JUST INSURANCE THROUGH GLOBAL MACRO-HEDGING: INFORMATION, DISTRIBUTIVE EQUITY, EFFICIENCY, AND NEW MARKETS FOR SYSTEMIC-INCOME-RISK-PRICING AND SYSTEMIC-INCOME-RISK-TRADING IN A "NEW ECONOMY"

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1. INTRODUCTION: NEW(ISH) CHALLENGES, NEW OPPORTUNITIES

There appears to be a broad consensus that persons worldwide increasingly now purchase and earn under the rules and patterned practices of a "new [global] economic order."1 Though it has been decades in coming, the new régime is conventionally marked as having crystallized over the course of the 1980s and 1990s with the rough establishment of three foundational pillars.

1 For background, see Jeffrey N. Gordon, Employees, Pensions and the New Economic Order, 97 COLUM. L. REV. 1519 (1997). See also sources cited infra notes 6, 7, 9.
Global product market liberalization, formally embraced as an international-legal ideal after World War II in the General Agreement on Tariffs and Trade ("GATT") of 1947, gradually progressed through subsequent decades under both the GATT rubric and various bilateral and regional arrangements, reaching a critical point with adoption of the Uruguay Round Agreements and consequent establishment of the World Trade Organization ("WTO") in 1994. Liberalization of the global trade in services and other "advanced sectors" is expected to follow that of trade in "basic" (product) sectors at an accelerated pace following the adoption of additional Uruguay Round agreements on trade in services and intellectual property.

Global capital market liberalization, ambivalently embraced as an international aim by the Bretton Woods Agreements of 1944, progressed tentatively to 1971 and at last emerged as a fully functional reality over the 1980's and 1990's with the opening of the world's largest stock exchanges, and the unleashing of financial intermediaries, to largely unrestricted cross-border participation and competition. In effect, the world is soon likely to have a single "virtual" capital market. Relatedly, liberalization and standardi-

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7 For further discussion of this trend, see id.; see also ASSAF RAZIN & Efraim Sadka, Labor, Capital, and Finance: International Flows 3-27, 83-160 (2001). For more on capital markets, see BRUNO SOLNIK, INTERNATIONAL INVESTMENTS (3d ed. 2001); INTERNATIONAL CAPITAL MARKETS (John Eatwell & Lance Taylor eds., 2002); BARRY EICHENGREEN, GLOBALIZING CAPITAL: A HISTORY OF THE INTERNATIONAL MONETARY SYSTEM (1996); HAROLD JAMES, INTERNATIONAL MONETARY COOPERATION SINCE BRETTON WOODS (1996); RICHARD W. EDWARDS, Jr.,
zation of direct foreign investment also are proceeding (albeit haltingly) under the rubric of the GATT and WTO agreements.\(^8\)

Finally, international labor market liberalization, though of course not yet as near to completion as product and capital market liberalization, has progressed rapidly since the 1980s as globally mobile firms have come increasingly to exploit cross-border cost differentials and extract concessions from once-more organized and influential labor forces. Immigration patterns likewise have fostered integration of the world labor market.\(^9\)

All of these developments have been and continue to be mutually reinforcing, and they have been and continue to be significantly facilitated by—while facilitating in turn—both technological developments (most notably information-technological developments) and changing governmental roles in national economies. Communications and related information-technologies, for example, have enhanced capital mobility, which in turn has encouraged the further "globalization" of production, which in turn has placed competitive pressures upon capital and labor alike to enhance productivity, and upon governments to refrain from hampering national economic "competitiveness."\(^10\) Consequent improvements in productive and transport technologies have promised greater returns on investments in less developed countries and greater product and labor mobility, which in turn have encouraged further capital movement and again placed greater pressure upon management, labor, and government in a manner of "feedback loop."\(^11\)

The upshot of these mutually reinforcing processes jointly con-

\(^8\) See Agreement on Trade-Related Investment Measures, 33 I.L.M. 108 (1994); see also Bhala & Kennedy, supra note 4, at 132-39 (noting the attempts by the GATT-WTO system to encourage foreign investment).

\(^9\) See Razin & Sadka, supra note 7, at 3-27, 31-80; Gordon, supra note 1, at 1530-31 (explaining how the labor law regime is currently parcel to the New Economic Order). With a view to legal significance, see Bhala & Kennedy, supra note 4, at 1-157. For popular accounts, see William Greider, One World, Ready or Not: The Manic Logic of Global Capitalism (1997); Edward Luttwak, Turbocapitalism: Winners and Losers in the Global Economy (1999).

\(^10\) See, e.g., Greider, supra note 9, at 103-21 (showing how technology competition leads to output of goods at a rate faster than the global market place can take); Luttwak, supra note 9, at 102-09 (noting the underpinnings of the world-demand and technology cycle); Gordon, supra note 1, at 1524 (describing how world trade agreements have led to the increase in world trade).

\(^11\) See Gordon, supra note 1, at 1533 (explaining the cycle of feedback loop).
stituting the new global economic order has been a marked improvement in efficiency and aggregate wealth of the sort familiarly predicted by neoclassical price theory. Competition is vigorous, comparative productive advantages and economies of scale are sought and exploited, resources flow more regularly to their most (or at any rate more) money-valued uses, and ultimately more goods and services, in greater variety and of higher quality, are made available at lower real prices to more people than ever before.12

Not all of the benefits attending the new economy are so widely distributed, however; and there are well-known concentrated costs. The profits flowing to successfully competing firms accrue, of course, primarily to owners; and these owners, when sorted by the magnitudes of their ownership stakes, represent surprisingly small shares of the populations even of the most affluent countries.13 Costs, in the forms of lost investment in specific human capital, occupational transition expenses and depressed real wages, fall disproportionately upon those who rely more upon labor and less upon nonhuman capital as sources of income.14 The risks of incurring such costs have been significantly magnified by the very information technologies that have played such key roles in fostering the benefits brought by the new economy. By facilitating more rapid (indeed, "light-speed") capital movement and occasional "overshot" in the price-adjustment process, these technologies have rendered financial markets more volatile than ever before, and employees, in consequence, more vulnerable to cyclical unemployment.15

12 See RAZIN & SADKA, supra note 7, at 3-8; Gordon, supra note 1, at 1520 ("Consumers have the advantage of more diverse goods of higher quality and lower price."). The predicted outcomes of course are rehearsed in most of the standard texts on price theory. See, e.g., DAVID M. KREPS, A COURSE IN MICROECONOMIC THEORY 149-81 (1990) (determining equations of efficiency and equity); ANDREU MAS-COLELL ET AL., MICROECONOMIC THEORY 307-43, 545-74 (1995) (noting equations in Pareto optimality and competitive equilibrium); HAL R. VARIAN, MICROECONOMIC ANALYSIS 215-29, 314-35, 404-12 (3d ed. 1992) [hereinafter VARIAN, MICROECONOMIC ANALYSIS] (solving such problems at profit-maximization, market equilibrium, and Pareto efficiency). For more information on price theory, see MILTON FRIEDMAN, PRICE THEORY 226-35 (1986); GEORGE STIGLER, THE THEORY OF PRICE 68-75 (3d ed. 1973).

13 See Gordon, supra note 1, at 1522-23, 1534-38 (noting how wage increases were undercut even among the top group of wage earners); see also Greider, supra note 9; Luttwak, supra note 9; sources cited infra note 16.

14 See Gordon, supra note 1, at 1522.

15 A conspicuous recent case in point is, of course, the "Asian Financial Cri-
The distribution of the new economy's benefits and burdens raises critical questions of distributive justice, questions that seem seldom if ever to be explicitly noted, let alone addressed, save in a preliminary, intuitive, pre-theoretic manner. If the new economy's distribution of benefits cannot be attributed to the beneficiaries' bona fide contributions, virtues, or merits, and its distribution of burdens to wealth-diminishing behavior, vices, or faults, the distribution in aggregate will by definition be unjust, not merely unequal. And no society, global or local, may rightfully tolerate truly eliminable or mitigable injustice. Should protracted perceptions of unfairness become widespread or notably intense, the costs and benefits of the new economic order will also raise important questions of practical wisdom, as no perceivedly illegitimate order would seem likely to remain orderly or stable for long. Societies wishing to lock in and

sis" of the late 1990s. On this, as well as on what it showed about the global financial market and the role that information technologies played in it, see Hockett, From Macro to Micro, supra note 6; Paul Blustein, The Chastening: Inside the Crisis That Rocked the Global Financial System and Humbled the IMF (2001). For more on the justice-significance of cyclical unemployment, see infra Sections 2.4 and 3. For more on the sheer speed of capital market changes, in addition to Hockett, From Macro to Micro, supra note 6 and the sources cited supra notes 7 and 9, see more generally infra Sections 3, 5, and 6 and Michael Pettis, The Volatility Machine: Emerging Economies and the Threat of Financial Collapse (2001); Stan Davis & Christopher Meyer, Blur: The Speed of Change in the Connected Economy (1998). More formal treatment of the dynamics of financial market volatility can be found in the sources cited infra note 267.


17 For elaboration upon the conceptual ties between justice, equality, and merit, see infra Section 2 and Robert Hockett, Market-Able Justice: A Unified Theory of Distributive Equity, Productive Efficiency and Market-Completion, with Particular Reference to Contingent Claims (2002) (forthcoming) (manuscript on file with the author) [hereinafter Hockett, Market-Able Justice]. The work generalizes the theory sketched infra Section 2.3 and shows how it can cover other forms of risk, notably health and handicap, as well as income risk.

18 The link is often drawn, though, perhaps more frequently on the basis of intuition than of macro-oriented empirical research. See, e.g., Robert Nozick, Anarchy, State and Utopia 158 (1974) ("No doubt people will not long accept a distribution they believe is unjust."); Klaus R. Scherer, Issues in the Study of Justice,
continue fostering the benefits of the emergent economic order, then, must look for means of justly distributing those benefits and their attendant costs. In so doing, societies must avoid simply replacing one maldistribution with another. It is desirable, that is, to hold up at least as a guiding ideal that state of affairs in which those who truly are "earning" the advantages wrought by the new economy, and who face equal opportunities to earn them, continue to enjoy those advantages to the extent (and only to the extent) that they actually are earned and the opportunities to earn them are equally distributed. All (and only) truly undeserved, "windfall" disadvantages, by contrast, should be shared equally by populations at large.

While the informational, econometric, and indeed moral-theoretic task posed by a truly complete person-by-person accounting of all earned and unearned benefits and burdens wrought by the new economy might be so ambitious as to border upon maniacal (particularly in the face of "hidden knowledge"), in it is not un-

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in Justice: Interdisciplinary Perspectives 3 (Klaus R. Scherer ed., 1992) ("[N]o sociopolitical system . . . can afford to neglect the maintenance of perceived justice and the need for corrective action in situations of perceived injustice, at least for any length of time."); Amartya Sen, On Economic Inequality 1 (1997) [hereinafter Sen, Economic Inequality] ("That a perceived sense of inequity is a common ingredient of rebellion in societies is clear enough . . ."); Gordon, supra note 1, at 1520 (observing that "political consensus" is threatened). There has been a good deal of empirical research at the micro-experimental level. The findings reported in this literature strongly support the intuitive tie. See, e.g., Norman Frohlich & Joe A. Oppenheimer, Choosing Justice: An Experimental Approach to Ethical Theory 120-47 (1992) (explaining the distributions on the level of working environment); The Justice Motive in Social Behavior: Adapting to Times of Scarcity and Change (M.J. Lerner & S.C. Lerner eds., 1981) [hereinafter Social Behavior]; Tom R. Tyler et al., Social Justice in A Diverse Society 153-78 (1997) (discussing different types of behavioral responses to injustice); Jerald Greenberg, Employee Theft as a Reaction to Underpayment Inequality: The Hidden Cost of Pay Cuts, 75 J. Applied Psychol. 561 (1990); Leo Montada, Injustice in Harm and Loss, 7 Soc. Jus. Res. 5 (1994); Edward N. Muller & Thomas O. Jakam, Discontent and Aggressive Political Practice, 13 Brit. J. Pol. Sci. 159 (1983). I exploit some of the findings reported in this and related literatures both in developing an "informationally enriched," "more complete social-contractual" account of justice and in arguing, pursuant to that theory, that justice and efficiency, mediated by incentive structures, are much more closely associated (both conceptually and practically) than seems commonly to be appreciated, at infra Sections 2, 4, 5, and 6. For an unusually sensitive and nuanced exploration of the psychological relations between perceived disenfranchisement on the one hand, resentment on the other, see David Singh Grewal, Network Power and Global Architecture (2002) (unpublished manuscript, on file with the author).

19 For a non-maniacal explanation of how this might theoretically be accomplished via price information, see Hockett, Market-Able Justice, supra note 17. I
reasonable to begin to attempt at least the humbler mission of identifying certain general classes of risk that most would agree cannot be mitigated by diligent behavior and that therefore should fall equally upon all. It should be positively useful, then, to evaluate the prospects of various means by which such concededly social risk might be efficiently parsed, priced, and shared by society at large. Such an evaluation should begin with current market-offered means, proceed thence to not-yet-existent markets which might offer such means, and finish with governmental or other private organizational supplementation or facilitation, or outright establishment of such markets where the prospects of spontaneous development appear dim. It may be possible to find, through such inquiry, that many or some of the very technologies, modalities, and integrative developments that have fostered the new global economic order and its attendant ills can be harnessed to the ameliorative task.

This Article is an attempt to carry out (or perhaps to begin to carry out, and to motivate) one part of that humbler mission. It aims to present an illustrative exploration, as well as a moderately sophisticated justice- and efficiency-grounded evaluation, of one family of means theoretically available (and that might be made practically available) to price and insure against individual income-risk wrought by the new global economy (and therefore, presumably by any effectively neoclassical economy). Through suit-

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20 By "neoclassical" I simply mean any economy more or less conforming to the assumptions upon which mainstream microeconomic theory as expounded in most standard texts is predicated. These include the private ownership of property, competitive markets with free entry, and no uncorrected externalities. See generally infra Section 2.3 and sources cited supra note 12. Strong emphasis should be given in this connection that the inquiry that follows would be as applicable to a "non-globalized" as to a "globalized" neoclassical economy. The "globalization" angle, however, should be emphasized for three reasons: 1) globalization is the theoretical endpoint (the logical extremum) of neoclassical economic dynamics themselves; 2) current trends toward globalization therefore render the potential pathologies of neoclassical economic integration more exigent; and 3) the potentials for certain salient features of our neoclassical economy (in particular, its new information technologies and consequent potential to generate new risk-trading markets) to be harnessed in mitigating such an economy's potential harms themselves are most fully exploited by exploiting global integration and that integration's offering of new macro-correlates to which to tie the values of new financial instruments. See also infra Section 3. I would like to thank Jerry Mashaw for pressing me on global integration's relevance to the argument.
able exploitation of familiar insurance and hedging devices, improved by the development of new information and trading technologies as well as new financial instruments which themselves either constitute or exploit some of the defining mechanisms of the new economy itself, as well as a number of hitherto unexplored and/or unexploited statistical correlations, this Article argues, new markets offering simultaneously more just and efficient systemic income-risk-sharing can and should be brought into being.

The Article accordingly aims first to describe the new economy and its attendant income-risks in a manner adequate to render appreciable precisely that sense in which some such risks truly are "systemic" or "social" in nature, i.e., appropriately seen as being justly (and as it happens, in large part efficiently) borne by all. Obviously, this will require consideration of the theory of distributive justice—both as a philosophic and as an economic matter. Section 2 therefore begins the inquiry by assessing two particularly—indeed, two near-duopolistically—influential approaches to justice and then proposes a superior, informationally more textured, synthetic account that both incorporates what is worth keeping in those leading approaches and better accords with what I take to be our experientially grounded, legally informed, considered understandings of fairness. Three salient advantages of this theory are that it a) renders appreciable the degree to which justice and efficiency actually can be complementary (rather than always and everywhere constituting a simple "trade-off"), b) more generally, renders perspicuous a number of important analytical relations that obtain between justice, efficiency, what I call "more complete social contracting," contingent claiming and certain familiar institutions (norms of reciprocity and exchange, incentive structures, rewarding mechanisms and information-gathering and -impounding markets), and thus c) sets the stage for an illustration of how new markets can facilitate more effective justice- and efficiency-accounting—as well as more just and efficient insurance—through the production of both price and price-sensitive information.

Section 3 then catalogues three broad classes of income-risk wrought or exacerbated by the global economy and its new information technologies that are appropriately regarded under the newly proposed theory of justice as essentially social in nature, i.e., as justly (and in the large efficiently) borne by all in equal measure. These are risks that both: a) operate as a drag upon factor-morale and -mobility (as well as upon socially optimal individual risk-bearing by potential consumers of other goods); and b) are not at-
tributable to productive vice or fault. They are therefore risks whose broader pooling will result in considerable justice and efficiency gains to society.

The Article then considers the economic theory of insurance and its relation to the theory of justice, in an effort to reach a general understanding of when markets unaided by deliberately concerted action might be expected both justly and efficiently to distribute social risk, and when they might be expected to require some degree of supplementation, facilitation or correction by concerted (often but not necessarily governmental) action in order to attain to one or both of those goals. This is the subject of Sections 4 and 5, which examine: a) the prerequisites to efficient risk-markets; b) currently existing risk markets; and c) such markets' limitations.

From there the Article proceeds to evaluate, in more detailed and comparative fashion, in light of the preceding inquiry—and thus, again, with a view to both justice- and efficiency-significance—the prospects of what looks to be an especially promising—particularly via its exploitation of the informational, trading, and organizational techniques and technologies of "globalization" itself—but as yet untried, means of modulating income risk in a neoclassical market economy. The Article progresses from variations on this form of market-based insurance involving little, to variations involving greater, concerted public (or public-minded) effort. Specifically, the work moves from private hedging strategies in existing markets to new, quasi-publicly or publicly facilitated or created hedging markets in new, macroeconomic-aggregate-associated instruments which can make such strategies more meaningful. Such is the substance of Section 6.

