfalls over a person's lifetime, the availability and effectiveness of risk-shifting mechanisms in the actual economy, the implications of legal transitions, questions of intergenerational equity and so on. It is reasonable not to attempt to deal with so many complications simultaneously. But then it is not possible to directly observe the relative magnitude of the transactions costs that a person would weigh in deciding on a hypothetical insurance policy from the relative magnitude of transactions costs in actual insurance markets.

Certainly actual insurance companies take transactions costs into account in pricing coverage, but they do so in the context of a particular legal and regulatory regime, current conditions in capital markets, actuarial profile of the pool of insureds and the ownership structure of the insurer.⁸³ There is no reason to think that transactions costs are stable as the context varies. Unless transactions costs are stable across a variety of policies of various durations in different contexts, the costs or coverage levels of actual insurance policies do not indicate how important transactions costs should be in a hypothetical policy.

It is fair to conclude, as Dworkin does, that costs should influence hypothetical coverage, but in itself that does not provide useful guidance about the degree of tolerable inequality. We know going in that any real-world application of egalitarian principles would have to tolerate some imperfection, even if the ideal were equality of consumption. Without a method for comparing the transactions costs with the benefits of insurance, trivial deviations from equality cannot be distinguished from substantial ones. Further, although I do not attempt to demonstrate it in this paper, it appears that even knowing the relative level of transactions costs would not provide a determinate answer unless the appropriate level of risk aversion were specified: Although transactions costs generally reduce the level of

⁸³ See, e.g., Karl H. Borch, *Economics of Insurance* 9-15 (1990); Soichiro Moridaira; Jorge L. Urrutia; Robert C. Witt, *The Equilibrium Insurance Price and Underwriting Return in a Capital Market*, 59 *J. Risk & Insurance* 291 (1992); M. Martin Boyer, *Media Attention, Insurance Regulation and Liability Insurance Pricing*, 67 *J. Risk & Insurance* 37 (2000).

insurance coverage, the size of the drop presumably depends on how risk averse customers are.

Robert Hockett interprets Dworkin to be claiming that the operation of actual insurance markets reveals people to be risk averse, but not especially.⁸⁴ Dworkin's point, however, only seems to be that the costs incurred in providing actual insurance supports Dworkin's assumption that hypothetical insurance is costly; I address that point above. In any event, it is not clear what characteristics of actual insurance are supposed indicate a moderate level of risk aversion. The fact that we might imagine people buying more insurance than they actually do does not seem to show that people are not particularly risk averse. As noted above, principles of insurance law, gambling law and the regulation of financial markets place significant limitations on the types of enforceable contingent contracts; inevitably, some contractual activity involving uncertainty is suppressed.

Further, to the extent that people do leave themselves exposed to significant risks that might be mitigated by more insurance—Hockett does not cite evidence—any gaps should be assessed relative to the scale of the discounted present value of a person's lifetime income.⁸⁵ It is not obvious that people forsake significant opportunities to limit the potential volatility of lifetime income. The premium on the return of common stocks suggests that investors have a very high level of risk aversion—so high that the estimate is considered implausible in terms of conventional finance theory.⁸⁶ Although there is no definitive resolution to the equity premium puzzle, some recent theoretical work suggests that the return on common stocks could reflect high levels of risk aversion.⁸⁷

On the other hand, some risk management is not due to the sort of risk aversion that seems relevant to hypothetical insurance. Presumably liquidity

⁸⁴ Robert Hockett, *The Deep Grammar of Distribution: A Meta-Theory of Justice*, 26 *Cardozo Law Review* 1179, 1315 (2005).

⁸⁵ Matthew Rabin suggests that there are theoretical reasons why estimates of risk aversion derived from small scale potential losses or investments are unreliable guides to risk aversion with respect to large scale potential losses or investments—even in the absence of market imperfections. See Mathew Rabin, *Risk Aversion and Expected-Utility Theory: A Calibration Theorem*, 68 *Econometrica* 1281 (2000).

⁸⁶ John Y. Campbell, *Consumption-Based Asset Pricing*, 804, 816-32 in 1B *Handbook of the Economics of Finance* 804, 816-32 (George M. Constantinides, Milton Harris & René M. Stultz 2003); Rajnish Mehra & Edward Prescott, *The Equity Premium in Retrospect*, in *id.* at 889–938.