Section 7 concludes the Article with the recommendation that a variety of strategies be further modeled, refined, and trial-tested. We should feel at liberty to explore along more than one front, and then to develop appropriately designed and phased implementation strategies for approaches that appear likely to bear fruit. While I should have liked to present an encyclopedic array of such strategies in exhaustive programmatic detail, that, it seems, will have to await the sequel—and perhaps the further efforts of others along the same lines. For the complex conceptual distentangling and reweaving attempted in the present "think-piece" has itself, alas, turned out to require a full essay's worth of pagination as things stand.

With a view to facilitating "flow" throughout these many pages
and among what might at first appear, in light of our now century-old division of academic labor, to be some customarily more segregated subjects that I here bring together in synthesis, I have endeavored to operate at as high a level of conceptual generality as possible within the text, relegating further technical detail, argumentation and pertinent aside to the footnotes. I hope that in so doing, the analysis has done as much as reasonably can be hoped by way of having things both ways—textual readability and broad conceptual synthesis on the one hand, sufficient detail and supporting argument to make a solid case for plausibility on the other.21

21 There are perhaps two things that lawyers do best, even if not always simultaneously. Sometimes, a lawyer attempts deliberately to be suggestive and thought-provoking, or rather to make quite clear why these thoughts have been so very much provoked by what seem a number of significant relations among several disciplines, sub-disciplines and concept-families that are not (yet) generally brought together. With terms like “justice,” “virtue,” “efficiency,” “accounting,” “information,” “reciprocation,” “exchange,” “incentive-structuring,” “contracting,” “relational contracting,” “incomplete contracting,” “contingent claiming,” and other terms not only in those more familiar (and familiarly segregated) respective contexts of moral philosophy, social and developmental psychology, anthropology, and sociology and “law & social norms” theory, evolutionary game theory, experimental economics, welfare economics, organizational/institutional economics, general equilibrium theory, and financial economics in which most of them tend separately to find their homes, but in all such contexts, familiar or otherwise, this Article treats as important for newly exigent purposes that they now all find one home.

In addition, a number of terms—e.g., “productive virtue and vice,” “the justice ledger,” “justice-accounting,” “social contracting,” “incomplete and more complete social contracting,” “relational social contracting”—are newly coined here in an effort to capture and render perspicuous the conceptual linkages that both: a) are deeply (in both a positive and a normative sense) important; and b) have been there all along, awaiting explicit recognition as signposts along the road to solving several longstanding and newly exigent theoretical puzzles and practical problems. Indeed, it is tempting to suppose that one principal reason that illuminating conceptual arbitrage among contiguous disciplines does not proceed as rapidly as does arbitrage in our financial markets is that the disciplines do not, as Henri Poincaré might have said, “speak the same language.” Their “information networks” are severed in a manner reminiscent of that separation which characterized the world’s national capital markets prior to the “big bangs” of electronic and legal desegregation of the post-1980’s. Poincaré was referring to competing schools of thought in the late nineteenth and early twentieth century endeavoring to provide mathematics with “foundations.” See Jules Henri Poincaré, Les Mathématiques et la Logique, 14 REV. MÉTAPHYSIQUE ET MORALE 294 (1906). But this Article takes the point to be generalizable. Again, however, in hopes of avoiding a purchase of smoother interdisciplinary flow at the exorbitant expense of bumpier reading, this Article has attempted to confine apologetics and discussion on such points as much as possible to the footnotes.
Be that as it may, if this Article's animating purposes, considered premises, and derived—though admittedly provisional—theoretical and practical conclusions be correctly and adequately conceived and reasoned, then notwithstanding its bringing together of some unaccustomed bedfellows and its tentative coinage of some new, trans-disciplinary terminology, its ultimate product should be a sense of considerable optimism, if not of outright resolve. For it then will be clear that the "new economy"—including the global, financial, and information economies—not only ought to be rendered more just in the production of "winners" and "losers," but indeed can, by means of some of that economy's own new features, efficiently be so rendered—and that we therefore stand at the threshold of what can prove to be a most promising new era of theoretical development, programmatic innovation, and, dare I say it, actual prosperity for all.

2. JUSTICE AS INSURANCE & AS "MARKET-OUTPUT": INFORMATION, AVERSION AND TRADE IN THE DISTRIBUTION OF WELFARE, ILLFARE, RESOURCE, AND RISK

The second half of the Twentieth Century has been particularly fertile in reassessing and reformulating the theory of distributive justice. Philosophs informed by the insights and methodologies

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of modern welfare economics, as well as economists who have mastered the results and techniques of modern, "analytic" moral philosophy, have enriched our understanding both of justice's general normative call upon us and of its specific requirements. What is perhaps surprising, however, is the degree to which consensus continues to elude us upon some of the subject's finer details, notwithstanding the fact that many modern contributors to the discipline profess to be attempting to do justice to our shared and considered, pre-theoretic judgments of right and wrong.23

As the current Article is not meant primarily to constitute a stand-alone work of moral philosophy,24 this will not be the place...
comprehensively to survey and critique all—or even most of the most often cited—current contributions to the field. What we can do, however, is a) schematically sort the two leading general approaches to the subject currently (and almost exclusively) discussed in the pertinent philosophic and economic literatures, b) briefly highlight those approaches' principal strengths and shortcomings, then finally c) sketch the outlines of a new contribution to the enterprise which both avoids the shortcomings of the aforementioned and accords, I believe, both with their strengths and with what most of us intuitively would take justice to require. As we shall see, it happens that this new theory allows us to integrate the theory of justice quite nicely—and at no cost to egalitarian scruple—with a) the economic theories of insurance, financial markets, and financial engineering, and b) general equilibrium theories of market processes more generally. The new theory also shows justice and efficiency to be rather closer to full extensional equivalence than is commonly realized, and thereby points the way forward to new means of harnessing informationally efficient markets to do the work of justice.

2.1. Consequentialist "Justice": Presumptive Zero Risk-Aversion and Aggregative Wealth or Welfare Information Alone

From the early nineteenth century to the early 1970s, many if not most leading theorists—or, perhaps more aptly, exponents—of justice, particularly in the Anglo-American world, could be classified as "utilitarian," or somewhat more precisely, "welfarist-consequentialist." Unfortunately, in light of the severe informa-

25 For reasons that will soon become apparent, the Article uses the term "justice" a bit loosely in modifying it by such terms as "consequentialist" or "utilitarian." More strictly speaking, one should probably say that utilitarians and other consequentialists shared (or share) the space inhabited by justice theorists—that is, they were the dominant theorists prescribing the contours of good or appropriate social policy. Insofar as justice is the "first virtue of social institutions," utilitarianism as a prescription for social policy might be loosely considered a theory of justice. See RAWLS, JUSTICE, supra note 22, at 22 ("The main idea [of utilitarians] is that society is rightly ordered, and therefore just, when its major institutions are arranged so as to achieve the greatest net balance of satisfaction summed over all the individuals belonging to it.").

The term "consequentialism" was coined by G. E. M. Anscombe, Modern Moral Philosophy, 33 J. of Royal Inst. of Phil. 1, 12 (1958) [hereinafter Anscombe, Modern Moral Philosophy] to embrace the sundry teleological theories, i.e. end-state-oriented ethical theories that had come to be proposed by academic philosophers by the late 1950s. The seminal essay is republished in 3 G. E. M. ANSCOMBE, THE COLLECTED PHILOSOPHICAL PAPERS OF G. E. M. ANSCOMBE: ETHICS, RELIGION &
tional constraints that utilitarian inquiry placed upon the normative evaluation of actions, policies, and consequent states of affairs, its influence ultimately hampered the sophisticated, sufficiently fine-grained, multivariate consideration of distributive justice in policy deliberation and policy discussion that justice itself would seem to demand; but more on that presently.

In its essence, utilitarian justice was, and is, a simple teleological welfare-maximizing (i.e., a univariate or single scale maximand-optimizing) imperative, sometimes subject to a distributional constraint. At its crudest, the utilitarian “theory” appeared in certain Benthamites’ catchy but, strictly speaking, incoherent injunction to seek “the greatest good for the greatest number.”

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POLITICS 26 (1981) [hereinafter ANSCOMBE, COLLECTED PAPERS]. The idea is that the morality of actions, actors, intentions, habits, rules, institutions, and so on is in all cases reducible to the goodness or otherwise of the states of affairs that the latter ultimately produce or tend to produce. For more on the “structure” of consequentialism (and the infinite evaluative regress to which it lends itself), see Bernard Williams, A Critique of Utilitarianism [hereinafter Williams, Utilitarianism], in J. C. C. SMART & BERNARD WILLIAMS, UTILITARIANISM: FOR AND AGAINST 82-93 (1973) [hereinafter FOR AND AGAINST]. See also CONSEQUENTIALISM AND ITS CRITICS (Samuel Scheffler ed., 1988); SAMUEL SCHEFFLER, THE REJECTION OF CONSEQUENTIALISM: A PHILOSOPHICAL INVESTIGATION OF THE CONSIDERATIONS UNDERLYING RIVAL MORAL CONCEPTIONS (1982); BERNARD WILLIAMS, ETHICS AND THE LIMITS OF PHILOSOPHY (1985) for a general discussion on consequentialism.

The term “welfarism” appears to originate with Professor Sen and designates a particular approach to the evaluation of consequentialists’ end-states, namely, in terms of the (generally subjective, often hedonic) “welfare” or “utility” associated with them. See Amartya K. Sen, Utilitarianism and Welfarism, 76 J. PHIL. 463 (1979) [hereinafter Sen, Welfarism] (providing a “critique of utilitarianism without disputing the acceptability of consequentialism.”); see also AMARTYA K. SEN, COLLECTIVE CHOICE AND SOCIAL WELFARE 89-130 passim (1970) [hereinafter Sen, Choice] (providing formal and informal analyses of the theory of collective choice); Amartya K. Sen, On Weights and Measures: Informational Constraints in Social Welfare Analysis, 45 ECONOMETRICA 1539 (1977) [hereinafter Sen, Weights & Measures] (analyzing alternative approaches to social welfare evaluation).

26 See Sen, Weights & Measures, supra note 25. The sorts of information that ought not to have been left out of account, as argued infra Section 2.2, includes personal boundaries, rights, responsibility, and ultimately fair distribution. Both the theory of justice and the institutions that are proposed in this Article are designed to take account of, and aid in discovering, such information.

27 See Jeremy Bentham, An Introduction to the Principles of Morals and Legislation, in JOHN STUART MILL & JEREMY BENTHAM, UTILITARIANISM AND OTHER ESSAYS 65, 86-89 (Alan Ryan ed., 1987) (1789) [hereinafter UTILITARIANISM AND OTHER ESSAYS] (arguing how the value of a pleasure or pain should be measured by its intensity, its duration, its certainty or uncertainty, and its propinquity or remoteness). While Bentham’s own exposition of the utilitarian imperative(s) shares the same incoherence as the maxim, the latter itself is thought to have originated with the Scottish philosopher Francis Hutcheson, an inspirer of Bentham. See I. M. D.
it is not possible, absent certain carefully specified and tightly restrictive conditions, simultaneously to optimize two separate optimanda, utilitarians came variously to divide themselves into primarily maximizing and primarily equalizing camps, each camp effectively relegating the optimand of the other to second-order status at best.\textsuperscript{28} (Hence, either equalize subject to maximization, or maximize subject to equalization.)\textsuperscript{29} Strict maximizers then were faced with the embarrassment of hypothetical "utility monsters"—creatures so talented at or physiologically suited to transforming goods into happiness that the maximizing imperative would mandate the channeling of grotesquely disproportionate quantities of a society's resources to them, notwithstanding the consequent relative impoverishment of everyone else, in order to ensure that aggregate happiness was indeed maximized.\textsuperscript{30}

\textsuperscript{28} Actually it is not clear that the "greatest number" component of the Hutcheson/Benthamite maxim was intended to incorporate an egalitarian desideratum; it might simply have stated a preference in favor of maximizing total rather than average utility (the words seem open to either interpretation). See infra note 29 and accompanying text.

\textsuperscript{29} A canonical maximizer is J. C. C. Smart. See J.C.C. Smart, An Outline of a System of Utilitarian Ethics, in FOR AND AGAINST, supra note 25, at 3, 4 (discussing "a system of ethics which is free from traditional and theological associations"). A classic egalitarian utilitarian is Robert Hare. See ROBERT M. HARE, FREEDOM AND REASON 112-36 (1963) (discussing utilitarianism and cases where the inclinations of parties differ). It should be pointed out that many early utilitarians were egalitarian in spirit, even if, as noted, utility-maximization did not of itself, absent certain axiomatic assumptions, entail equalization of utilities. Bentham himself was egalitarian in disposition (but see the simple summing language in Bentham, Principles of Morals and Legislation, in UTILITARIANISM AND OTHER ESSAYS, supra note 27, at 88 (discussing the process for estimating the tendency of any act or event but warning that the process should not be strictly applied to every moral judgment, or to every legislative or judicial operation), as were John Stuart Mill, Utilitarianism, in UTILITARIANISM AND OTHER ESSAYS, supra note 27, at 272, 335-36 (arguing that the "Utility or the Greatest Happiness Principle" is based on the assumption that "one person's happiness is counted for exactly as much as another's") and HENRY SIDGWICK, METHODS OF ETHICS 416-17 (7th ed. 1981) (1907) ("[I]t must be reasonable to treat any one man in the same way as any other, if there be no reason apparent for treating him differently.").

\textsuperscript{30} See NOZICK, supra note 18, at 41 ("Utilitarian theory is embarrassed by the possibility of utility monsters who get enormously greater gains in utility from any sacrifice of others than these others lose . . . . [T]he theory seems to require that we all be sacrificed in the monster's maw, in order to increase total utility."). See also Kenneth J. Arrow, Formal Theories of Social Welfare, in 4 DICTIONARY OF THE HISTORY OF IDEAS 276-78 (Philip P. Weiner ed., 1973) [hereinafter Arrow, Social Welfare], reprinted in 1 KENNETH J. ARROW, THE COLLECTED PAPERS OF KENNETH J. ARROW: SOCIAL CHOICE AND JUSTICE 115, 117-18 (1983) [hereinafter 1 ARROW,
for non-utilitarians—probably most of us—to imagine anyone save such "monsters" themselves wishing to live in a society that distributed its resources in this fashion. Surely no one but the most risk-cavalier (not to mention the most justice-cavalier, if utility-monstrosity were a mere accident of birth, a case of good brute luck) would "contract" into such a society without first knowing either that she was such a creature or, at the very least, that such creatures' degrees of utility-monstrosity, statistical incidence throughout the population, or both were rather low.  

Maximizers—even equalizers, if they recognized maximization as at least a second order goal—also faced the question whether it was total or average utility that should be maximized. If the answer was average utility, then no particular populational imperative followed absent prior knowledge of the utility functions of prospective persons not yet born. But if the answer was total utility, utilitarians would be bound to advocate the procreation of ever-growing numbers of people until conditions grew just crowded enough that total utility began to drop. The "total or

[COLLECTED PAPERS] (stating that the slight difference in sensitivities of two persons can render distribution of all goods to one, but none to the other, socially "optimal"). Though Nozick was not what one would call an egalitarian, it should be noted that the "utility monster" scenario highlights the potential affront to equal concern that aggregative utilitarianism represents. More on this infra notes 76 and 79. Please note also that while it might at present seem a bit eccentric to describe the "utility monster's" derivation of pleasure from resources as a "talent," it will become plainer in what follows that "consumption talent" is precisely what we should describe such a creature as possessing. For the essential challenge to justice, we shall see, is to formulate means of distinguishing innate endowments—or "talents"—from efforts. See infra Section 2.3. Note also that the character going by the name of "Manic" in ACKERMAN, supra note 22, at 46 passim, is a "utility monster" with inordinate consumption talent. Ackerman's "Depressive," again at 46 passim, might symmetrically be labeled a "utility handicap" or "utility invalid."

31 John Harsanyi, however, in effect argued that they would. (As, less fully, did William Vickrey.) See sources cited infra note 60. The gist of the argument is that, under conditions of uncertainty, choosers of a society or social distribution rule will seek to maximize expected utility, and that this in turn entails choice of a society or distribution rule that maximizes aggregate (or, in one of the arguments, average) utility. Both of Harsanyi's theorems turn out, upon closer scrutiny, to be formally invalid. See infra note 60. On the distinction between aggregate and average utility, see infra text accompanying notes 32-36.

32 See Smart, supra note 29, at 27-28 ("Another type of ultimate disagreement between utilitarians . . . whether we should try to maximize happiness of human beings . . . or whether we should try to maximize the total happiness or goodness.").

33 Id. See also PARFIT, supra note 22, at 81-91 (referring to this as "the repugnant conclusion"). The (potentially) repugnant conclusion of the total utility
average?” question highlighted that a) utilitarianism as a simple maximizing imperative offered no reason not to treat total utility as that which was to be maximized, notwithstanding the consequent immiseration of entire populations that this might, given some possible utility functions, entail (those wishing to advocate the seemingly more common-sensical and pleasure-protective average utility option could not do so on the basis of utilitarianism itself);34 and b) that being the case, pure utilitarianism really amounted to a curious form of fetishism, apparently bent upon filling the universe with a mysterious substance called “happiness” —or, in the case of some large populations with some possible utility functions, mere “willingness to go on living”—while treating human beings as little more than receptacles in which to collect or machines through which to produce that peculiar substance.35 In the absence of some further, normatively supplementary information, then, utilitarianism looked either to be quite radically incomplete or, again, to be a distribution rule likely to be favored only by utility-monsters.

Another problem faced by utilitarians (and indeed any welfarist), obliquely implicated by the last two questions, was the nature of the maximand (or, in the case of egalitarian utilitarians, the equalisandum): What, precisely, was to be optimized? How does one know when—and by how much—“good,” “utility,” “welfare,” “well-being,” or “happiness” are being “increased” or “decreased,” or when they have been “equalized” across persons? Relatedly, are individuals’ utilities the sort of thing that can be compared, summed, or both?36 And if not, are we not faced with yet another

maximizing imperative, given some possible utility functions is that total utility might in fact turn out to be maximized by growing the global population so large that billions of crowded people are just infinitesimally more happy than they would be at that point at which they would be indifferent between continuing their lives and ending them.

34 See, e.g., Smart, supra note 29, at 28 (“I myself cannot help feeling a preference for [maximizing total rather than average utility]. But if someone feels the other way I do not know how to argue with him.”). On the possible immiseration, see infra note 60. Note that John Harsanyi derived both total and average utility maximization as appropriate social decision rules, via illicit Bayesian proofs grounded in von Neuman-Morgensternian axioms governing rational choice under uncertainty. See infra notes 37, 60, 61.

35 More on the justice-significance of this matter infra notes 74-76. On “some large populations with some possible utility functions,” and “willingness to go on living,” see generally sources cited supra note 25.

36 See cites to Professor Sen’s work, supra note 25 and infra note 299; Amartya K. Sen, Interpersonal Comparisons of Welfare [hereinafter Sen, Interpersonal Compari-
crucial information-deficit in our ethical and policy deliberations?

Owing to the rather ghostly nature of "happiness," "good," "welfare," or "utility" as optimanda, and the informational difficulties—both conceptual and empirical—attendant upon utility-measurement, interpersonal utility-comparison and-aggregation, sundry proxies came to be suggested by those theorists wishing to pursue cardinal measurement and comparison of outcomes, ranging from the flatly mythical or metaphysical (such as the "utils" or increments of willingness to take risk assumed by some theorists, who speculated that these simply had to exist but merely awaited discovery through some as yet unknown technology37) to the pseudoempirical (such as the presence of pleasure-associated C-fibres or endorphins in the brains of those whose happinesses were to be generated).38

At length the most convenient proxy turned out to be that proposed by a number of British and American economists, who, practicing a discipline which shared its principal modern founding contributors—Adam Smith and David Hume conspicuous among

37 See, e.g., FRANCIS YSIDRO EDEGWORTH, MATHEMATICAL PSYCHICS, AN ESSAY ON THE APPLICATION OF MATHEMATICS TO THE MORAL SCIENCES 81 (Augustus M. Kelly ed., 1967) (1881) (suggesting that a "hedonometer" might directly measure peoples' psychic states of pleasure and pain); JOHN VON NEUMANN & OSKAR MORGENSTERN, THEORY OF GAMES AND ECONOMIC BEHAVIOR 17 (3d ed. 1964) (1944) ("Even if utilities look very unnumerical today, the history of the experience in the theory of heat may repeat itself, and nobody can foretell with what ramifications and variations."); see also infra notes 43, 44 and accompanying text (describing at greater length, that the other response was to avoid the measurability conundrum altogether by shifting attention to ordinal utility, which sufficed both to prove the existence of and to analyze general equilibrium in a competitive economy).

38 See Tom M. Scanlon, Equality of Resources and Equality of Welfare: A Forced Marriage?, 97 ETHICS 111 (1986) (noting Roemer's implicit assumption of welfarist premises); John Roemer, Equality of Resources Implies Equality of Welfare, 101 Q. J. ECON. 751 (1986) (describing seductive attraction of endorphins as proxies for utility [or whatever it is that is to be optimized] even over those who would not wish to be labeled consequentialist, welfarist, or utilitarian). Professor Roemer has acknowledged the force of Scanlon's objection. ROEMER, DISTRIBUTIVE JUSTICE, supra note 22, at 259-61.
them — with utilitarianism itself,\textsuperscript{39} essentially incorporated (or retained) utilitarianism's traditional teleology with a new maximand in practicing that discipline whenever the discipline was admitted to bear normative implications. That proxy, of course, was "opulence," or (money-valued) wealth.\textsuperscript{40} While it seems that we cannot as of yet measure or compare individuals' levels of happiness, utilts, or generally even endorphins for purposes of practicable policy, we can, in at least a rough and ready way, measure personal income and gross domestic product. And few seem ready to deny that greater product or income is, ceteris paribus, better than less, even if there be disagreement over what goal should prevail when distributional considerations are placed alongside strict maximization as candidates.\textsuperscript{41}

\textsuperscript{39} See Joseph Schumpeter, Capitalism, Socialism and Democracy 1069 (3d ed. 1976) ("[M]odern welfare economists merely revive the Benthamite tradition."); see also other sources cited supra note 27 and accompanying text; Harsanyi, infra note 60; J.A. Mirrlees, The Economic Uses of Utilitarianism, in For and Against, supra note 25, at 63; Vickrey, infra note 60.

\textsuperscript{40} The loci classici are David Hume, Essays Moral, Political, and Literary, republished as Political Essays (Knud Haakonssen ed., 1994) (1754); Adam Smith, An Inquiry into the Nature and Causes of the Wealth of Nations (Edwin Cannan ed., 1976) (1776) [hereinafter Smith, Wealth of Nations]. The best known later exponents are of course Hicks and Kaldor, cited infra note 47. It should be noted that neither Hicks nor Kaldor takes care to distinguish between welfare (or "individual satisfactions") and wealth (or "money," "real income," "physical product," etc.). There is a tendency throughout their work to conflate the two things, as if they were eager to escape the interpersonal comparability problem and operationalize (for purposes of actual policy) the concept of welfare that they simply assumed them to be interchangeable. This gives rise to some difficulties cited infra, notes 48 and 50.

The substitution of wealth for happiness as maximand in some renditions of single-scale consequentialist ethics lent itself to (and perhaps therefore was effected in part by desire for) the ready operationalization of a property which successful policies could be said to possess in greater measure than unsuccessful policies—"efficiency." In its original, Paretian rendition, efficiency was said to be that state of the world in which no change could be brought which would render one person "better off" without simultaneously rendering another person (or other persons) "worse off." Pareto-efficiency as a criterion of social choice naturally circumvented the utility-measurement and utility-comparability problems (all that was needed was a single person's ordinal preference schedule among options), but it did so at a price. Any hypo-

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42 The term "efficiency" in this context becomes potentially misleading, as will become clear in what follows. It has come to mean little more than simple maximization. See text following and notes and articles cited supra notes 40-41 and infra notes 43-44. Coleman in particular does a serviceable job of sorting things out. Jules L. Coleman, Efficiency, Exchange and Auction: Philosophical Aspects of the Economic Approach to Law, 68 CAL. L. REV. 221 (1980). See also Hockett, Market-Able Justice, supra note 17 (sorting out forms of "efficiency," explicating their conceptual links, and illustrating how the careless importation of the conceptual implications of one form into thought upon another form can produce error).

43 See 4 VILFREDO PARETO, THE MIND AND SOCIETY: THE GENERAL FORM OF SOCIETY 1459-74, 1465-69 (Arthur Livingston ed., Andrew Bongiorno et al. trans., 1935) (1907) [hereinafter PARETO, MIND & SOCIETY]; VILFREDO PARETO, MANUAL OF POLITICAL ECONOMY 391-491 app. (Ann S. Schwier & Alfred N. Page eds., Ann S. Schwier trans., 1971) (1906). On the Pareto reading, efficiency's relation to the word's ordinary meaning—maximum output at given input or minimum input for given output—is more or less transparent. A move from a Pareto inferior to a Pareto superior state involves an increase in well-being at no cost—a sort of increase of welfare-output for given input. Use of the Pareto criterion also, of course, circumvents the interpersonal utility-comparison conundrum, though not the intrapersonal ("better off"?/"worse off"?) one until a further move, from cardinal to ordinal utility—the latter operationalized through hypothetical choice-rankings by those whose utility is to be measured—is made. Pareto saw this as liberating economics from "metaphysical" elements. Id. See also 3 THE NEW PALGRAVE: A DICTIONARY OF ECONOMICS 716-18 (John Eatwell et al. eds., 1987) (providing the significance and history of the term "ophelimity"). Once that latter move was made Paretians could conveniently remain in a certain sense (the ordinal preference-satisfying sense) welfarist rather than having to convert to wealth-maximizers. And, of course, many theoretical economists have so remained.

It should be noted in passing, as well as in anticipation of the discussion of Rawlsian justice infra Section 2.2, that the ideal of Pareto efficiency can be read as showing more respect for the interests/rights of individual persons—none of whom is to be rendered worse off—than does the maximand of a simple aggregative utilitarianism indifferent to distribution. For this reason it is sometimes (and somewhat misleadingly) called the "unanimity rule."

44 There is also some irony in the story of ordinal utility's triumph. See Ar-
thetically "worse off" person (or persons) would, of course, effectively and automatically, so to speak—that is, by definition—exercise a veto over social decision-making. As the practical difficulties attendant upon avoiding any actual policies' yielding "losers" therefore rendered Pareto-efficiency, Pareto-improvement, and Pareto-optimality little more than pragmatically unrealizable, purely theoretical ideals, our more operationally-minded welfare economists lit upon an alternative ideal state toward which policy could more realistically strive, so-called "Kaldor-Hicks" efficiency. Under this conception, one policy was adjudged superior to another if it rendered compensation of losers by winners theoretically possible—i.e., if it yielded greater aggregate wealth, rather than welfare, than another—the idea being that under such circumstances something very like Pareto optimality would be at least theoretically attainable, even if no compensating in the end were actually done. "Efficiency," on this understanding, subtly alludes from being the name of a desideratum governing the transformation of inputs into outputs, to being a synonym for simple wealth-maximization itself. In a single stroke we have operationalized both aggregative welfarist "utility" and a seeming analogue to Arrow, Social Welfare, supra note 30, at 276, 278 ("The ordinalist position...only began to spread widely in the 1930s and became orthodox, ironically enough, at a moment when the foundations for a more sophisticated theory of cardinal utility [in terms of willingness to take risks], proposed by Frank Ramsey, rediscovered in essence by von Neumann & Morgenstern, and ultimately rooted in the approach pioneered by Bernoulli had been laid."); see also sources cited infra note 172.

45 Arrow's celebrated "impossibility theorem" can be characterized as a manner of partial corollary, at least in the sense that, absent the "weak Pareto" criterion which figures among Arrow's initial axioms, the theorem does not hold. See KENNETH J. ARROW, SOCIAL CHOICE AND INDIVIDUAL VALUES (1951) [hereinafter Arrow, Social Choice]; SEN, CHOICE, supra note 25, at 21-55; ROEMER, DISTRIBUTIVE JUSTICE, supra note 22, at 22-38.


47 See Nicholas Kaldor, Welfare Propositions of Economics and Interpersonal Comparisons of Utility, 49 ECON. J. 549 (1939); John R. Hicks, The Foundations of Welfare Economics, 49 ECON. J. 696 (1939); John R. Hicks, The Valuation of Social Income, 7 ECONOMICA 105 (1940); see also Tibor Scitovsky, A Note on Welfare Propositions in Economics, 9 REV. ECON. STUD. 77 (1941); Tibor Scitovsky, A Reconsideration of the Theory of Tariffs, 9 REV. ECON. STUD. 89 (1942); Tibor Scitovsky, The State of Welfare Economics, 41 AM. ECON. REV. 303 (1951) [hereinafter Scitovsky, Welfare Economics].

48 For it is wealth, not welfare, that is interpersonally transferable in a manner giving content to the notion of "compensation." Insofar as the compensation criterion is construed in a welfarist manner, Kaldor-Hicksian compensation retains the interpersonal comparability problem that it was designed to circumvent, and is afflicted by the difficulty flagged. See discussion supra note 40.
"efficiency," and have done so in a manner that permits both cardinal measurement and interpersonal comparison. We are thus left with a new and seemingly more useful, less informationally patchy species of—or analogue to—total utility (aggregative) consequentialism, in which dollars or Deutschmarks "buy" happiness, as it were. This apparently felicitous development carries with it at least two significant costs, however.

First, simply increasing the number of dollar bills or Deutschmarks in existence (or more specifically, the total market valuation of all goods and services), with no thought to their distribution or the happiness that money "buys," looks to be yet more overtly fetishistic than does aggregative utilitarianism itself. At least "utility" is meant to represent some form of human flourishing.49

And second, the question remains, just as in the case of hypothetical societies that would have directed grotesquely disproportionate resource-portions to "utility monsters," whether anyone not actually bought off in a Kaldor-Hicksian world would willingly contract into or consider that world just.50 For it once again seems rather doubtful, to say the least, that anyone not at least initially afforded equal opportunity (including physiological, social, and educational opportunity) to produce wealth (i.e., to add value to an exogenously given endowment) would voluntarily contract into a world that channeled more of everything to those who through genetic or some other unearned traits (e.g., the families or the cities into which they were born) just happened to be able to produce more from what they were given and then entitled to keep all of the resultant product for themselves.51 Who but the most risk-loving or

49 In fairness to Kaldor and Hicks, it should be pointed out that their concern was with policies, which produced "winners" and "losers" in terms of some form of satisfaction. Their paradigmatic example is the repeal of the U.K. corn laws in the mid-nineteenth century, which opened the door to grain importation and benefited consumers in the aggregate while harming British growers. They judged it likely that, over time, all people would sometimes win and sometimes lose.

50 Scitovsky was perhaps a bit more forthright about the distributional implications of the compensation criterion than were Kaldor and Hicks themselves. See Scitovsky, Welfare Economics, supra note 47, at 306 ("The economist ... who favors prosperity and advocates a policy of full employment makes an implicit value judgment. He implies that the gain of those millions who benefit by prosperity is in some sense greater or more important than the loss of real income suffered by those few whose money incomes are fixed."). On Harsanyi's attempt to portray distribution-ignoring maximization as a choice that would be made by rational choosers under uncertainty, see infra notes 60, 61, and 62.

51 Wealth here is, of course, the analogue to utility. The utility monster is
risk-indifferent, as well as the most justice-loathing or justice-indifferent, would contract to live in such a world prior to knowing what her unearned place in it would likely be? And who, then, save at most the very fortunate, could be thought to have been justly treated and not simply put upon in such a world?


A particularly troubling aspect of consequentialist justice, certainly of classical utilitarianism, welfarism, and thus of traditional welfare economics, was that it left the notion of individual *deserts* tied to individual *rights* and *responsibilities* out of account. There was no room for or ability to read such ethically decisive information in a consequentialist evaluation; the theory was simply blind to it. In theory, if robbing Peter to pay Paul rendered the aggregate greater than in the preceding state of affairs, then the robbery

now a wealth monster—one whose innate talents render him a better wealth producer than everyone else. And if he simply keeps all of his added product, it is not at all clear why he ought to be given more from which to produce. Indeed, some might say, "from everyone who has been given much, much will be demanded . . . ." Luke 12:48. Or they may say, "from each according to his ability, to each according to his need." 19 Karl Marx & Frederick Engels, Complete Works 20 (1975). This, of course, is the significance of Dworkin's "Derek and Amartya" hypothetical in Dworkin, Sovereign Virtue, supra note 22. Wealth, apart from distribution in accordance with our efforts as distinguished from our accidental, morally arbitrary features is not a value, any more than is maximized, desert-indifferent "utility." For more on this, see infra Section 2.3.

52 In the terms of supra notes 25 and 29 and accompanying text, consequentialism in general and utilitarianism and welfare economics in particular were, from an ethical point of view, informationally impoverished. A conceptually related problem should also be flagged here—that of traditional utilitarianism's blindness to objectionable sources of utility (preferences), such as those of the "broken slave" or "tamed housewife," who had adjusted her expectations and wants to the injustice of her station; or the sadist, who derived satisfaction from others' dissatisfactions. Such preferences are of course formed either with contempt for, or in acceptance of violations of, basic rights. Taking preferences as exogenous, utilitarians thus ruled yet another class of arguably justice-implicative information-types out of court. See, e.g., works by Jon Elster cited infrá, note 76 (Sour Grapes in particular); Amartya K. Sen, The Standard of Living (1987) [hereinafter Sen, Standard of Living]; Sen, Welfarism, supra note 25; Ronald Dworkin, Taking Rights Seriously 234-38 (1977) (describing "external preferences"); Ronald Dworkin, Is There a Right to Pornography?, 1 Oxford J. Legal Stud. 177 (1981), reprinted in Dworkin, Principle, supra note 41, at 335 (discussing reasons why even absent traditional political speech rationales, pornographic speech should be legal).
would be "just," irrespective of Peter's and Paul's basic human rights or what Peter and Paul themselves had done by way of bringing about or acting to avoid their fates. This failed to accord with many, probably most people's more complex, informationally nuanced senses of fairness and propriety, which tied justice at least in part to personal inviolability, consent, and inalienable rights as well as to individual choice and responsibility.

The philosopher John Rawls accordingly sought to re-theorize distributive justice in a manner tying it to the basic rights and likely "constitutional" choices of those whose allotments are justice's proper subject. An avid pupil of Kant, Rawls also (and relatedly) argued, in effect, that central to the concept of distributive justice was the condition of moral equality, or impartiality (hence

53 Indeed, for precisely that reason, Pigou, in ARTHUR PIGOU, THE ECONOMICS OF WELFARE 87-97 (Transaction Publ'g 2002) (1920) and Lerner, in SOCIAL BEHAVIOR, supra note 18, at 35-36, among others, advocated simple redistribution from wealthy to non-wealthy citizens without regard to how those citizens had become wealthy or non-wealthy, simply on the grounds that, in light of the diminishing marginal utility of income, transfers would result in greater utility-gains to the recipients of transferred income than utility-losses to the taxed. Likewise Dworkin's "Derek and Amartya" hypothetical in DWORKIN, SOVEREIGN VIRTUE, supra note 22 (stating that the book is simply taken from him who would have paid less—because unable to pay more—and given to him who would have paid more, and rights/deserts-indifferent value is thereby maximized.)