⁸⁷ See John H. Cochrane, *Asset Pricing* 465-81 (Rev. ed. 2005). See also Shmuel Kandel & Robert F. Stambaugh, *Asset Returns and Intertemporal Preferences*, 27 *J. Monetary Econ.* 39 (1991) (challenging arguments that the level of risk aversion implied by the equity premium is implausibly high).

is one motivation for insurance and for other risk-avoidance measures.⁸⁸ Insurance that might be considered too costly if all one's assets were liquid nevertheless might be advisable to avoid fees, penalties, insolvency, bankruptcy and similar cash-flow issues. (Selling real estate on short notice to cover unexpected expenses may involve financial and transactions costs; opportunities to borrow against future earned income are very limited; it may not be possible to accelerate pension benefits.) Even someone who is risk neutral might purchase insurance when faced with liquidity constraints. The composition of investment portfolios also reflects liquidity concerns, which may partly explain the size of the equity risk premium.⁸⁹ Risk aversion attributable to liquidity is a consequence of market imperfections and can be distinguished from the risk aversion that would remain in perfect markets with uncertainty about lifetime income.⁹⁰ The latter component of risk aversion seems more important to Dworkin's thought experiment; existing empirical estimates of risk aversion may therefore overstate the type of risk aversion relevant to hypothetical insurance. At best, existing evidence on the extent of risk aversion is mixed, which does not amount to evidence of moderate risk aversion. In short, there are a number of reasons to insure; not all of them may be applicable to hypothetical insurance; plus there may be motives for hypothetical insurance that are not evident in actual insurance markets.

IV. MARKOVITS'S EGALITARIAN THEORY

Daniel Markovits asserts that his account of egalitarianism "paves the way for a more deeply principled justification" for the "involuntary disadvantage that egalitarian insurance leaves in place." He maintains that his account does not depend on "contingent facts about the costs of remedying one form of disadvantage or another," and instead follows from "the internal structure of the insurance scheme and of the relations among

⁸⁸ See Gary D. Hanson & Ayşe İmrohoroğlu, *The Role of Unemployment Insurance in an Economy with Liquidity Constraints and Moral Hazard*, 100 *J. Pol. Econ.* 118, 120 (1992); cf. Arthur Hau, *The Liquidity Demand for Corporate Property Insurance*, 73 *J. Risk & Insurance* 261 (2006).

⁸⁹ See Ravi Bansal & Wilbur John Coleman II, *A Monetary Explanation of the Equity Premium, Term Premium and Risk-free Rate Puzzle*, 104 *J. Pol. Econ.* 1135, 1165 (1996) ("Faced with a known value of some future liability and costs of not meeting this liability, the economic agent must decide what portfolio best allows him to meet this liability in every future state.").

⁹⁰ Christian Gollier, *The Economics of Risk and Time* 272-73 (2001) (deriving conditions in which "a liquidity constraint induces more risk aversion").

the participants that the scheme engenders.”⁹¹ I consider these claims in this section. As I note in § III, absent transactions costs, hypothetical insurance is equivalent to a market for contingent claims.⁹² In that case, the degree of inequality produced by hypothetical insurance depends on persons’ attitudes toward risk. With high enough risk aversion, people will insure to attain roughly the average income notwithstanding the possibility of unpleasant, unrewarding labor. On its face, the level of risk aversion in the population is just another contingent fact. So the degree of inequality required by equality of resources apparently depends on the contingent fact of peoples’ level of risk aversion.

Like Ronald Dworkin, Markovits argues that people would not insure up to the average level of income in an economy, because to finance the premium required for such a high level of coverage, they would have to risk being forced to work full time at unfulfilling jobs—a risk they would be unwilling to take.⁹³ Markovits, however, emphasizes the diminishing variety of jobs at the upper tail of the salary distribution. He calculates, for example, that a person “who insured up to only three-quarters of the mean talent level and turned out to be capable of earning \$1 million per year ... would have to pay roughly \$500,000 as insurance premiums.”⁹⁴ Markovits finds that “only 0.43% ... of the jobs in the American economy would allow her to pay these premiums” and concludes that “[e]ven if this person were capable of doing all the jobs in the 0.43% ... she would be significantly enslaved by her talents.”⁹⁵ According to Markovits, it is evident that the bargain would not be acceptable to most, so that even insurance up to three-quarters of the mean would be rejected.

I have addressed the talent slavery argument for the case of a single type of work in § III. In this section I show that the conclusion of § III that, under equality of resources, the tolerable degree of inequality depends on the level of risk aversion, does not seem to depend on whether there is more than a single type of work. In particular, it remains true that with high-enough risk aversion, very little inequality would be tolerated.

Markovits’s point is that egalitarians must accept significant inequality as inevitable consequence of their principles. I describe a counterexample in which the outcome of hypothetical insurance is a high degree of equality of

⁹¹ Daniel Markovits, *How Much Redistribution Should There Be?*, 112 *Yale L.J.* 2291, 2321 n.76 (2003).

⁹² More precisely, departures from the economic model of contingent claims would have to be justified on ethical grounds rather than “practical considerations.”

⁹³ Daniel Markovits, *How Much Redistribution Should There Be?*, 112 *Yale L.J.* 2291, 2308-09 (2003).

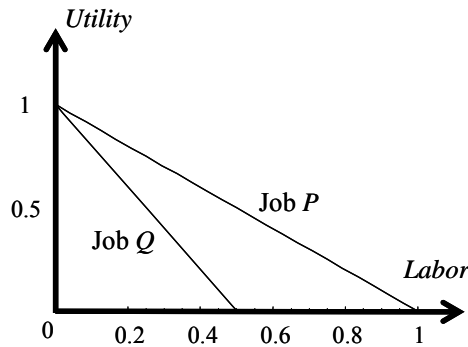
⁹⁴ *Id.* at 2312.

⁹⁵ *Id.* at 2312-13.

consumption. Other examples would come out differently, but deciding which is the better model depends on contingent facts—calling inevitability into question.

Suppose there are three persons, *A*, *B* and *C*, who care about consumption, *x*, and leisure, *l*. Say there are two types of jobs, *P* and *Q*. In the real world, *A* and *B* do job *P* and earn wage 1; *C* does job *Q* and earns a wage of 3/2. Let L_P represent hours of labor at job *P* and L_Q represent hours of labor at job *Q*. Reasonably enough, Markovits appears to be assuming that a person generally works at a single job, which means that either $0 \geq L_P \geq 1$ and $L_Q = 0$ or $L_P = 0$ and $0 \geq L_Q \geq 1$. Suppose persons *A* and *B* find job *P* more rewarding and person *C* finds job *Q* more rewarding. There are many ways in which preferences between jobs might be expressed; I assume that ultimately people care about leisure, and that each moment spent at the unrewarding job is equivalent to reducing leisure by a multiple of time spent at the preferred job. For person *A*, for example, suppose $l_A = 1 - L_P - 2L_Q$; for any fixed positive level of consumption, the utility levels for each type of job are as shown in figure 5:

Figure 5 Relatively Unpleasant Work



This is not the only way to model the relative unpleasantness of a job. But there seem to be some desirable features that models of multiple jobs should possess that make the approach reasonable. First, the relevant tradeoff is between labor and leisure. Second, the relative appeal of the jobs does not matter if no hours are spent doing either job. Third, all else equal, a worker prefers to do job *P* rather than job *Q* for the same amount of time spent working. These constraints suggest that, all else equal, as L increases, the disutility from each job starts out at the same level, and then initially falls more sharply for job *Q*, and the utility of leisure from job *Q* is always less than the utility of leisure from job *P*.

Suppose that person *B* has the same preference between jobs as person *A*, but that the tradeoff is reversed for person *C*, so that $l_C = 1 - 2L_P - L_Q$. Finally, suppose that owing to their productivities in the jobs, person *A* commands a wage of 1 in job *P* and 3/2 in job *Q*, person *B* a wage of 1 in both jobs, and person *C* can earn a wage of 3/2 in either job. Despite the fact that *A* would earn more in job *Q*, *A*'s distaste for the work leads *A* to choose the lower paying employment.

So we start with a simple economy with a skewed distribution of income, but there is a person who chooses not to work at the job in which the person is most productive. To assess the outcome of hypothetical insurance, suppose that there are three states, corresponding to the different situations in which the three persons find themselves. You have a one-third chance of being unproductive in both jobs, one-third chance of being talented only in an unsatisfying job and a one-third chance of being productive in both jobs. The perspective of person *A* is representative of all three persons; table 6 shows the results with no insurance and in the case in which people are highly risk averse.⁹⁶