54 See RAWLS, JUSTICE, supra note 22, at 24-25 (stating that the "convictions of common sense" are such that "[e]ach member of society is thought to have an inviolability founded on justice or, as we say, on natural right, which even the welfare of every one else cannot override."); DWORKIN, SOVEREIGN VIRTUE, supra note 22, at 6 (stating that of two basic principles of ethical individualism, one, the "principle of special responsibility," "demands that government work... so far as it can achieve this, to make [persons'] fates sensitive to the choices they have made."). For empirical data on the existence of a widely shared, non-culture-specific pre-theoretic sense of fairness, see, e.g., FROHLICH & OPPENHEIMER, supra note 18, at 2 passim ("The universal identifiability of the unfair is strong presumptive evidence for the existence of a common moral sense."); TYLER ET AL., supra note 18, at 232-35, and sources cited therein. See also Hockett, Market-Able Justice, supra note 17.

55 RAWLS, JUSTICE, supra note 22, at 10-15. My use of the word "accordingly" here is potentially overbroad. It should be borne in mind at the outset that Rawls himself did not derive his theory of justice even in part from an ordinary understanding of moral desert. He is rather more concerned with what he takes for rights, which he radically distinguishes from the concept of moral desert and which I do not. Rawls takes certain rights to be dictated by his rational-contractualist choice procedure, on which more presently, and then reduces moral deserts to institutionally determined entitlements derived from institutions which are just insofar as they are compatible with the likely outcome of that procedure. I believe the deserts-reductionism to constitute error. More on this infra Section 2.3.

56 And/or perhaps "mutual advantage." On the putative distinction between
his conception of “justice as fairness,” and the frequent labeling of Rawls as “egalitarian.” That is, he maintained that an adequate theory of justice would not sanction the unfettered allotment of anything, at least in the way of those basic rights- and resource-endowments from which people fashion their lives, to anybody on the basis simply of her morally arbitrary, accidental characteristics—her genetic endowment, the family and subculture into which she had happened to be born, etc., in a word, anything resulting from the “birth lottery.” (This, of course, would condemn simple

justice as impartiality and justice as mutual advantage, see BARRY, THEORIES, supra note 22, at 6-8 (“Under the first approach the agreement is allowed to reflect the fact that some people have more bargaining power than others . . . . The second approach, however, is not constrained by the requirement that everyone must find it to his advantage to be just.”). In essence, on the “mutual advantage” reading, justice “is simply rational prudence pursued in contexts where the cooperation of other people is a condition of our being able to get what we want,” id. at 6; while on the “impartiality” reading, a just state of affairs “is one that people can accept not merely in the sense that they cannot reasonably expect to get more, but in the stronger sense that they cannot reasonably claim more,” id. at 8. Much of Rawls’s language suggests that he is motivated by the impartiality concern; while some passages, and possibly the very procedure by which he (via the choices of his bargaining souls behind the veil of ignorance) derives his principles of justice are suggestive of justice as mutual advantage. (After all, insofar as people truly are impartial, they have no need of a veil; the veil is an (artificial) form of imposed impartiality.) I frankly find the distinction, though figuring importantly in some of the literature, a bit overblown much of the time—the very mutuality of “mutual advantage” resulting in, even if not resulting from rational bargainers’ attitudes of, some form of impartiality. Only where we are concerned with attitudes and motivation need we distinguish between these modes of attaining what is, after all (or so I shall argue at Section 2.3), the same end—equal division of an exogenously given endowment.


58 See RAWLS, JUSTICE, supra note 22, at 64 (“There is no more reason to permit the distribution of income and wealth to be settled by the distribution of natural assets than by historical and social fortune.”) On Kantian impartiality (in the form of true ethical precepts’ avowed universal applicability), see, e.g., ALAN PATON, THE MORAL LAW (1948) (translating Immanuel Kant’s GRUNDLEGUNG ZUR METAPHYSIK DER SITTEN (1790)). Note that Kantian morality also imposes informational constraints (e.g., on the identities of persons), just not as many as utilitarianism. The differences among moral systems (or at any rate theories of justice) can be seen always to be a question of what information is morally arbitrary or irrelevant, of how much ignorance must be imposed behind the “veil” where just distribution choices are made. On the “veil,” read on through infra note 62 and accompanying text.
aggregative utilitarianism—as well as Kaldor-Hicksian consequentialism—outright as inherently unjust.\textsuperscript{59} Rather, rights- and resource-allotments were thought best made upon the basis of the distributive risk choices that a hypothetically ideal rational chooser would make, in assembly with other, similarly situated choosers deciding what the "basic structure" of their society would be, from behind a hypothetical "veil of ignorance."\textsuperscript{60} That is, the just distribution was in significant part the product of that formula which a rational actor would select, from this "original position," for the making of allotments while not knowing what her position in the resulting society would be. In an important sense, then, Rawlsian justice, as a problem of rational choice under uncertainty, could be thought of as the answer to an insurance problem.\textsuperscript{61} Indeed an ear-

\textsuperscript{59} Utilitarianism might be thought to be impartial, too, in that everyone's utility counts for the same in the aggregative process. That thought would be mistaken, however, in that utilitarianism actually does favor those who are born better endowed with a natural asset—i.e., consumption talent—and does not attend to their morally decisive choices. Counting each for one without attending to the luck of their endowments is not treating all as equals, at least not in any morally relevant sense. As noted above, utilitarianism directs resources to those who more efficiently transform such resources into happiness (hence, disproportionately to "utility monsters"). Beneficiaries of utilitarianism thus assuredly are not treated as equals in regard to policy's sensitivity to their basic rights as persons, their responsibilities, their projects and aspirations or their personal integrities.


\textsuperscript{61} Interesting in this connection is Christian Gollier, who employs a veil in modeling portfolio-selection under uncertainty. See \textsc{Christian Gollier, The Economics of Risk and Time} 312 (2001) ("The notion of [a] veil of ignorance transform[s] an interpersonal, distributional problem into a standard problem of decision [under] uncertainty. . . . [This] problem . . . is technically equivalent to the selection of a portfolio of contingent claims . . . ."); see also Vickrey, supra note 60, at 508 (noting the "[d]ifficulties with cardinal measurement of utility, and particularly with interpersonal comparisons"); Harsanyi, \textit{Cardinal Utility}, and \textit{Cardinal Welfare}, supra note 60. The connection also surely accounts in part for the attraction, to Dworkin, of a "hypothetical insurance market" as a heuristic device in explicating what a fair division of resources taking account of unearned talents
lier, utilitarian economist—John Harsanyi—who employed a veil-like device in deriving utilitarianism (two distinct forms of it!) as the outcome of a sort of hypothetical choice under uncertainty, cast his own work in overtly insurance-associable terms.\(^6^2\)

Rawls believed that rational choice theory (adequately conceived) provided a unique, determinate answer to the decisive "justice problem" (and again, what I shall call an "insurance problem") as he posed it—namely, that any rational chooser behind the veil would light upon "the difference principle," operationalized in the "maximin" formula, whereby one policy is adjudged superior to another if and only if it renders the least well-off class of the resulting society better off than the other policy would do.\(^6^3\) Accordingly, a distribution of wealth under which, e.g., 99 members of society each received \(10n\) units and one member received \(n\) units would be more just, not just more wealthy, than a distribution under which each of 100 members of society received \(m\leq n\) units. Things were essentially that simple.\(^6^4\) (Note that we have here al-

should look like. See DWORKIN, SOVEREIGN VIRTUE, supra note 22. For more on that brilliantly insightful program and its ultimately fatal theoretical and practical inadequacies, see infra Section 6.2.

\(^6^2\) See Harsanyi, Cardinal Utility and Cardinal Welfare, supra note 60; see also Vickrey in the same connection, supra note 60, at 524 (noting in a similar fashion how to derive utilitarianism). The insurance-associable terms include "rational choice under uncertainty," "expected utility maximization," and cognate expressions behavior. HARSANYI, RATIONAL BEHAVIOR, supra note 60, at 22, 32. In his earlier article, Harsanyi derived simple aggregative utilitarianism as the social distribution rule. See Harsanyi, Cardinal Utility, supra note 60, at 434. In the later article, he derived average utility-maximation as the distribution rule. Harsanyi, Cardinal Welfare, supra note 60, at 304. The theorems turn out to be invalid as derived social decision rules. They can only be interpreted as interesting representation results. Failure to have assimilated this now well established (but apparently inadequately disseminated) mathematical point appears still to lead some economists astray. See infra note 67.

\(^6^3\) RAWLS, JUSTICE, supra note 22, at 130-53 (defining the maximin rule as ranking alternatives by their most possible outcomes). There is some vagueness in the notion of "the least well-off class." For example, whether it be the bottom income quintile, quartile, or decile remains to be specified. This opens the door to some of the criticisms discussed infra. Note also that maximin of itself does not preclude welfarism as defined supra note 25. One could prescribe that we maximize the welfare of the least well off person or class. As explained in infra notes 70-73 and accompanying text, Rawls takes leave of welfarism by focusing upon a particular distribuendum, an index of "primary goods." See RAWLS, JUSTICE, supra note 22, at 90.

\(^6^4\) See RAWLS, JUSTICE, id. at 139-53, 160-68 (considering a variety of competing choice-principles, including aggregate utility maximization and average utility maximization).
ready the beginnings of a recognition that justice and efficiency—the latter in its simple wealth-maximizing rendition—as well as just and efficient insurance, might at points be complementary.)

In a sense, then, Rawls restored Pareto efficiency, which the Kaldor-Hicksians had displaced, to social choice. The only formal difference was the choice of what we might call the "baseline"—or rather, it was that in one case there just was no choice of baseline, whereas in the other case there was. Pareto, in effect, said "No one should be rendered worse off in the move from state \( \Phi \) to state \( \Psi \), whatever states those two might be." Rawls said, in effect, "I'll supply state \( \Phi \): it's the state of fair initial equality, the 'original position' behind the veil of ignorance." Rawls thus gave the "worst off" a Paretian veto over all departures from equality.

Insofar as a society conformed in its distribution of benefits to the maximin ideal, which, again, amounted to the outcome of a sort of hypothetical "constitutional convention" for the choice of a "basic [social] structure" from behind the veil of ignorance, that society could be said to operate pursuant to a sort of "social contract" (or what we might call a "social insurance contract"). Rawls is quite explicit about this, locating his approach to justice firmly within the social-contractarian tradition and contrasting it, in part for that very reason, to the dominant utilitarian tradition.65 (Recall that, as remarked in Section 2.1, it seemed unlikely that anyone (save the "monsters" themselves) would actually consent to or choose a society that awarded grotesquely disproportionate quantities of its resources to "utility [or "wealth-"] monsters.")66

Rawls departed from classical utilitarianism (as expounded by writers other than Vickrey and Harsanyi) in more than just his contractualist methodology and prescribed distribution formula. Like the Kaldor-Hicksians in their departure from strict welfare-utilitarianism, Rawls too lit upon a different distribuendum—

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65 See RAWLS, JUSTICE, supra note 22, at 11 ("My aim is to present a conception of justice which generalizes and carries to a higher level of abstraction the familiar theory of the social contract. . . ."); id. at 22 ("My aim is to work out a theory of justice that represents an alternative to utilitarian thought generally and to all of [the] different versions of it. I believe that the contrast between the contract view and utilitarianism remains essentially the same in all these cases."); id. at 17 ("[W]e have to ascertain which principles it would be rational to adopt given the contractual situation. This connects the theory of justice with the theory of rational choice.").

66 See supra note 59 (explaining how utilitarianism directs resources to those who more efficiently transform resources into happiness).
namely, an "index of primary goods." One reason for this choice was that, like the compensationists, Rawls wished to avoid the informational conundrum of utility-immeasurability and interpersonal utility incomparability. But in Rawls' case this latter concern apparently stemmed less from objections to utility-measurement and utility-comparison per se than from objections to "life plan"-comparison. Respect for persons, Rawls argued, required respect for persons' "plans of life" as well as the "conceptions of the good" implicit in those plans. These latter were so multifarious and sacrosanct as to defy commensuration or comparative evaluation. But because certain "primary goods"—material resources and "the social bases of self-respect"—are so central to virtually anybody's pursuit of her conception of the good that no reasonable person would wish to be without them, Rawls argued, it was they whose distribution is the proper concern of justice; and they, like money or wealth, are largely measurable and interpersonally comparable, at least once the indexing problem is solved.

Like Kaldor-Hicksian "compensationist" consequentialists, then, Rawls in effect took a sort of "objective" social wealth rather than "subjective" utility as that which was to be distributed, even if that wealth was somewhat more complex than money-valued GDP alone, and even if that wealth was not, in his case, to be aggre-

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67 Rawls, Justice, supra note 22, at 99. See also id. at 54-55, 78-81, 348, 358-65 (discussing social justice as the basic structure of society). We shall have occasion to consider the technical difficulties raised by indexing infra Section 6.

68 See id. at 90-91 ("For questions of social justice we should try to find some objective grounds for [interpersonal] comparisons, ones that men can recognize and agree to.").

69 Id. at 407-16.

70 Id. For more on commensuration and commensurability, see infra note 81. For more on the importance of and the challenges raised by indexing, see infra Section 6.3.1. Rawls, arguably, like the Kaldor-Hicksians faces an index problem. See Richard Arneson, Primary Goods Reconsidered, 24 Nous 429 (1990) (arguing that Rawls faces an intractable indexing problem); Roemer, Distributive Justice, supra note 22, at 171 (largely agreeing with Arneson, but noting that under certain conditions, which it is difficult to imagine satisfying, the problem might be solved); but see Robert Hockett and Mathias Risse, Primary Goods Revisited: The "Political Problem" and Its Rawlsian Solution (under review by Economics and Philosophy; manuscript on file with the author) (arguing that Rawls's index problem is largely soluble under a relatively relaxed set of conditions). See also generally Robert Hockett, The Deep Grammar of Distribution: A Meta-Theory of Justice (unpublished manuscript, on file with the author) [hereinafter Hockett, Deep Grammar].

71 Which is not to say that gross domestic product ("GDP") or its valuation is especially simple. See supra note 41. On the "objectivity" of the index of primary
gately maximized. Unlike Kaldor-Hicksians, on the other hand, Rawls, through maximin, in effect required that the "compensation" actually be paid. Returning to the first hand, we should also note that, once more like the Kaldor-Hicksians, Rawls largely ignored what we might call "negative primary goods," or "primary ills"—i.e., handicaps and talent-deficits of sundry sorts. Much of the subsequent work of Amartya Sen, who has argued for equalizing "capabilities" or (human) "functionings," can be read as a supplement to Rawls in this respect. 72

The assorted difficulties and potential objections besetting Rawls' theory of justice would make for a book in themselves. 73 Perhaps most obvious among them is the controversial nature of Rawls's claim that maximin is a dictate of rationality itself. 74 Risk-aversion and taste for risk are, on most accounts offered by modern philosophical psychology and taken for granted by economists and other choice-theorists, tastes like any other—they are primitives, "givens," or, in the language of economists, exogenous—not subject to rational critique. 75 Rationality being a matter of the adapta-

72 See, e.g., works by Sen cited supra notes 18, 22, and 25. Much of Sen's work on measure theory is motivated at least in part by the concern of the capability approach in terms of realized functionings.

73 And have made, for plenty. See, e.g., ROBERT PAUL WOLFF, UNDERSTANDING RAWLS: A RECONSTRUCTION AND CRITIQUE OF "A THEORY OF JUSTICE" 3 (1977) ("[Y]et there are numerous serious inconsistencies and unclarities that make it appear that Rawls could not make up his mind on some quite fundamental questions."); READING RAWLS: CRITICAL STUDIES ON RAWLS'S "A THEORY OF JUSTICE" (Norman Daniels ed., 1975); BRIAN BARRY, THE LIBERAL THEORY OF JUSTICE: A CRITICAL EXAMINATION OF THE PRINCIPAL DOCTRINES OF "A THEORY OF JUSTICE" BY JOHN RAWLS (1973).

74 See, e.g., Kenneth J. Arrow, Some Ordinalist-Utilitarian Notes on Rawls's Theory of Justice, 70 J. PHIL. 245, 251 (1973) [hereinafter Arrow, Ordinalist-Utilitarian], reprinted in 1 ARROW, COLLECTED PAPERS, supra note 30, at 96 (noting that "it has, however, long been remarked that the maximin theory has some implications that seem hardly acceptable."); John C. Harsanyi, Can the Maximin Principle Serve as a Basis for Morality? A Critique of John Rawls's Theory, 69 AM. POL. SCI. REV. 594, 594 (1975) [hereinafter Harsanyi, Critique] (noting that the maximin principle can "lead to serious paradoxes because [it] often suggest[s] wholly unacceptable practical decisions").

75 For more on the psychological status of risk and probability, see infra note 173 and accompanying text. Additional concern with risk-aversion emerges infra notes 77-80 and accompanying text. Note that risk-aversion and the declining
tion of means to ends, tastes, as preferences for ends, are not themselves either rational or irrational. And since tastes for risk would seem to lend themselves to different distributional formulae

marginal utility of income—the latter exploited, as observed supra note 30 by such egalitarian-minded utilitarians and welfare economists who believed that society simultaneously could maximize and equalize— are mutual entailments. They are effectively the same thing. Risk-aversion, therefore, is effectively assumed by both egalitarian conceptions of justice thus far discussed.

These conceptions are welfare-maximizing egalitarianism and Rawlsianism. The form of egalitarianism that will be discussed in the next subsection pursuant to my own understanding of justice, and the space that equality occupies in that conception, crucially involve no such commitment.