Table 6 Allocation to Person *A*

| | State | w | l | L | y | π | τ | x |
|-----------------------|-------|-----|------|-------|-------|-------|--------|-------|
| No Insurance | 1 | 1 | 0.5 | 0.5 | 0.5 | — | — | 0.5 |
| | 2 | 1 | 0.5 | 0.5 | 0.5 | — | — | 0.5 |
| | 3 | 1.5 | 0.5 | 0.5 | 0.75 | — | — | 0.75 |
| Extreme Risk Aversion | 1 | 1 | 0.58 | 0.417 | 0.417 | 0.5 | 0.334 | 0.583 |
| | 2 | 1 | 0.58 | 0.417 | 0.417 | 0.5 | 0.334 | 0.583 |
| | 3 | 1.5 | 0.39 | 0.61 | 0.917 | 0 | 0.334 | 0.583 |

Notes: Column heading abbreviations refer to the following: w wage rate (and productivity), l leisure, L labor, y production and compensation, π indemnity, τ insurance premium, x consumption.

In all events, each person works at the job that the person considers more rewarding, but in one state that job is well compensated and in the alternatives states it is not, so the labor input and wage of person *A* in table 6 is for job *P*. The results of § III essentially carry over to cases in which there is a variety of jobs and diversity of preferences among them: It remains true that with enough risk aversion, hypothetical insurance results in elimination of unequal consumption. This is contrary to Markovits's conclusion that a substantial degree of inequality is inevitable.

⁹⁶ Each person's utility $U(x_{s=1}, x_{s=2}, x_{s=3}, l_{s=1}, l_{s=2}, l_{s=3})$ is given by $1/3(x_{s=1}l_{s=1})^z + 1/3(x_{s=2}l_{s=2})^z + 1/3(x_{s=3}l_{s=3})^z$, where $z \approx 0$ reflecting high risk aversion.

In this section I do not assume that the insurance contract takes the form Markovits assumes that it would have: I define the occasion of indemnification in terms of states rather than potential wage and I do not assume that the hypothetical insurance contract would take the form of an opportunity to attain a specified minimum post-insurance income.

The first discrepancy is largely a formality. A market for contingent claims identifies contingencies in terms of states of the world, where states are distinct to the extent that there are economically relevant differences between them. So there will be a correspondence between states and individuals' potential wages although, to the extent that there are other relevant differences besides potential wages, a person's potential wages may not be the only relevant term that is specified in a contingent contract. If the character of a job is relevant to a person as well as the wage, both are potential factors in a hypothetical insurance contract.

Technically, neither the wage nor income is an appropriate term in an Arrow-Debreu contingent claims contract, because each depends on prices, which are endogenous. I have therefore used an individual's productivity to distinguish states. In the examples considered in this section this distinction has not played a significant role, but if individuals differed in the degree of their aversion to risk, the distinction might become important.

On the second point: I do not follow Markovits in assuming that the hypothetical insurance contract would take the form of an opportunity to attain a specified minimum post-insurance income because in the context of an Arrow-Debreu market for contingent claims, such a contract would be dominated by contracts of the form specified in my examples. Actual insurance contracts do not resemble Arrow-Debreu contingent claims contracts because of transactions costs. Markovits's contract form more closely resembles actual insurance contracts, but that form is not efficient in the setting without transactions costs that he considers.⁹⁷

⁹⁷ I do not consider Markovits's proposed modification of Dworkin's theory to allow for insurance against expensive tastes. *Id.* at 2313-20. As Markovits notes, Dworkin objects to this sort of alteration on the grounds that it amounts to abandoning equality of resources for equality of welfare. *Id.* at 2317 n.68. Markovits claims to be neutral on the question whether resources or welfare is the proper target to be equalized. ("I will not join the argument....") *Id.* The opposition of equality of resources to equality of welfare is fundamental to Dworkin's egalitarian theory, however. Accepting this amendment to Dworkin's framework is actually to reject Dworkin's theory. See Ronald Dworkin, *Sovereign Virtue Revisited*, 113 *Ethics* 106, 107 (2002) ("[I]t is a foundational issue whether that question is best answered by comparing the well-being that citizens have achieved or by comparing the resources and opportunities they have available for achieving well being.").