76 This is of course the view, common since Weber canonized it, that Western (or "liberal") rationality since the time of Thomas Hobbes (and particularly in societies operating under capitalist modes of production) has been co-terminous with instrumental rationality. See generally MAX WEBER, ECONOMY AND SOCIETY 26 passim. (Claus Wittich & Gunther Roth eds., 1979). For a popular exposition of the same general point of view, see ROBERTO UNGER, KNOWLEDGE AND POLITICS (1975). See also George J. Stigler & Gary Becker, De Gustibus Non Est Disputandum, 67 AM. ECON. REV. 76, 76-77 (1977) (discussing the phenomenon of endogenous preferences calling into question the view that tastes are beyond rational critique). For more materials in connection with Stigler & Becker, see JON ELSTER, ADDICTION: ENTRIES AND EXITS (1999); JON ELSTER, ALCHEMIES OF THE MIND: RATIONALITY AND THE EMOTIONS (1999); JON ELSTER & OLE-JURGEN SKOG, GETTING HOOKED: RATIONALITY AND ADDICTION (1999); JON ELSTER, SOLOMONIC JUDGMENTS: STUDIES IN THE LIMITATIONS OF RATIONALITY (1997); JON ELSTER, SOUR GRAPES: STUDIES IN THE SUBVERSION OF RATIONALITY (1987); JON ELSTER, STRONG FEELINGS: EMOTION, ADDICTION, AND HUMAN BEHAVIOR (1999); JON ELSTER, ULYSSES AND THE SIRENS: STUDIES IN RATIONALITY AND IRRATIONALITY 36-103 (1979); JON ELSTER, ULYSSES UNBOUND: STUDIES IN RATIONALITY, PRECOMMITMENT, AND CONSTRAINTS (2000); Gerald Dworkin, Paternalism, 56 MONIST 64 (1972).

It should be noted that Rawls himself purports to operate under this "liberal" or "instrumental" conception of rationality. See RAWLS, JUSTICE, supra note 22, at 14 ("[T]he concept of rationality must be interpreted as far as possible in the narrow sense, standard in economic theory, of taking the most effective means to given ends."). It will not go unnoticed that rationality, on this conception, equates to efficiency.

It is worth noting that if the discussion were to adhere to a teleological view of human life and purpose, such as was evidently commonly done by (at least) European thinkers prior to the "voluntarist" revolution initiated by Scotus and Ockham early in the second millennium C.E. (severing the will of the deity from any form of rational plan intelligible to human reason), then even means-oriented rationality would be applicable to "ends," in that even the latter would constitute means of a course that set the stage for the Calvinist and Lutheran Reformations and the gradual decline of teleological Natural Law theories as accounts of law, justice, and human flourishing. On these matters, see, e.g., WILLIAM KNEALE & MARTHA KNEALE, THE DEVELOPMENT OF LOGIC (1962); JOHN MAURICE KELLY, A SHORT HISTORY OF WESTERN LEGAL THEORY (1992); JOHN RAWLS, LECTURES ON THE HISTORY OF MORAL PHILOSOPHY 6-7 (Barbara Herman ed., 2000).
likely to be chosen from behind the veil,\textsuperscript{77} Rawlsian justice accordingly looks to be little more than the universalization of Rawls’ own temperamentally cautious (dare one say “professorial”?) risk-preference set.\textsuperscript{78} The idiosyncrasy of that set is brought into particularly bold relief when one considers that maximin “implies that any benefit, no matter how small, to the worst-off member of society will outweigh any loss to a better-off individual, provided it does not reduce the second below the level of the first.”\textsuperscript{79} It seems rather much to claim that every rational agent would contract for that particular social insurance policy from behind the veil. We might thus say that utilitarian justice—along with simple aggregative consequentialist justice more generally—appears to attribute surprisingly little risk-aversion to hypothetical social contractors. It is difficult to believe that anyone would consent to a simple aggregate-maximizing distribution of initial resource-endowments (including talent- and familial-endowments) as if she were indifferent to the distributional variance and thus to what her birth-lottery

\textsuperscript{77} For example, why might an assembly of risk-lovers behind the veil not opt for maximax, whereby the endowment(s) of the best-off member(s) of the resulting society would be maximized? Some might argue that American society has begun to approximate such an assembly. \textit{See, e.g.}, ROBERT FRANK \& PHILLIP COOK, THE WINNER-TAKE-ALL SOCIETY (1995). Witness also the proliferation of casinos and the associated spread of what we might call “casino culture” throughout American society in recent years as evidenced by lotteries, television programs, etc. Perhaps the latter reflects less a love of risk than widespread irrational beliefs that we will all win.

\textsuperscript{78} Indeed, the universalization of “infinite” risk-aversion. \textit{See} Arrow, Ordinalist-Utilitarian, supra note 74, at 249 (discussing the derivation of Rawls’s specific rules); Harsanyi, Critique, supra note 74, at 595 (discussing how Rawl’s theory leads to irrational risk-aversion); L. Hurwicz, Optimality Criteria for Decision Making Under Ignorance, 370 STAT. 1 (1951) (stating that maximin scores a perfect “1” on a “pessimism index”); GEOFFREY A. JEHLE \& PHILIP J. REMY, ADVANCED MICROECONOMIC THEORY 260 (2d ed. 2001). Harsanyi drives the point home with a colorful hypothetical involving a person’s choosing not to cross a street in view of the fact that even the very slight risk of being injured by a passing vehicle suffices to offset whatever they might stand to gain by proceeding. \textit{See} Harsanyi, Critique, supra note 74, at 595. Note, again, that egalitarian minded maximizing utilitarians likewise are committed to risk-aversion. \textit{Id.} Section 6.2 notes vitiating, though rather less extreme, assumptions about risk-aversion in Dworkin’s proffered alternative to Rawls.

\textsuperscript{79} \textit{See} Arrow, Ordinalist-Utilitarian, supra note 74, at 251 (citing hypothetical to effect that “there can easily exist medical procedures which serve to keep people barely alive but with little satisfaction and which are yet so expensive as to reduce the rest of the population to poverty.”). It is intriguing, if not amusing, in light of this quote and that of Nozick, supra note 18, that Rawls might be said to favor the interest of what might be called “disutility monsters” or “risk holdouts.”
winnings and consequent place in the resulting society would likely be. Rawlsian justice, symmetrically, appears to attribute surprisingly much risk-aversion to the same hypothetical contractors.80

At least as compelling as the risk-aversion objection to Rawlsian justice for present purposes is that flaw which it actually shares, in significant though not in full degree, with the utilitarian justice that it was meant to displace—that is, the attenuated nature of the link that it provides between the size of the divided and distributed “pie” on the one hand, and the voluntary actions of those for whom the pie is being divided on the other. In the case of utilitarian (and for that matter Kaldor-Hicksian) justice, there seems to be little or no link at all, certainly no necessary, non-contingent one; distributions ultimately are to maximize total or average utility (or wealth, in the case of non-welfarists) irrespective of what the loci of utility—persons—do by way of enlarging or diminishing the same.81 In the case of Rawlsian justice, the only critical link is in

80 See supra note 78 for discussion on the “infinite risk-aversion” entailed by maximin.

81 A caveat might be in order. The routine rewarding of actions that tend to increase aggregate utility or wealth (provided that the costs incurred by that rewarding not then overly diminish the aggregate), and punishment of actions that tend to decrease the same (provided that the punishment not give rise to more disutility than it prevents) might be thought generally to tie the responsibilities of those rewarded and punished to the size of the “utility (or “wealth”) pie.” (It might even be thought to represent a reasonable concession by consequentialists to the problems of bounded rationality and uncertainty—the same conditions that account for the existence of institutions additional to rules in the theoretical work of practitioners of the “new institutional economics.” See infra Section 2.3. Consequentialism, after all, enjoins a decision-procedure, and what workable decision-procedure can afford to ignore the boundedness of human rationality in the making of choices?) But this would then be a matter of tendencies rather than strict act-by-act linkages between reward or punishment and responsibility. There would be no necessary, analytic, conceptual link between justice and responsibility, justice and desert. Nor would there be any sorting out between the degrees to which the outputs of the actions were attributable to bona fide efforts versus innate traits.

A community adopting policies such as those just countenanced would, in the prescribing of reward and punishment policies, effectively be promulgating publicly enforced rules of private behavior that would render its form of consequentialism “indirect” or “rule” consequentialism as distinguished from “direct” or “act” consequentialism. On the latter distinction, see, e.g., Smart, supra note 29, at 9 (“Act-utilitarianism is the view that the rightness or wrongness of an action is to be judged by the consequences, good or bad, of the action itself. Rule-utilitarianism is the view that the rightness or wrongness of an action is to be judged by the goodness or badness of the consequences of a rule that everyone should perform the action in like circumstances.”). Rule consequentialism’s venerable pedigree can be traced through, for example, Mill, in UTILITARIANISM AND OTHER ESSAYS, supra note 27, at 294-97; Roy F. Harrod, Utilitarianism Revised, 45
It is to be doubted whether a rule consequentialism that does not ultimately collapse into pure act consequentialism actually can be coherently maintained, which lends additional force to the observation just made that the ties between reward or punishment and responsibility under consequentialism will be contingent and conceptually attenuated at best. For consider, if in a given case I simply happen to know that my stealing from an innocent will bring favorable consequences (say that I plan to give the money to a medical research lab and the innocent was simply going to purchase a meal) and that it will not, in this case, undermine general observance (even my own) of the fundamental rule of justice prohibiting theft from the innocent (assume that the innocent party is morally conscientious but also morbidly shy, so that her victimization will result neither in her own corruption nor in her reporting the theft and that I am a scrupulous consequentialist—i.e., non-consequentialist—rules governing mortals when I can be quite certain both that I will do more good than harm in so doing and that I will not undermine general observance of those rules), what is there, in the rule-consequentialist calculus, to prevent my stealing from this innocent person? (After all, by hypothesis it will bring favorable consequences.) And would my doing so not nonetheless be unjust? Would Raskolnikov’s murder of the pawnbroker be unjust? See FYODOR DOSTOEVSKY, CRIME AND PUNISHMENT (Jessie Coulson trans., 1981) (1869). On the ultimate tenability of rule consequentialism, see RICHARD B. BRANDT, ETHICAL THEORY (1959); HARE, supra note 29, at 131-36; Richard B. Brandt, Toward a Credible Form of Utilitarianism, in MORALITY AND THE LANGUAGE OF CONDUCT 119-23 (H.N. Castañeda & G. Nakhnikian eds., 1963); DAVID LYONS, FORMS AND LIMITS OF UTILITARIANISM (1965); Smart, supra note 29, at 5; Williams, Utilitarianism, supra note 25, at 118-35.

The usual difficulties of measurement and comparison, in addition to the affront to pre-theoretic intuitions of personal responsibility and inalienable rights, would beset either rule consequentialism or act consequentialism—e.g., how to determine when the disutility of the criminally punished is less than the gained utility of those benefited by enforcement of the criminal code, etc. Again, see Smart, supra note 29, at 12-41. It should also be pointed out that rule utilitarians would have to face the questions as to whether and when, in view of inculcation costs, it is ultimately more utility-maximizing to reward utility-enhancing behavior or to penalize utility-diminishing behavior (or both). Answers to such questions would depend, among other things, upon whether the capacities of individuals to experience the utilities and disutilities of reward and punishment amounted to a scarce social resource and inculcation processes accordingly were subject to diminishing returns. On these questions, see BRAD HOOKER, IDEAL CODE, REAL WORLD: A RULE-CONSEQUENTIALIST THEORY OF MORALITY (2000); Louis Kaplow & Steven Shavell, Human Nature and the Best Consequentialist Moral System (2002) (unpublished working draft, on file with the author). It grows a bit mind-boggling to contemplate how all of these measurements—extending into an indefinite future—might be carried out.

For more on the special problems raised for consequentialism by an unbounded, uncertain future, in particular the “dare I eat a peach?”/“dare I not eat a peach?” sort of anxiety (excessive responsibility and “negative responsibility”) that it tends to induce and the ravages of the same upon personal integrity (and indeed the very concept of a person), see Smart, supra note 29, at 44-51 and Williams, Utilitarianism, supra note 25, at 82-118. See also John Broome, Incommensur-
the choice of the distribution-formula itself—a pretty thin gruel when one considers, first, that this choice is one which Rawls (albeit implausibly) claims must virtually by definition be made by any "rational" chooser from behind the veil, and, second, that there

able Values, in Well-Being and Morality: Essays in Honour of James Griffin (Roger Crisp & Brad Hooker eds., 1999), reprinted in John Broome, Ethics Out of Economics 145 (1999) [hereinafter Broome, Ethics]; Parfit, supra note 22. James Griffin seizes upon such problems in ultimately condemning consequentialism as necessarily mandating an unsuitable decision-procedure. See James Griffin, Value Judgement: Improving Our Ethical Beliefs 161-66 (1996); James Griffin, The Human Good and the Ambitions of Consequentialism, 9 Soc. Phil. & Pol'y 118, 118-32 (1992). As "ought" implies "can," and as consequentialism amounts to a cannot, consequentialism also proves to be an ought not. See id.

See Rawls's reduction of personal desert to institutionally determined entitlement, Rawls, Justice, supra note 22, at 88-89, 273-77; see also John Rawls, Justice as Fairness: A Restatement 72-74, 77-79 (Erin Kelly ed., 2001) (explaining desert in context of legitimate expectations, entitlement, native endowments, and distributive justice). As institutions are determined ultimately by the choice behind the veil, desert and responsibility likewise collapse into that one primal, all-determinative choice. I shall object to this treatment of moral desert, infra Section 2.3.

On the other hand, it should also be pointed out that Rawls' choice of an index of "primary goods" rather than welfare as that which is to be distributed according to maximin, see Rawls, Justice, supra note 22, at 54-55, 78-81, certainly at least lends itself to the allowance of more rein to personal responsibility than does welfarism. (In the language in supra notes 25 and 28, Rawlsianism is informationally somewhat richer than is utilitarianism.) For note that by distributing primary goods—i.e., the raw materials which people use in pursuing their "life plans"—rather than utilities, which the difference principle alone certainly does not dictate (one could be a maximin welfarist), Rawls implicitly is leaving persons to their own choices in building lives from raw materials. See Rawls, Justice, supra note 22, at 80 ("Justice as fairness does not look behind the use which persons make of the rights and opportunities available to them in order to measure, much less to maximize, the satisfactions they achieve."). The problem, however, is that the quantity of "primary good stuff" that Rawlsian citizens receive is not forthrightly tied to or adjusted in response to what they are born with or what they do apart from making their primal choice from behind the veil. Indeed, we might augment the Arrovian objection noted supra note 74 and accompanying text, by observing that some citizens might work very hard to earn 10x, and others might not work at all to end up with x, and maximin nonetheless would seem to warrant leveling all to 2x if such be possible. Ultimately, however, none of these criticisms is on entirely solid ground, for Rawls himself seems to have left the matter of primary goods-distribution theoretically underdetermined, inconsistently specified, or both. See Gerald A. Cohen, If You're An Egalitarian, How Come You're So Rich? 117-47 (2000); Roemer, Distributive Justice, supra note 22, at 166-85 (discussing primary goods, fundamental preferences and functioning); Gerald A. Cohen, Incentives, Inequality and Community [hereinafter Cohen, Incentives], in Equal Freedom, supra 22, at 331 (discussing arguments for and against inequality); Gerald A. Cohen, The Pareto Argument for Inequality, 12 Soc. Phil. & Pol'y 160 (1995).
is in the world we know a practical infinity of choices that everybody makes over the course of a lifetime which actually bear upon the ultimate size of the social aggregate to whose division justice speaks. Justice to the principle of individual responsibility, then, would seem to demand rather more than either the classical utilitarians, the Kaldor-Hicksians, or Rawls appear prepared to give. If justice be the outcome of a sort of “social contract” (implicit or otherwise), and if that contract as best specified in fact requires that the day-to-day decisions and resultant actions for which the deciders and the actors are properly accountable be charged to their “justice-accounts” and appropriately recompensed, then all three of the utilitarian, Kaldor-Hicksian, and Rawlsian social “contracts,” minimal, risk-attitude-presumptive and otherwise informationally impoverished as they are, look to be both radically and needlessly overbroad and incomplete. Whatever our attitudes toward risk, we’ve “contracted” for a good bit more.


It is with the weaknesses of utilitarian, Kaldor-Hicksian and Rawlsian justice in mind that this Article proposes its own sketch of what an informationally adequate, risk-attitude-neutral, and more finely meshed responsibility- and value-sensitive theory of distributive justice should look like. By providing insufficient at-

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83 See Arrow, Ordinalist-Utilitarian, supra note 74, at 259 (“Rawls is inexplicit about . . . incentive effects”); Dworkin, Sovereign Virtue, supra note 22, at 113 (observing that Rawls’s “difference principle is not sufficiently fine-tuned in a variety of ways.”); id. at 114 (suggesting that distributive equality is better viewed as “a matter of individual right rather than one of group position”); Roemer, Distributive Justice, supra note 22, at 166 (“Rawls is unfortunately vague on the relationship between labor choice and primary goods.”); id. at 237 (noting that personal responsibility is only “germinal” in the work of Rawls and Sen).

84 See Dworkin, Sovereign Virtue, supra note 22. Much of the cited work is devoted to elaborating a theory of equality that is “ambition-sensitive” without being “endowment-sensitive.” See id. at 108. I have tried to comprehensively elaborate the complex conceptual linkages among ambition, choice, responsibility, virtue, and fair distributive shares in Hockett, Market-Able Justice, supra note 17.

85 The theory is more fully elaborated in Hockett, Market-Able Justice, supra note 17. On informational sufficiency, see note 23 and 26, supra, and accompanying text. On contribution and detraction-information, complete (and relational) social contracting, justice accounting and contingent claiming, read on through
tention to the plethora of individual choices, actions, and ultimately habits which actually contribute to or detract from the common weal or social aggregate—what we might call, broadly, "social value"—consequentialist and Rawlsian justice alike give unnecessarily short shrift both to our disaggregated, day-to-day moral responsibilities and, therefore, to the behavioral prerequisites of value-productive efficiency. An optimally informed, sufficiently textured theory of justice will integrate the concept of justice, as did the Greeks, with the virtues, or at any rate with such behaviors as, particularly once they become dispositional, typically are accounted virtuous. This, in turn, will link justice both to a variety of social values—or, to be more precise, social "valueds"—and to a variety of value-expressive and -conducive social practices. It will thus link justice to what, in the modern era, we might call value-adding and value-expressing institutions, including markets, which in crucial part are normative (or norm-expressing or -enforcing) hence rewarding (or penalizing) structures. (Note, in anticipation of what follows infra, that risk-assumption is a service

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86 Hopefully this will be appreciated by the scrupulous value-nominalist (e.g., someone who is sympathetic to Little, supra note 27). The "social aggregate" can be taken here merely as a façon de parler, a convenient means of connoting—and usefully pool-analogizing—the familiar and intuitive idea that some actions which people take are "constructive," "productive," "beneficial," or world-improving (i.e., valuable and indeed valued, hence (and only in that sense) "adding" to the "total" of "good" or "value" in the world), while other actions wreak a contrary effect. No more objectionable metaphysic or ontic commitment need be found here than that entailed by such familiar concepts as "value-added" (to "add value" is simply to render more valuable), and by such familiar assertions as that "there is at least one prime number between the numbers five and nine," "there is at least one quality which that number possesses—the quality of being prime," etc. "To be is to be the value of a variable." See W. V. Quine, A Logistical Approach to the Ontological Problem, 9 J. UNIFIED SCI. 1 (1940), reprinted in W. V. QUINE, THE WAYs OF PARADOX AND OTHER ESSAYS 64 (1966) (approaching questions in terms of linguistic questions regarding the line between names and syncategorematic expressions).

87 For more on "the Greeks" and their linking of justice to the virtues, refer to: SUSAN BROADIE, ETHICS WITH ARISTOTLE (1991); NANCY SHERMAN, MAKING A NECESSITY OF VIRTUE: ARISTOTLE AND KANT ON VIRTUE (1997); ALISDAIR MACINTYRE, A SHORT HISTORY OF ETHICS (1967) [hereinafter MACINTYRE, ETHICS]; MACINTYRE, VIRTUE, supra note 22; A.W. ADKINS, MERIT AND RESPONSIBILITY: A STUDY IN GREEK VALUES (1960). It is not the case that we do or ought to see precisely the same traits as virtuous as did the Greeks; we do see some, as did they. Nor is it the case that we do or ought to confute virtue or merit with hereditary social status as did the Greeks at times. The point here is only that justice and virtue are deeply bound up with each other.
that we value and reward by the payment of insurance premiums.) An adequate account of justice therefore also will link justice to a form of implicit, ongoing, and relational “contracting” — i.e., to sets of desired and generally compensated actions and sets of legitimate expectations to which such actions give rise — which is much more “complete” than Rawls’ social contract. What I shall call “productive virtue,” then, provides a conceptually and empirically, social-interprettively rich, operationally suggestive, and heretofore missing critical link between modern justice and efficiency, and in so doing serves to mediate between social-contractual rights-based and deserts-based justice on the one hand, wealth-(broadly conceived wealth-) maximizing consequentialism on the other.88 Here, more precisely, is how.

On the theory here offered, justice is best understood, if crudely described, as (baseline-) “equality plus or minus merit”89 — i.e.,

88 “Wealth” here means something broader, fuller, and richer than the currently popular notion of wealth valued by money. See the remainder of this subsection; see also supra note 82; infra, and accompanying text. Because income-risk is the focus of this Article, it is largely concerned with what happens to be a money-valuable form of wealth.

As for “productive virtue,” note that although this is not the standard expected use of it, there has been what nonetheless is an instructive revival in contemporary moral theory of so-called “virtue ethics,” generally presented as an alternative to rights or justice-based “deontic,” or “deontological” theories, such as that of Rawls, and consequentialist (including utilitarian) theories. See, e.g., Anscombe, Modern Moral Philosophy, supra note 25 (often credited with having revitalized the movement); Peter Geach, The Virtues (1977); Philippa Foot, Virtues and Vices (1978); MacIntyre, Virtue, supra note 22; L. Blum, Friendship, Altruism and Morality (1980); Michael Slote, From Morality to Virtue (1992); Nomos XXXIV: Virtue (John W. Chapman & William A. Galton eds. 1992); Julia Annas, The Morality of Happiness (1993); Virtue Ethics (Roger Crisp & Michael Slote eds. 1997); Rosalind Hursthouse, On Virtue Ethics (1999); Peter Berkowitz, Virtue and the Making of Modern Liberalism (1999); Thomas Hurka, Virtue, Vice, and Value (2001). These works support my interest in the virtues, even if not always my return of the justice-focus to an embrace of the concept of virtue. An advantage of the theory is that it does not treat rights, consequences and virtues as strict alternatives or simple all-important Archimedean points, but as jointly (i.e., equally) essential and deeply interdependent features of a complete moral theory. I reject reductively deontological, consequentialist, and virtue-based approaches to ethics in favor of a comprehensive justice theory that analytically inter-relates all three.

89 Or desert. Desert and merit sometimes are distinguished. See, e.g., Miller, Principles, supra note 22, at 125 (giving a contemporary definition of the term merit as a person’s admirable qualities and of desert as something more specific for when someone is responsible for a certain result); J. R. Lucas, On Justice 166 (1980) (distinguishing merit and desert, using merit to refer to a man’s personal qualities and desert to the deeds he has done); J. R. Lucas, Responsibility 124-26 (1993) (defining merit as a feature that forms the basis for a rational decision and
equal (or equalized—e.g., compensated) initial endowments of benefit and burden, including opportunity and risk, all departures from which must subsequently be justified by reference to productive virtue or productive vice.\textsuperscript{90} The latter are such generally incul-
cated, habituated, often indeed self-constitutive, and ultimately chosen or novated behaviors as contribute to or detract from social well-being or wealth.91

Initial equality, prior to the actions for which agents can reasonably be held responsible or to account, is dictated by that impartiality or fairness that virtually all theories of justice take in one way or another as central to the concept.92 Such “starting gate”

Rather, such metaphors must be taken simply to convey the idea that no inequalities or increments of inequality (no differentials) through time not traceable to voluntary choices are justly to be tolerated. See generally, Hockett, Market-Able Justice, supra note 17. The equalizing task entailed by these conceptions when adequately construed implicates the conceptually aligned problems of value-pluralism, indexing, and commensuration. See notes 44, 77-82, 99, 331-39 and accompanying text on these matters. Though it does not seem to be remarked in the literature, the technical difficulties attendant upon those allied problems and what implicitly strikes different authors as the best means of dealing with them might account in considerable measure for the subtle differences among the cited conceptions of suitable baseline equality. See generally, Hockett, Deep Grammar, supra note 70.

91 “Ultimately chosen” means ultimately holding people responsible for conforming to or departing from the norms that we consider virtuous. In light of differing beliefs in the realms of philosophical or empirical psychology, societies may draw different boundary lines separating the (endogenously) willed and the (exogenously) compelled, but the point is that of the two, that which is considered virtuous will fall on the side encompassing choice, responsibility, and accountability.

On “social well-being or wealth,” social value in most, if not all modern societies, is plural in nature. My proposed theory of justice must reconcile justice with the foundations underlying philosophical pluralism and incommensurabilism, as well as “Arrow’s Theorem” and its variations. See Arrow, Social Choice, supra note 45. I must also deal with “objectionable preferences” of the sort that vitiate welfarist forms of consequentialism such as utilitarianism. See supra note 22. I have already analyzed literature on pluralism, incommensurabilism and social choice, arguing that value pluralists, incommensurabilists and self-purported Arrovians generally press their intuitions much further than considered judgment actually warrants. I have further elaborated how market-completion and de facto indexing through trade can greatly facilitate the “monetization” and pricing, thus mensuration, of contributive and detractive action without objectionably “alienating” or “marketizing” personal values. Hockett, Market-Able Justice, supra note 17; Hockett, Deep Grammar, supra note 70. Because the present essay is concerned principally with the simpler subject of justly distributing systemic risk to incomes, it should be assumed as already monetized and objectionable preference-laundered that social aggregate or well-being with which we are here concerned, can be understood in terms of valuable labor income.

92 See, e.g., Aristotle, The Nicomachean Ethics 257 (H. Rackham ed. 1934) (1926) (“The just” therefore means that which is lawful and that which is equal or fair.”); Immanuel Kant, Grundlegung zur Metaphysik der Sitten (1790), translated by Paton, supra note 58; Ackerman, supra note 22 (nobody “better than” anyone else); Barry, Impartiality, supra note 22, at 28-79 (justice as “impartiality,” and “mutual advantage”); Cohen, Self-Ownership, supra note 22 (justice as
equality is what ought to be, and generally is, construed a "fundamental right." ("All men are created equal, and endowed by their Creator with certain inalienable rights, . . . ."93) Before we distinguish ourselves from one another by our justice-accountable deeds, we are indistinguishable in the eyes of justice, and thus deserving of the same treatment, resources, opportunities, and risks—or at any rate of roughly equally weighted "baskets" of such benefits and burdens. In a word, we are initially deserving of equal regard.94 We begin with equality.95

93 The U.S. Declaration of Independence pmbl. (1776). The "and," is subject to the ejusdum generis canon; it associates equality and rights together, rather than simply joining them ad seriatum as disparate matters on a "laundry list."

94 DWORKIN, SOVEREIGN VIRTUE, supra note 22.

95 It is presumably for this reason that so few scholars take seriously the work of Nozick as an account of justice (as distinguished from a provocative meditation on the very idea of "distributive justice"). NOZICK, supra note 18. Nozick rejects what he calls "patterned," i.e. distributive, conceptions of justice (which include Rawlsian justice, utilitarianism, and welfare economics by his lights). He argues that the category of justice ought rather to be construed as historical in nature, pertaining to the method by which one has acquired title to that which she possesses. Id. at 149-60. Within this framework, he pays a limited form of obeisance to "baseline" equality by requiring, that one is only justified in appropriating resources from the natural environment ("w" in note 96, infra) for her exclusive use if in so doing she will leave no one worse off than had she left the resources unappropriated. See JOHN LOCKE, TWO TREATISES ON GOVERNMENT § 27 (Peter Laslett ed., 1967) (1741). Locke also would have imposed a non-waste requirement upon the appropriator. Id. Note that both the Lockean and the Nozickian proviso involve patterning. This means we cannot limit ourselves to historical conceptions of justice before history has got underway (i.e., at t0); history must at least begin at and proceed from some baseline distribution, i.e., pattern. But no sooner does Nozick offer this rough Pareto-fairness, baseline equality, proviso, but proceeds to argue that all succeeding patterns of distribution proceeding from these acquisitions via uncoerced transfers are just; implying by dint of the allocation of his argument-time that such would essentially be the world we actually inhabit were it not for the redistributive taxation that so exercises him—as if, that is, his proviso in fact had been met! But of course the proviso, even assuming that it were an ap-
But it is also a fundamental right subsequently (i.e., on the other "side" of the "baseline," ) to be rewarded and penalized, differentially, in accordance with such differential voluntary, valued or dis-valued, virtuous or vicious deeds for which we reasonably can be held responsible or to account—hence, in accordance with our "just deserts" and thus, ultimately, with our productive virtues and vices.96 That too is mandated by equal regard for persons as re-

propriate account of that baseline equality or impartiality that justice requires, is not met in the world that we actually inhabit. As a matter of actual history, the first acquisitions from which our current distributions descend cannot be said to have rendered nobody worse off than they would have been had the acquisitions not been made (or seized). More crucially, of course, there is no reason to accept the proviso itself in any event as a satisfactory account of baseline equality, for it impermissibly assumes that the baseline from which to measure the "worse off" / "not worse off" comparison is non-ownership rather than joint ownership, joint ownership being any departure from which people would have to bargain for separate allotments with the co-owners. See generally COHEN, SELF-OWNERSHIP, supra note 22, at 19-143 (arguing that self-ownership and equality of condition are compatible and explores an alternative to Nozick's theory about the external world that it is jointly owned by everyone, with each having a veto over its prospective use); ROEMER, DISTRIBUTIVE JUSTICE, supra note 22, at 205-35 (challenging Nozick's theory of justice by arguing that pristine natural resources are jointly owned in common); Allan Gibbard, Natural Property Rights, in LEFT-LIBERTARIANISM AND ITS CRITICS, THE CONTEMPORARY DEBATE 23 (Peter Vallantyne & Hillel Steiner eds. 2000) (advocating a private property arrangement where agents have an initial equal right to use external resources but no right to appropriate without the consent of others); JAMES. O. GRUNEBAUM, PRIVATE OWNERSHIP 80-85 (1987) (rejecting Nozick's state of nature justification of private ownership); HILLEL STEINER, AN ESSAY ON RIGHTS (1994) (arguing that for a set of rights to be just they must at least be mutually consistent); JEREMY WALDRON, THE RIGHT TO PRIVATE PROPERTY 253-83 (1988) (exploring some difficulties with Nozick's theory of historical entitlement). On Nozick's flaws more generally, see Hockett, Life is a Race, Which Nozick Ran Well (forthcoming) (manuscript on file with author) [hereinafter Hockett, Life is a Race].

96 See ARISTOTLE, supra note 92 (describing the relations among deserts, merits and virtues or vices). On this account of justice I am at least at the present level of abstraction, refuting the traditional distinction between so-called "distributive" and "retributive" (not to mention "corrective") justice. On "corrective" justice, see JULES L. COLEMAN, RISKS AND WRONGS 361-406 (1992) (stating that corrective justice responds to losses by wrongdoing, by imposing a duty on individuals to repair). Likewise, "substantive" and "procedural" justice. Finally, of that between what Nozick calls "patterned" and "historical," "entitlement" conceptions of justice. NOZICK, supra note 18, at 153. Justice is all about impartiality at t₀, when the activity subject to justice-evaluation begins, followed by subsequently earned departures from that baseline, in the form of benefits and burdens at t₁, t₂... tn. One may earn benefits—favorable distributions or burdens—unfavorable distributions. Since "earning" is determined by valuation of one's deeds, and since values—as valued by those who reward or penalize actions—are all that are meant by the term "substance" in discourse on "substantive justice," so-called "proce-

dural" justice has always to do with justice at the "starting gate," at "t₀." They are
sponsible agents. Distributions therefore are rightful and just, on
the theory I am advocating, insofar and only insofar as they reward
virtue, penalize vice, and thus conduct—because virtues con-
duce—to aggregate social well-being, or wealth. The “insofar” en-
tails deserts-grounded recompense. The “only insofar” entails
baseline—or “starting gate”—equality. Any inequalities not thus
chargeable to the “virtue-“ and “vice-accounts” of individuals are
perforce unjust and, through their erosion of productive incentives,
actually tend to diminish aggregate well-being.97

It bears emphasis that justice and efficiency, rather than constitu-
tuting simple substitutes or “trade-offs,”98 are in considerable

therefore synonymous with simple “fairness” or “equal treatment.” That is, pro-
cedures do not implicate substantive values other than those of fairness or equal
treatment itself, hence do not implicate the idea of “earning” or justified depart-
tures from baseline, and are required in justice to afford nothing other than fair-
ness or equality of treatment.

Note that I am hereby committing myself to the possibility of a “right to pun-
ishment,” a notion often attributed to Kant and thought idiosyncratic. I hope that
the present argument will make clear why that is not really so odd a locution. The
perceived oddity is the joint product of: a) its being “natural,” as it were by defi-
nition, for one not to desire what we call “punishment,” and b) our adversarial litiga-
tion- and homo economicus-influenced contemporary culture’s assumption that it
is also natural for parties to be more concerned that their preferences be satisfied
(with “winning”) than that rights be respected or that justice be done, hence to
run rights and desires together. Since we tend to think of rights as things (or
claims to things) that we want, and since we tend to self-interestedly think of jus-
tice, when it dictates outcomes contrary to our own self-interest self-interestedly,
as something “natural” (and therefore in some sense even legitimate, and there-
fore “justified”) not to want, it rings peculiar to suggest that one might have a
right to that which justice requires but which we do not prefer for unjust, unjusti-
fied and self-aggrandizing reasons—prefer.

There is substantial psychological literature on the therapeutic nature of pun-
ishment among those who believe that their unjust behavior makes them deserv-
ing of punishment, as well as faced by those who have evaded punishment de-
spite their guilt. The subject also has made for some very great art. See, e.g.,
DOSTOEVSKY, supra note 81; WILLIAM SHAKESPEARE, THE TRAGEDY OF HAMLET,
PRINCE OF DENMARK (Folger ed. 1979 [15xx/16xx]); WILLIAM SHAKESPEARE, THE
TRAGEDY OF MACBETH, KING OF SCOTLAND (Folger ed. 1978 [15xx/16xx]). Some of
these lessons seem to have found their way into the “corrective or community jus-
tice” movement. Perhaps we find here further evidence, then, of a sort of “hard-
wired” or at any rate “cognitivist” understanding of, and even need for, justice.
For more on that possible “wiring” and “cognitivism,” see sources cited supra note
18; infra notes 99, 126.

97 See infra notes 101-102 and Section 4.3, for a partial caveat to and further
discussion on this point. On “aggregate well-being,” see supra notes 88 and 91.
On incentives and their erosion, see sources cited supra note 18; infra Section 4.3.