V. RISK IN RAWLS

It is often observed that the assumption of a high degree of risk aversion plays a significant role in John Rawls's distributive justice theory.⁹⁸ Rawls himself, if he ever accepted that assumption, largely abandoned it over thirty years ago.⁹⁹ Rawls's and Dworkin's theories are not targeting exactly the

⁹⁸ See, e.g., Richard A. Posner, *Economic Analysis of Law* 497 (7th ed. 2007) ("This assumes that all people are risk averse, which is right, but less plausibly that people are fantastically risk averse."); David Elkins, *Horizontal Equity as a Principle of Tax Theory*, 24 *Yale L. & Policy Rev.* 43, 55 (2006) ("Rawls argued that behind this 'veil of ignorance' risk aversion would dominate all other considerations..."); Richard W. Tresch, *Public Finance: A Normative Theory* 83 (2nd ed. 2002) ("What principles of distributive justice would people adopt in the face of true uncertainty about the distribution? Rawls believed that people would become extremely risk averse and adopt a maximin strategy."); David A. Dana, *Adequacy of Representation after Stephenson: A Rawlsian/Behavioral Economics Approach to Class Action Settlements*, 55 *Emory L.J.* 279, 301 (2006) ("Where the stakes for each individual is high, as they are in Rawls original position and the class action original position in the toxic tort/personal injury context, substantial risk-aversion is an assumption that is fully consistent with neoclassical economics."); Richard Schmalbeck, *The Justice of Economics: An Analysis of Wealth Maximization as a Normative Goal*, 83 *Colum. L. Rev.* 488, 513 (1983) (reviewing Richard A. Posner, *The Justice of Economics: An Analysis of Wealth Maximization as a Normative Goal* (1981)) ("Rawls is at one extreme, implicitly assuming complete risk aversion."); Lawrence Zelenak & Kemper Moreland, *Can the Graduated Income Tax Survive Optimal Tax Analysis*, 53 *Tax L. Rev.* 51, 74 n.112 (1999); Eric Rakowski, *Transferring Wealth Liberally*, 51 *Tax L. Rev.* 419, 462 ("This reasoning, however, is inconsistent with the high degree of risk aversion Rawls assumes that people would exhibit if they were choosing principles of justice in ignorance of their particular preferences, convictions, and station.") (1996); Steven P. Croley & Jon D. Hanson, *The Nonpecuniary Costs of Accidents: Pain-and-Suffering Damages in Tort Law*, 108 *Harv. L. Rev.* 1785, 1826 n129 ("Rawls's conclusion [that the parties to the original position would select the difference principle] is often criticized on the ground that it implies excessive risk-aversion—that individuals are unwilling to take any chances whatsoever."); Herbert Hovenkamp, *The Limits of Preference-Based Legal Policy*, 89 *Nw. U. L. Rev.* 4, 72 (1994) ("Rawls generally presumed that people were risk averse and would not trade a chance of great wealth for the risk of abject poverty.").

⁹⁹ See, e.g., Richard A. Musgrave, *Equity and the Case for Progressive Taxation*, in *Tax Justice* 23 n.3 (Joseph J. Thorndike & Dennis J. Ventry, Jr., eds. 2002), citing John Rawls, *Concepts of Distributional Equity: Some Reasons for the Maximum Criterion*, 64 *Amer. Econ. Rev.* 141 (1974). Musgrave attributes this assumption to Rawls in the text without qualification, *id.* at 16, only indicating in an endnote that Rawls "subsequently distanced himself from this somewhat awkward formulation." *Id.*

same problems, but there is enough overlap to warrant a comparison, especially in light of the attention Rawls's work has received.¹⁰⁰ This survey of Rawls's theory is intended to explain why Rawls did not find it necessary to explore people's actual attitudes toward risk or defend assumptions about risk aversion, despite the volume of claims that risk aversion is a fundamental assumption of his theory.¹⁰¹ I summarize elements of Rawls theory in some detail in order to cast doubt on claims that Rawls effectively assumes extreme risk aversion despite his statements that he does not rely on that assumption.¹⁰² I cannot dispute those claims here, but perhaps this summary will suggest that assertions or arguments relying solely on principles of decision theory cannot settle whether assumptions about risk aversion are embedded in Rawls's theory of distributive justice.

In a series of books and articles, Rawls describes and defends *justice as fairness*.¹⁰³ Rawls proposes that the institutions of society be structured to satisfy two principles of justice:

- 1 Each person has the same infeasible claim to a fully adequate scheme of equal basic liberties, which scheme is compatible with the same scheme of liberties for all [the principle of equal basic liberty]; and

¹⁰⁰ In his book *Sovereign Virtue*, Dworkin compares his theory to Rawls's, with a different focus than the discussion that follows. See Ronald Dworkin, *Sovereign Virtue* 112-119 (2001).