98 See, e.g., ARTHUR M. OKUN, EQUALITY AND EFFICIENCY: THE BIG TRADE-OFF
(1975); JOSEPH E. STIGLITZ, ECONOMICS OF THE PUBLIC SECTOR 93-124 (3d ed. 2000);
measure essential complements mediated by virtue. Insofar as benefits and burdens accrue to truly voluntary actions, as distinct from accidental personal characteristics such as innate capacities (e.g., handicaps or talents) and parental wealth or status, all of which must in justice be roughly equalized through endowment-compensation or -adjustment, a distribution cannot be efficient unless it be just (and vice versa), while neither efficiency nor justice may be obtained absent what ends up being the general rewarding (or "incenting") of virtue and penalizing (or "disincenting") of vice through the social-economy's responsibility-sensitive incentive structure.99

99 Several other writers, with varying degrees of explicitness, have drawn some links between justice, merit, and social value, usually by undrawn implication, efficiency as well. Professor Sen does so tentatively in the introductory chapter to a recent collection of essays edited by Professors Arrow, Bowles, and Durlauf. See Arrow et al., MERITOCRACY, supra note 98, at 5-16. David Miller provides an unsystematic, overinclusive, and ultimately unsatisfactory mélange account of justice in MILLER, PRINCIPLES, supra note 22, and MILLER, SOCIAL JUSTICE, supra note 22, at 17-153 (Miller includes "need" as a source alternative to equality and desert of valid justice claims; but it is clear that need implicates justice as distinguished from charity only insofar as it is rooted in differential initial endowments). Joseph H. Carens's work is quite intriguing, but his prescriptions rest ultimately upon an
It is also worth noting that, as with Rawls' (and Harsanyi's
unnecessary and likely futile hope to restructure incentives wholesale in the direction of full altruism. See Joseph H. Carens, Equality, Moral Incentives, and the Market: An Essay in Utopian Politico-Economic Theory (1981) (proposing an egalitarian politico-economic system where utilization of the market is combined with equal distribution of income by making use of moral incentives). Alisdair MacIntyre, in the two monographs cited supra note 22, engages in a good deal of provocative and pessimistic but ultimately misguided discussion of the impossibility of coherent accounts of justice in societies, like ours, in which the Greek concept of a practice has, as he alleges, been lost; this discussion certainly implicates links between justice, merit, and social value. Dworkin is at least attentive (quite so) to some important links between justice, responsibility (in the forms of "ambition" and accountability for what we might term the "social opportunity-costs" that one's consumption choices impose upon others) and market value (via Walrasian auctions). Dworkin, Sovereign Virtue, supra note 22. It is part of my task to draw out further and generalize these and a number of what seem to me to be important related links, in particular that with efficiency.

As the previous footnote highlighted, insofar (and only insofar) as innate talents and handicaps enter into productivity, justice and efficiency can diverge. Where we speak of efforts, hence incentives, however, the two goals are on my theory fully reconcilable. I treat incentives and their significance in considerable detail in Hockett, Market-Able Justice, supra note 17. Serviceable surveys and syntheses of recent work done in this area in the economics literature include Jean-Jacques Laffont & David Martimort, The Theory of Incentives: The Principal-Agent Model (2002) (note that, as will become clearer in the remainder of this subpart, on my theory members of society are reciprocally "principals" and "agents" to each other); Jean-Jacques Laffont, Incentives and Political Economy (2000); Donald E. Campbell, Incentives: Motivation and the Economics of Information (1995); James Mirrlees, Information and Incentives: The Economics of Carrots and Sticks, 107 Econ. J. 444 (1971); see also Jean-Jacques Laffont & Jean Tirole, A Theory of Incentives in Procurement and Regulation (1993); Samuel Bowles & Herbert Gintis, Does Schooling Raise Earnings by Making People Smarter?, in Arrow et al., Meritocracy, supra note 98, at 118 (contending that schooling contributes more to "incentive-enhancing preferences" than to actual cognitive ability).

Incentives, regrettably, do not appear to have figured prominently in the philosophic literature. I attempt to remedy that in Hockett, Market-Able Justice, supra note 17. Other work includes Carens, supra; Cohen, Incentives, supra note 82, reprinted in Equal Freedom, supra note 22, at 331 (largely, alas, toeing the Carens line); Sen, Interpersonal Comparisons, supra note 36, at 291 (arguing that entitlement and instrumental arguments for distributions, the latter of which would embrace incentive arguments, must be distinguished). Sen's assertion is surely correct, but it also should be borne in mind that entitlements are determined in considerable—indeed, decisive—measure by institutions (e.g., promising, contracting, being paid, etc.). These institutions, in turn, generally take the forms that they do—or to include the rewards and penalties that they do with a view to the additive and detractive effects on the social welfare that they will bring about. For an additional discussion on the "positive" and "evolutionary" nature of institutions and their more normative and conceptual (indeed probably tautological) relations to socially additive and detractive behavior, see infra, this subsection.
"veiled" utilitarian) account of justice,\textsuperscript{100} one can discern an implicit contractual structure embedded in the theory here offered. Indeed, the contractual nature of this theory is rather more transparent and empirically grounded than is Rawls’s (and Harsanyi’s). Recall that justice on my account, like that of the ancients, is understood to be the giving of every person her “due”\textsuperscript{101}—her deserts. That due begins—at each person’s birth—with the right to baseline equality before the deeds-based “deserts-earning game” gets underway. The due—the “justice-” or “deserts-account”—then embraces subsequently earned deserts, themselves rights, to subsequent departures from the baseline earned through voluntary, reponsible, productively virtuous or vicious (i.e., consequentially value-adding or -detracting) behavior. Now note that this post-starting gate “deserts-earning game” bears an essentially contractual, reciprocal, exchanging, quid pro quo or tit-for-tat structure.\textsuperscript{102}

\textsuperscript{100} See Rawls, Justice, supra note 22, at 12 (“The principles of Justice are chosen behind a veil of ignorance”).

\textsuperscript{101} See, e.g., Plato, The Republic 28 (H. Rackham trans. 1931) (“Justice, then, is giving every man that which is his due.”); Aristotle, supra note 92, at 257 (“Now the term ‘unjust’ is held to apply both to the man who breaks the law and the man who takes more than his due, the unfair man.”). See generally Adkins, supra note 87, at 38-43; MacIntyre, Ethics, supra note 87, at 136; Terrence Irwin, Plato’s Ethics 155-64 (1995).

\textsuperscript{102} There is a vast literature, originating in a number of generally segregated disciplines that supports the fundamentality of symmetry and reciprocity. Some of this literature centers upon reciprocity as the basis of social cooperation, while other strands focus on exchange relations as the root of perceived fairness and justice. These two concepts appear themselves to be closely aligned. Rawls, for example, is concerned with what he calls “Schemes of Cooperation,” “Social Union,” and “Morality of Association.” Rawls, Justice, supra note 22, at 211-16, 520-29, 467-72 respectively. There is also a distinct strand of reciprocity thinking in communitarian literature, and to some extent the “law and social norms” literature. However, the latter, insofar as it construes social norms of conformities, tends to play the “take” of reciprocity a bit more than the “give.” See generally Eric A. Posner, Law and Social Norms (2000) [hereinafter Posner, Law and Social Norms] and sources cited in the bibliography thereto. It thus looks to be rather more a ruthless completion of the “law & economics” program than a competing mode of understanding.


For the social psychological literature on "equity theory" see generally the derived from the work of Blau and Homans, supra. ARISTOTLE, supra note 92. See, e.g., J. Stacey Adams, Toward an Understanding of Inequity, 67 J. ABNORMAL & SOC. PSYCH. 422 (1963); J. Stacey Adams, Inequity in Social Exchange, in ADVANCES IN EXPERIMENTAL SOCIAL PSYCHOLOGY 267 (Leonard Berkowitz ed. 1965) [hereinafter Inequity in Exchange]; M.A. Hogg & D. Abrams, Social Identifications: A Social Psychology of Intergroup Relations and Group Processes (1988); ADVANCES IN EXPERIMENTAL SOCIAL PSYCHOLOGY: EQUITY THEORY: TOWARD A GENERAL THEORY OF SOCIAL INTERACTION (Leonard Berkowitz & Elaine Walster eds. 1976); Elaine Walster et al., New Directions in Equity Research, 25 J. PERSONALITY & SOC. PSYCH. 151, 152 (1973) ("Outcomes" are "the positive and negative consequences that a scrutineer perceives a participant has incurred as a consequence of his relationship with another." "Inputs" are "the participant's contributions to the exchange, which are seen by a scrutineer as entitling him to rewards or costs." "Positive" inputs are "assets," "negative" inputs "liabilities"); Elaine Walster & G. William Walster, Equity and Social Justice, 31 J. SOCIAL ISSUES 21 (1975); ELAINE WALSTER ET AL., EQUITY: THEORY AND RESEARCH (1978); P. W. Blumstein & Eugene A. Weinstein, The Redress of Distributive Inequity, 74 AM. J. SOC. 408 (1969) (analyzing productivity-harming responses to perceived unjust treatment).


Fourth, for the "experimental economics" (originally psychological or sociological) literature on the roles of real and perceived fairness, free-riding, dictating and ultimatum-issuing in reciprocation, bargaining and other game-theoretic settings, see, e.g., John O. Ledyard, Public Goods: A Survey of Experimental Research, in HANDBOOK OF EXPERIMENTAL ECONOMICS 111-194 (John H. Kagel & Alvin E. Roth eds., 1995) [hereinafter EXPERIMENTAL ECONOMICS]; Alvin E. Roth, Bargaining Experiments, in EXPERIMENTAL ECONOMICS, id. at 253-348; see also Binmore, supra note 22.

Fifth, for the "law & social norms" literature, catalogued as of 2000, see Posner, Law and Social Norms, supra. Finally, for some of the canonical "communitarian" and "social capital" literature, see, e.g., Robert N. Bellah et al., Habits of the Heart: Individualism and Commitment in American Life (1985);
Justice, once we're past "square one," has to do with kinds of trading.

Schematically, the structure of the "deserts game" unfolds thus: "If I/you do \( \delta \), then you/I are/am to expect, have reason to expect, have a right to expect—"it is right" so to expect—have earned, deserve, \( \varepsilon \)." Any movement from a neutral baseline that precedes an interaction—i.e., the commencement of any transaction—implicates, or engages this fundamental social structure. (Such transactional baselines, of course, emerge, are passed, subside, then re-emerge. If you say "hello" to me, I am expected to reply. But you need not reply to my reply unless my reply calls for it. If it doesn't, we've returned to baseline.) It should be kept in mind that the \( \delta/\varepsilon \) relation need not always be person-to-person, even if it generally is so. Where risk is potentially involved with one's deserts, for example, one might "bargain with" (or "tempt") "fate"; if I know or have reason to know that by doing \( \delta \) I affect the likelihood of \( \varepsilon \), for example, then to the degree (and only to the degree) that I know or have reason to know that, my doing \( \delta \) can be said to warrant, and I can be said to deserve, \( \varepsilon \). That fate will be among my "just deserts." I might also, of course, be able to trade the bearing of the risk of \( \varepsilon \) to another person. If I pay that person a "premium," for example, that person herself "deserves"—has contracted for and undertaken to bear—the risk of \( \varepsilon \), should it come to pass. In such cases I shall refer to \( \varepsilon \) as the act of bearing the risk, and use a new variable, \( \psi \), to designate the risk—the eventuality borne— itself.

The ongoing, reciprocal nature of the deserts-earning game renders it formally equivalent to a manner of relational contract comprising an indefinitely extended sequence of what in legal par-


In this connection, Pareto gradually converted from being an "economist" simpliciter to being a "sociologist" because the former approach was entirely too simple. See, e.g., Pareto, Mind & Society, supra note 43. A similar dissatisfaction (in this case with "law and economics") seems to underlie the movement toward interest in "law and social norms." See Posner, Law and Social Norms, supra. In the idiom of the present essay, we might say that such stories are cases of a perceived need for more "informationally enriched" accounts of the phenomena under consideration.
lance often are termed "expectancies" and "considerations" (one "expects" e "in consideration of" δ). The contractual nature of this picture of ongoing reciprocal exchange behavior is both more plainly "contractual"—at least in the workaday lawyer's sense, and surely the economist's as well—and more empirically plausible than that put forth by Rawls (and Harsanyi). Rawls's "contract" is, first, a "one-off" affair, amounting to a single, forthrightly fictitious, primal decision said ultimately to guide society's distribution of benefits and burdens once and for all; it doesn't matter what people subsequently do. But a society's (at least a largely privately ordered society's) distribution of benefits and burdens continually shifts—just like the credits and debits to accounts maintained by, and/or held with, financial intermediaries and other firms—through the ongoing exchange relations engaged in by its members over time. There are generally as many shifts as there are transactions or interactions, and it is arbitrary, mistaken, or both to assume that these interactions themselves do not implicate the question of justice. The real justice question—what we might call the necessary "micro-justice" question—is the degree to which each of these shifts, each of these completed transactions, is distributively just. It is a question of ongoing justice-accounting, thus of an ongoing relational justice-contract applied to the terms of these ongoing exchanges. Rawls's single, once-for-all, "macro"-contract is unnecessarily and vitiatingly insensitive to this dynamic, ever-changing micro-texture. It simply does not include such manifestly justice-pertinent information among its terms.

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104 We might even draw an analogy between the relation in which this theory stands to that of Rawls, on the one hand, and that in which "behavioral law & economics" and "law & social norms" stand to "law & economics" on the other. But I would not wish to push the analogy very far.
105 See RAWLS, JUSTICE, supra note 22; see also discussion supra notes 54-55 and accompanying text.
106 The starkest symptom—and the likely cause—of Rawls's failing here is his altogether unsatisfactory treatment of moral desert. See supra note 82; infra, note 117. Rawls appears to have been so enamored with the idea of justice as the outcome of a single rational choice, or one-time veiled bargain, that he scarcely attended to moral desert at all. One cannot help but think he simply brushed it off because it didn't fit into the "veil" picture that had been his focal point. Perhaps he saw the social contractarian tradition as the only immediately apparent alternative to the then-dominant utilitarian. I offer this diagnosis only because Rawls's book is otherwise so immensely impressive, so thoroughly considered as regards to other matters, that one cannot attribute the short-shrifting of desert to mere in-
Rawls's contract is, secondly, only degenerately contractual (at least insofar as contracts are essentially reciprocal in nature), in that the decision under the veil is construed to be that which any rational individual would make under uncertainty. It is less the literal product of actual reciprocation and exchange than it is the outcome of a (highly risk-averse) rational choice algorithm, said to characterize the decision of a single, ideal agent.\(^{107}\) (This is of course a central reason for the presumptive-risk-aversion objection to Rawls's social contract. It is not only that he presumes "infinite" risk aversion, but also that he assumes that everyone would purchase what I am calling the very same "insurance policy." ) Again, the account of justice that I offer here would look to be more perspicuously contractual—because reciprocal—in nature than Rawls's. The account is both more realistically dynamic and "relational," and more forthrightly symmetrical than Rawls's.

The contract also is, in this connection, more "complete" than is Rawls's.\(^{108}\) Because of its continuous unfolding and its overarching structural governance of ongoing trans-temporal exchange relations or transactions among persons—that is, because it is normatively binding upon each element in the ongoing sequence of exchanges or transactions over time—the theory's conception of justice "remains active," as it were, ever watchful over all exchanges, formal and de facto, over time as persons engage in countless behaviors and take countless decisions that affect others and, thus, the social aggregate or commonweal.\(^{109}\)

Though the contract is more complete than Rawls's, I emphasize that it nonetheless is inherently and necessarily "incomplete"
in the sense articulated by practitioners of the new institutional economics ("NIE").\textsuperscript{110} (That is part of what "relational contracting" as modeled by the NIE is, after all—a means of dealing with necessarily incomplete contracts rendered necessarily incomplete by incomplete information, or uncertainty, about the future.\textsuperscript{111}) The social contract proffered here is incomplete in the sense that what count as benefits and burdens, values and disvalues (or "valueds" and "disvalueds")—hence what count as productive virtues and vices—are determined as such by societies and sub-societal institutions, such as prize-carrying games, sanction-bearing norms, payment-awarding markets, and so on. In the terms of the $\delta/\varepsilon$ relation noted earlier, the $\delta$'s and $\varepsilon$'s are variant among societies and sub-societal institutions across space and over time; the basic $\delta/\varepsilon$ "contract schema" is therefore, and in this sense, "unsaturated" or "incomplete." This degree of incompleteness seems desirable if we are to allow for some degree of exogeneity of individual and social valuation across space and over time.\textsuperscript{112}


\textsuperscript{111} See HART, supra note 110, at 21-28 (describing the transactional costs associated with contractual incompleteness).

\textsuperscript{112} Note however, that the basic schema itself, as further discussed in the next paragraph in the text, entails certain limitations upon what may justly be valued. For example, the schema itself would invalidate holding someone to "deserve"
On the other hand, it must be emphasized that the schema or basic contractual structure—the reciprocal δ/ε relation, and hence the entailment of ε's by δ's—is invariant through time and across societies and institutions. That structure is what justice, in its essence, is. (This is "the basic structure."\textsuperscript{113}) Moreover, it is a logi-

some "penalty" for what she cannot reasonably be thought to have done voluntarily. So would certain grossly disproportionate "payoffs," as discussed infra, note 126 and accompanying text. Finally, particularly in the event that the "doer" (or "do-ee") lacks any opportunity to seek alternative society with others who value deeds differently (in which case the social "contract" would be one of adhesion), certain basic rights place constraints upon what general social values may rightfully "weigh" against one's own. We might imagine, for example, a society in which a majority "valued" harm inflicted upon members of some minority and those who loved members of that minority. If that minority were racially identified, then justice's equal initial endowment component would prohibit the general social valuation, at least as regards the members of the minority. But lovers of members of the minority, or members of that minority themselves if the minority were not identified by dint of ineluctable personal features, would not be thus protected; they would have to be protected either by supplemental fundamental rights apart from justice, or by appeal to some deeper value underlying justice itself, e.g., respect for human agents, rational natures, sentient beings, etc. In the first case we would be introducing "rights as trumps" in the Dworkinian sense. \textit{See} Dworkin, \textit{Sovereign Virtue}, supra note 22, at 45-47 (illucidating objective theories of welfare). The rights would in effect bracket-off certain matters as legitimate subjects of social valuation (or disvaluation), a kind of mandated incommensurability. In the second case, we would be seeking one "master value" in which to ground all others, e.g. "human dignity" or the like. In this latter connection the notion of desert as a "status concept," mentioned supra note 89 and discussed at greater length in Hockett, Market-Able Justice, supra note 17. Justice's equality component itself, as well as its "tit-for-tat" deserts component, would then be grounded in a sort of "basic desert," e.g., the deservingness of all responsible agents for respect as responsible agents, agents whose responsibility demands respect for certain fundamental agent-constitutive valuations, initial ("baseline") equality, and deserts responsive to deeds. Hockett, Market-Able Justice, supra note 17.