¹⁰¹ Writing before Rawls and Dworkin, John Harsanyi suggested an approach to distributive justice based on contemplating "what sort of society one would prefer if one had an equal chance of being 'put in the place of' and particular member of society." John C. Harsanyi, Cardinal Utility in Welfare Economics and in the Theory of Risk Taking," 61 *J. Pol. Econ.* 434, 435 (1953). Harsanyi's procedure requires an individual to imagine having the utility functions of different people, and so "does presuppose the possibility of interpersonal comparisons of utility differences." John C. Harsanyi, Bayesian Decision Theory and Utilitarian Ethics," 68 *Am. Econ. Rev. (Papers & Proc.)* 223, 228 (1978). In Harsanyi's utilitarian framework, it has been recognized that "[t]he social choice becomes directly dependent on individual attitudes toward risk." Dennis C. Mueller, *Public Choice II* (1989) at 425-26. For an assessment of Harsanyi's work, see John C. Roemer, *Theories of Distributive Justice* 138-50 (1996).

¹⁰² See, e.g., Robert Hockett, The Deep Grammar of Distribution: A Meta-Theory of Justice, 26 *Cardozo Law Review* 1179, 1268 n.234 (2005) ("Rawls's derived choices are extensionally equivalent to those that would be made by infinitely risk-averse choosers.").

¹⁰³ See John Rawls, *Justice as Fairness: A Restatement* (Erin Kelly ed. 2001); John Rawls, *A Theory of Justice* (Rev. ed. 1999); John Rawls, *Collected Papers* (Samuel Freeman ed. 1999); John Rawls, *Political Liberalism* (1993).

- 2 Social and economic inequalities are to satisfy two conditions: first, they must be attached to offices and positions open to all under conditions of fair equality of opportunity; and second, they are to be to the greatest benefit of the least-advantaged members of society (the difference principle).¹⁰⁴

There are actually three standards here, and Rawls lists them in order of priority: the higher standard or standards in the hierarchy are to be fully satisfied before worrying about the lower ones.¹⁰⁵ Rawls believes that these principles can serve as the foundation for a modern constitutional democracy that must tolerate “a diversity of doctrines and the plurality of conflicting ... conceptions of the good” held by its citizens.¹⁰⁶ Rawls views his principles as the objects of an attainable consensus among citizens committed to otherwise conflicting tenets: “I should like to avoid ... [philosophical] claims to universal truth.”¹⁰⁷ So Rawls’s principles of justice presumably leave substantial scope for decisions made through the political process, constrained but not settled by the principles.

Rawls maintains that the principles of justice are terms that would be unanimously agreed to by parties placed on a suitably equal footing, which Rawls calls the *original position*.¹⁰⁸ The original position is the focal point of a thought experiment that is intended to facilitate establishing what justice as fairness requires. The parties in the original position are to decide on the basic institutional structure of a modern constitutional democracy, without taking into account, or in ignorance of, “the social positions or the particular comprehensive doctrines of the parties they represent race and ethnic group, sex, or various native endowments such as strength and intelligence.”¹⁰⁹

¹⁰⁴ John Rawls, *Justice as Fairness: A Restatement* 42-43 (Erin Kelly ed. 2001); see also John Rawls, *Collected Papers* 362 (Samuel Freeman ed. 1999); John Rawls, *Political Liberalism* 5-6. (1993).

¹⁰⁵ John Rawls, *Justice as Fairness: A Restatement* 43 (2001).

¹⁰⁶ John Rawls, *Collected Papers* 390 (Samuel Freeman ed. 1999). Rawls refers to an *overlapping consensus*. John Rawls, *Justice as Fairness: A Restatement* 32 (Erin Kelly ed. 2001). There is more to it than my summary mentions—for example, Rawls’s view that “the basic ideas of justice as fairness” are “implicit or latent in the public culture of a democratic society.” *Id.* at 396 n.14.

¹⁰⁷ *Id.* at 388. “The aim of justice as fairness is practical.... [I]t presents itself not as a conception of justice that is true, but one that can serve as a basis of informed and willing political agreement between citizens viewed as free and equal persons.” *Id.* at 394.

¹⁰⁸ John Rawls, *Justice as Fairness: A Restatement* 14 (Erin Kelly ed. 2001).

¹⁰⁹ *Id.* at 15. Rawls refers to the constraints on information as the *veil of ignorance*. *Id.*

To fully appreciate Rawls's theory, it is important to keep your eye on the ball: Rawls' intention was to develop a sophisticated alternative to utilitarianism.¹¹⁰ Rawls appreciated that a sustained critique of utilitarianism would be more persuasive if it offered a competing position and he understood the depth of commitment required to formulate an alternative that was not vulnerable to the same criticisms as utilitarianism.¹¹¹ Much of the commentary on Rawls stresses the difference principle, but the selection of the difference principle as the rule of distributive justice is the undercard to the decision whether political rights should have priority over economic considerations.¹¹²

Rawls maintains that in the contest between the principle of equal basic liberties and the principle of average utilities, the parties in the original position would favor the former. He does not think, frankly, that it is a close call.¹¹³ According to Rawls, the parties would use the maximin rule to select between alternatives. The maximin rule "tells us to identify the worst outcome of each available alternative and then to adopt the alternative whose worst outcome is better than the worst outcome of all the other alternatives."¹¹⁴

Rawls gives three reasons why the maximin rule would be adopted. First, the parties have no basis for determining the odds of various outcomes. Second, there is one alternative which guarantees an outcome that is satisfactory to everyone. Third, the worst outcome of the other

¹¹⁰ John Rawls, *A Theory of Justice* xi-xii (1999 Rev. ed.). Strictly speaking, utilitarianism cannot be equated with an emphasis on economic prosperity and allows for the possibility that strong protections for rights maximize utility.

¹¹¹ Cf. Marc Fleurbaey, *Equality of Resources Revisited*, 113 *Ethics* 82, 97 (2002) ("My argument against the insurance mechanism can therefore be completed only by proposing an alternative approach, which is theoretically even more congenial to equality of resources and avoids the disturbing consequences of utilitarianism.").

¹¹² John Rawls, *Justice as Fairness: A Restatement* 97 (Erin Kelly ed. 2001) ("The first comparison is the more fundamental..."). For evidence that this remains a live dispute among legal scholars, economists and philosophers, see, e.g., Louis Kaplow & Steven Shavell, *Fairness versus Welfare* xvii (2002) ("Our thesis is that social decision should be based *exclusively* on their effects on the welfare of individuals—and, accordingly, should not depend on notions of fairness, justice, or cognate concepts.") and various responses to that thesis. Jules L. Coleman, *The Grounds of Welfare*, 112 *Yale L.J.* 1511 (2003) (book review); Kimberly Kessler Ferzan, *Some Sound and Fury from Kaplow and Shavell*, 23 *Law & Philosophy* 73 (2004) (review article); Richard H. Fallon, Jr., 101 *Mich. L. Rev.* 979 (2003); Jeremy Waldron, *Locating Distribution*, 32 *J. Legal Stud.* 277 (2003).

¹¹³ John Rawls, *Justice as Fairness: A Restatement* 96 (Erin Kelly ed. 2001).

¹¹⁴ *Id.* at 97.

alternatives is not satisfactory, perhaps intolerable.¹¹⁵ Rawls places the least weight on the first reason; he asserts that the second and third reasons are capable of doing most of the work.¹¹⁶ Rawls admits that the first reason “raises difficult points in the theory of probability that so far as possible we want to avoid.”¹¹⁷ Rawls emphasizes instead that his principles of justice constitute an attainable and satisfactory alternative to utilitarianism, and therefore “to agree to the principle of average utility would be to aim for greater well-being while jeopardizing [basic] rights and liberties without sufficient reason.”¹¹⁸ In Rawls’s view, the parties to the original position are not extremely or especially risk averse; they do not even know how risk averse they will be in the real world.¹¹⁹ Rawls insists that the parties’ reliance on the maximin decision rule is “not because they are moved by a special psychology that makes them peculiarly averse to uncertainty” but owing to “the fundamental nature of the interests the parties must protect, and the unusual features of the original position.”¹²⁰

When it comes to the defending the difference principle, Rawls places little or no emphasis on risk aversion. The difference principle identifies the least advantaged members of society in terms of shares of *primary goods*. The relevant primary goods specified by Rawls include “[1] Powers and prerogatives of offices and positions of responsibility, particularly those in the main political and economic institutions; [2] Income and wealth; and [3] The social bases of self respect.”¹²¹ Rawls does not intend the difference principle to be reducible to a social welfare function that maximizes the lowest level of utility realized by any member of society, although it is regularly treated that way.¹²²

Rawls does not believe that the case for the difference principle is nearly as strong as the case for the priority of basic liberties: “I view the balance of reasons as favoring the difference principle, [but] the outcome is certainly less clear and decisive than [in the case of the basic liberties.]”¹²³ Rawls maintains that the difference principle would be chosen in recognition of the cooperation inherent in political society. Rawls contrasts distributive justice

¹¹⁵ Id. at 98.

¹¹⁶ Id. at 101.

¹¹⁷ Id. at 101.

¹¹⁸ Id. at 104.

¹¹⁹ Id. at 87.

¹²⁰ Id. at 107.

¹²¹ John Rawls, *Collected Papers* 362-63 (Samuel Freeman ed. 1999).

¹²² See, e.g., Richard W. Tresch, *Public Finance: A Normative Theory* 83 (2002); Andreu Mas-Colell, Michael D. Whinston & Jerry R. Green 828 (1995); Howell E. Jackson et al., *Analytical Method for Lawyers* 366-67 (2003).

¹²³ John Rawls, *Collected Papers* 133 (Samuel Freeman ed. 1999).

with allocative justice. To Rawls, a problem of allocative justice merely involves “how a given bundle of commodities is to be distributed among individuals ... who have not cooperated in any way to produce those commodities.”¹²⁴ Fundamental to Rawls’s justice as fairness is “the idea of society as a fair system of social cooperation over time.”¹²⁵ Rawls maintains that the difference principle is more compatible with harmonious cooperation over time than principles based on promoting utility and therefore is more likely to produce a stable political culture.¹²⁶ Rawls anticipates that the parties to the original position would acknowledge these benefits.

In this paper I conclude that Dworkin’s theory is consistent with different levels of equality, depending on people’s actual level of risk aversion. Looking at the characterizations of Rawls’s theory of distributive justice cited at the beginning of this section, it might seem that Rawls has considered the question of risk aversion and come out on a particular point on the spectrum. That does not seem to be the case, however. Rawls denies that he is making any assumptions about people’s actual risk aversion. Further, to the extent that Rawls does rely on conventional principles of decision making under uncertainty, he confines the application of those principles to his principle of equal basic liberty. With respect to distributive justice—the difference principle—considerations of risk aversion, if they were ever present in Rawls, were abandoned by him long ago.

VI. CONCLUSION

In this paper I have considered whether Ronald Dworkin presents a plausible egalitarian theory of distributive justice. I argue that Dworkin’s theory does fall short of indicating the level of inequality that egalitarianism entails. Dworkin does not appear to have appreciated the importance of people’s risk aversion in determining the degree of inequality produced by hypothetical insurance.

It should not be surprising that very general principles do not settle how much inequality egalitarians should accept. Dworkin recognizes that in principle the degree of tolerable inequality turns on the costs involved in reducing it. Political philosophers are not ideally positioned to tabulate the

¹²⁴ *Id.* at 50.

¹²⁵ *Id.* at 50; John Rawls, *Political Liberalism* 15 (1993).

¹²⁶ *Op. Cit.* at 120-26. See also *id.* at 61 (“Social cooperation, we assume, is always productive and without cooperation there would be nothing produced and so nothing to distribute.”); *id.* at 64 (“[T]he difference principle is a principle of reciprocity.”); *id.* at 122 ([T]he restricted utility principle [has] no inherent tendency toward ... reciprocity.”).

relevant costs. So I am not prepared to label Dworkin's work a failure because in its present state it is indeterminate. Given the importance of questions of distribution in modern democracies, simply identifying a promising framework for contemplating distributive justice would be an important contribution.

Whether Dworkin has identified a promising framework for egalitarian distributive justice depends in part on whether it can be extended to incorporate additional features. The framework in which Dworkin and Markovits consider distribution is static. In effect, they consider how to distribute resources once and for all. Thus, for example, the question of what it means to distribute resources does not arise. Dworkin's theory does not consider the extent of people's rights to property or of the interests they may derive from certain settled expectations when circumstances in the real world change.¹²⁷ But it seems possible that people's well being on any given day depends as much on their expectations about the resources they will control in the future as on their consumption of resources on that particular day. The ex ante perspective of hypothetical insurance almost compels an understanding of well being grounded in people's expectations. It remains to be seen whether hypothetical insurance can be adapted to predict the choice of a policy for a dynamic actual world in which resources are consumed over time and the connection between a person's present and future resources is somewhat uncertain.

¹²⁷ See Ronald Dworkin, *Sovereign Virtue* 65-66 (2000).