\textsuperscript{113} See Rawls, \textit{Justice}, supra note 22, at 84 ("The basic structure is a public system of rules defining a scheme of activities that leads men to act together so as to produce a greater sum of benefits and assigns to each certain recognized claims to a share in the proceeds."). Note that symmetry, as embedded in the basic structure here discussed, has figured prominently throughout the ages in conceptions both of justice and of beauty—hence, the frequency with which, historically, the two ideas have been tied. \textit{See}, e.g., Plato, \textit{Republic} 546a-547a (justice, cubes, perfect numbers); Aristotle, \textit{supra} note 92, at 269 ("Justice is therefore a sort of proportion; for proportion is not a property of numerical quantity only, but of quantity in general, proportion being equality of ratios, and involving four terms at least."); St. Augustine, \textit{De Musica} (W.F. Jackson Knight trans.), selections reprinted in \textit{Philosophies of Art and Beauty: Selected Readings in Aesthetics} from Plato to Heidegger 186 (Albert Hofstadter & Richard Kuhns eds. 1976) ("The higher things are those in which equality results."); Kant, \textit{The Critique of Judgment} 33 (James Creed Meredith trans., 1980) (1928) ("The result is that the aesthetic judgment refers not merely, as a judgment of taste, to the beautiful, but also, as spring-
cal—indeed, tautological—entailment of this relation that a) before the "game" of doing sundry "payoff"-awarding or -deducting deeds gets underway (i.e., at the baseline), all deserve the same, or baseline, equality—for before the game is underway, no one deserves anything more or less than anyone else; and b) what counts as a prize, sanction, or payment—an "e"—will be more or less equi-valued in terms of other valueds (or of an index of such valueds—e.g., a price-level where there is frequent exchange, hence market liquidity, and a numéraire good (money)\(^{114}\)) in relation to the deed that merits the prize, sanction or payment. That is, by definition a society in aggregate will tend to maintain a proportionality between deeds and deserts, to value the deed as much or as little as it values the generally offered recompense.\(^{115}\)


\(^{115}\) If it did not, and the deeds and their merited recompenses were frequently exchanged, there would be an arbitrage opportunity and a consequent inherent instability. A tendency would result for the recompenses to move into sync with the perceived value of the deeds as more people "paid" more to ensure that the deeds were done for them, or, alternatively, for the deeds to become more rare (and hence again, more dear).

This fact, along with the conceptual tie that binds proportion to equality, seems to account for the frequency with which justice has historically been equated with or linked to notions of measure (including musical measure) and proportion. See, e.g., Aristotle, supra note 92, at V.6.1134a25-b17 (justice as proportion and "proportion being equality of ratios"); Aristotle, id. at MM 1194a18, 25; St. Augustine, supra note 113. See also Scott Meikle, Aristotle’s Economic Thought (1995); M.I. Finley, Aristotle and Economic Analysis, 47 Past & Present 3 (1970); M. I. Finley, The Ancient Economy (1973); Josef Soudek, Aristotle's Theory of Exchange: An Inquiry into the Origin of Economic Analysis, 96 Proc. Am. Phil. Soc. 45 (1952).

Note also in this connection the findings reported in the sociological literature noted supra note 102, to the effect that subjects believe that there should be proportionality between "inputs" and "outputs," and that the same such ratios should obtain among all who make those inputs and receive the consequent outputs. See, e.g., Sociological Approaches, supra note 102, at 154 ("There is a general feeling that returns should be proportional to costs and investments."); Justice in Exchange, supra note 102, at 194-95 ("[M]en compare themselves with each other in terms of their investments as well as in terms of the rewards they receive from their services and expect differences in the latter to correspond to differences in the former. This satisfaction depends not only on the absolute amount of reward they receive for their services but also on the fact that the expectations raised by
In this sense, the account of justice offered here views society, justice, and the just society as a two-tiered structure of contingent claims (claims of the earlier elaborated form “If I/you do δ, then you/I should receive, and have a right to expect, i.e. deserve, ε.”). The first, “lower,” tier is a set of contracts constituting, formalizing, or expressing the implicit normative force of exchange relations among pairs or groups of constituent members of a society, sub-society, market, or other organization. This tier and its continuous structural tie to the second tier are largely ignored by Rawls; they are the domains of “missing information” that an adequate theory of justice must factor into its account. The second, “higher” tier roughly corresponds to Rawls’s “basic structure,” but is much more tightly interwoven with the lower tier embodying it than Rawls seems either to allow or to appreciate. It is a sort of

the comparisons are not disappointed.”); Inequity in Exchange, supra note 102, at 281 (“Op/IP = Oa/la,” i.e., p’s ratio of deeds to rewards should equate to a’s ratio of deeds to rewards—the so-called “linear equity criterion,” which subsequent authors attempt to refine with nonlinear models in some contexts).

Note that there is but one contingency here. When we reach formal “contingent claims contracts” at infra Sections 5 and 6, there will be two contingencies: the contractual “consideration” and the “insurable event.” Hence, there will be three relational variables; “If I do δ (pay a premium) and ψ (the insurable event) occurs, then ε (indemnification).” (Schematically, the simple contingent claim might be rendered “δ ≡ ε,” the state-contingent claim “δ,ψ ≡ ε.”) Where it is necessary, I will distinguish between these two-termed and three-termed contingent claiming relations by referring to the first simply as “contingent claims,” to the second as “state-contingent claims.”

The starkest symptom is Rawls’s inadequate handling of moral desert. Rawls effectively makes the same equation that I do in connecting moral desert to just entitlement (in his case, reducing the former to the latter), while at the same time claiming to reject the equation in arguing that desert should not be conflated with legitimate expectation. See RAWLS, JUSTICE, supra note 22. It is my claim that just entitlement and legitimate expectation are in fact the same, and thus that desert and legitimate expectation are the same. Rawls also complains: a) that desert and the criteria of deservingness do not admit of precise definition, b) that in markets people do not receive deserts, in part because demand is determined by scarcity, and c) that effort does not qualify as a desert basis because effort is rooted in natural capacities. These are exceedingly odd objections. As to the first, it is commonplace that moral concepts are irreducible to non-moral ones, but that does not render them unusually imprecise or unusable. Think of how many non-moral concepts are entirely usable though their contours admit of occasional “hard cases” in application “baldness,” for example, since at least the time of the Sorites paradox. Moreover, once we adopt a schematic like I have proposed in this subsection, the notion of desert seems no more imprecise than those of Rawlsian “fairness” or “indices of primary goods.” As for the market, why should the satisfaction of demands for that which is scarce rather than abundant be undeserving? Am I not more deserving in satisfying wants than in “providing” more of what is had to those who already have? Finally, as for the putative rootedness
contract blueprint, contract-schema, master contract, or meta-contract—in a word, the social contract—to which all of the lower tier contracts conform, which in fact they instantiate, or replicate. It is more complete than Rawls’s social contract, and likely as complete as can be expected in view of a) uncertainty as to future individual and societal evolution in the face of unknown future contingencies, and b) the consequent prudence of societies’ and their members’ retaining a free hand in dealing with the uncertain future as it continuously unfolds. We presumably will wish to allow consequent exogenous cross-societal differences and trans-temporal societal evolution. Finally, both because this contract is necessarily incomplete and because it is more empirically rich than is Rawls’s, the social contract I envisage is more clearly relational than Rawls’s.\(^{118}\)

I note, finally, that notwithstanding that this contract offers a more realistically dynamic, ever-unfolding, or diachronic nature than Rawls’s single, primal choice model, it would nonetheless seem more likely to be chosen in some primal social choice situation behind the veil than would Rawls’s (and Harsanyi’s).\(^{119}\) And this is so irrespective of the parties’ attitudes toward risk.\(^{120}\) Consider, insofar as the parties behind the veil are impartial (in which case the veil is unnecessary, but let’s assume its use anyway\(^{121}\)), they will demand nothing more, perhaps even less, than what they

of effort in one’s physiology, I do not see what point it is that this is meant to make. If physiological association of itself is problematic, then it seems that we must rule out all bases of distribution, since presumably all attributes of persons that enter into the distribution function choices behind the veil, need, what ever are likewise. See generally DONALD DAVIDSON, ESSAYS ON ACTIONS AND EVENTS (1980). Perhaps Rawls intends a “denial of free will” here. If so, I simply cannot help but disagree. For more on matters of desert and Rawls thereon, see, e.g., Robert Hockett, Save Room for Desert: How Rawls Leaves Justice Undernourished (2002) (working draft on file with the author).

\(^{118}\) There is thus an irony here. Relational contracting is a consequence of incomplete contracting. Rawls’s contract, however, is both less complete and less dynamically relational than the contract offered here.

\(^{119}\) See GOLLIER, supra note 61 and accompanying text (employing a veil in modeling portfolio-selection under uncertainty)

\(^{120}\) See supra notes 75-80 and accompanying text on Rawls’ risk-aversion assumptions. Note also that risk-aversion assumptions (albeit not altogether unreasonable ones) infect two defenses of traditional social insurance offered by Dworkin and Varian, as discussed infra, Section 6.2.

\(^{121}\) See BARRY, IMPARTIALITY, supra note 22 (distinguishing between “justice as impartiality” and “justice as mutual advantage.”). Barry discusses why the veil would be unnecessary for impartially motivated choosers.
produce added to their equal shares of what is not produced.\footnote{122} That is, they will demand nothing more than the baseline—equal initial endowments—augmented by their deserts. All will accord each other freedom to transform as they will and make what they wish of the initial shares of unproduced, exogenously endowed resources that they are equally allotted, and to dispose of what they subsequently produce out of those allotments as they see fit, so far as the dispositions do not adversely affect others by giving rise to externalities.

By much the same token, insofar as the parties are not so much impartial as they are self-interested bargainers behind the veil,\footnote{123} they can rationally expect nothing more than the same distribution-formula as that selected by the impartial choosers. For, first, with respect to that which they do not produce—their initial, exogenous endowment—the bargaining game is zero sum; a's receiving something entails b's not receiving it. We thus have a cake-cutting problem whose equilibrium solution will be an equal division—neither b nor a, qua bargainers, will allow to the other more than s/he him/herself receives.\footnote{124} And second, with respect to that quantum which the bargainers do produce, though we move past a simple exogeneously-given-cake problem, our results remain the same. Where one fully controls the production of that which is to be distributed, which is the case after we correct for innate talent and handicap differentials in initial endowments and begin bargaining over the products of effort alone, as a self-aggrandizing bargainer s/he either refuses to surrender the product or refuses to

\footnote{122} Bear in mind here that different talents, handicaps, risks, opportunities, and other features of the initial endowment are not counted as entering differentially into the production function. These things are first equalized, themselves exogenously given resources after all, by impartial resource-dividers. Talents are not counted here as entering into the individual's production function. Talents, handicaps, and their products, being morally arbitrary in their distribution because they are not earned—are part of the residuum shared by all. The "slavery of the talented" problem, however, is present in "talent pooling." The catch is the inherent difficulty of separating talent from effort. In this light, in the presence of such means of sorting out such distinctions, choosers behind the veil might well choose what I advocate here, provided that they know that such institutions or methods existed and are practicable.

\footnote{123} In other words, insofar as they are doing that which will issue in "justice as mutual advantage." \textit{See Rawls, Justice, supra} note 22, at 536 ("[R]egardless of the excellences that persons or associations display their claims to social resources are always adjudicated by principles of neutral justice (§ 50.")"

\footnote{124} \textit{Id.} at 534-41 (discussing equality, envy, and distributions of both among and between individuals in a society).
produce it.\textsuperscript{125}

We appear, then, to conclude with a contract pursuant to which bargainers agree to divide equally the unproduced initial endowment, and to retain the produced deserts on a producer-by-producer basis for private consumption, future exchanges, or gifts out from behind the veil. Thus, we have derived, from Rawls's own "original position," the social contract offered here rather than Rawls's—unlike Rawls, and unlike aggregative consequentialists, on the basis of no particular, let alone peculiar, attitudes toward risk, and irrespective of whether our parties are benevolently neutral (impartial) or self-interestedly bargaining (arriving at mutual advantage).\textsuperscript{126} And we therefore appear to have arrived at a rather

\textsuperscript{125} Rawls, presumably, would object that this would not be the case, in that choosers behind the veil would depart from this arrangement were the departure to result in a tide raising the lowest boats. But for reasons adduced in the previous subsection, that imputed choice is extensionally equivalent to an implausible imputation of extreme risk-aversion.

The decision to produce and give to others in order to benefit oneself, incidentally, would be a different matter. Presumably, with respect to this type of decision, one would be performing a highly fact-specific assessment, and would arrange to produce and distribute both privately and openly only after one knew whether such an exchange would actually be beneficial.

\textsuperscript{126} See RAWLS, JUSTICE, supra note 22, at 118-23. I should more fully explicate a similarity here between my theory and that of "indirect-" or "rule-utilitarianism," (or "rule-consequentialism") as described supra note 81. A "rule" under the latter corresponds in some degree to my own notion of a social practice, "reward structure," "incentive structure," or "institution." See Hockett, Market-Able Justice, supra note 17. Hence the connecting lines drawn between both indirect consequentialism on the one hand (again, see supra note 81) and my own account of justice on the other (see supra note 117 and accompanying text) vis-à-vis the NIE. The difference, however, is that under rule-utilitarianism there is only an accidental link between proper (utility maximizing) action on the one hand and reward on the other, in that "proper" actions only tend to maximize utility and are rewarded only because this is thought to tend to result in more such actions. (When the link is absent, the consequentialist lets "bygones be bygones," looking only to the future, never to the past.) The links between action, recompense, and social utility-maximization are all then contingent in the final analysis (which is why, as observed at note 81 and by the some of the authors cited therein, rule-consequentialism tends to "collapse" into simple act-consequentialism).

On my account, by contrast, all that are accidental are what society regards as good, as "wealth" and worthy of production and reward, on the one hand, and what it regards as being proportional to that (i.e., what actions and rewards it equally values) on the other. (And note again that the schema itself, and possibly some master value in which that schema is ultimately rooted (e.g., respect for responsible agency) places limitations even upon this. Justice does not permit disvaluation of persons by dint of their ineluctable traits—for example, their racial characteristics—and disproportion between valued deed and subsequent desert cannot long endure.) Once these matters are determined, however, we have a
firm "contract" between doer and rewarder, whether the deed actually increases social wealth or not, and whether the rewarding itself in the given case actually will encourage the doing of such deeds or not. We simply do not regard as just, nor do we tolerate, the notion that since my action did not happen to bring the usual good result this time, I should not be regarded as having acted virtuously; or that a single breach of the "contract" is alright since one breach will not generally undermine the entire social practice in question. (Note that there is thus a link here with the retributive conception of punishment, and again, with Kant's idea of a "right" to punishment. See Hockett, Life is a Race, supra note 95.) At the same time, however, it will tend to be tautologically true that that which we happen to regard as virtuous action worthy of reward will "add" to social value. For what we value, in the last analysis, is what we reward. My theory is, then, normatively or prescriptively deontic, while in a certain trivial sense positively or descriptively consequentialist.

Now it might be complained, in light of the foregoing, that I somehow "conflate" "is" and "ought." Don't I elide altogether too glibly between prescriptive and "meta"-ethics, between normative philosophy and (putatively) positive social anthropology, etc.? In a manner, yes. But the real point here is that this objection misses the point. In a sense, I deny the very distinction upon which it rests, or better, the significance that it attaches to that distinction. If we reject the voluntarism which descends to us from Scotus and Ockham, then we do not distinguish so sharply between a rationality of means (which passes for normatively neutral in the modern world-view), hence "consequentialist" ethics, and a rationality of ends (which is a normatively non-neutral, a forthright "ought," and yet purports to be in keeping with a sort of basic teleology or goal-directedness of human life itself, an "is") hence, "deontological" ethics. "Is" and "ought" come together in this view.

Normativity is far more subtle an affair than crude positivists (both legal and scientific varieties) appear to appreciate. And positivism and crude consequentialism alike appear to be one-sidedly rooted in what Thomas Nagel has called the "view from nowhere." THOMAS NAGEL, THE VIEW FROM NOWHERE 3-12 (1986); see also A.W. MOORE, POINTS OF VIEW 48-9 (1997) (discussing Nagel's theory and its validity). The "view from nowhere" arises because one is able to disembody oneself, as it were, and point to things "on the ground," to regard all that one sees as just so many elements in a chain of causation, often with oneself—the viewer—being the only being above cause; and from that vantage one sees all but himself as a matter of description and cause, while regarding himself as a causer, an agent, and one who prescribes. From that point of view, where one is as it were "outside" of the world, one's perceived "ought," if one is benevolent, is to maximize happiness among all of the caused things below, as if there were no intervening causes (no other agents) between one's causing and others' happiness. And from that point of view, there is indeed an unbridgeable chasm between "is" and "ought" that mirrors the chasm between oneself and the world.

But we also, in fact, are in the world, and we share that world with other agents, who cause things as fully as we do. And when we recognize this fact, and respect those whom we recognize as agents by dint of that fact, it is impossible not to light upon a more deontological than consequentialist ethic—at least as regards our own actions and the actions of others when we view them as agents. For respecting others as agents is respecting them as causers, not causees, as responsible agents, not passive objects, as ends in themselves rather than mere means.

Both views—the perspectiveless and the perspectived—and their compossibility within our thinking have been familiarly remarked since Kant at the latest.
See, e.g., IMMANUEL KANT, CRITIQUE OF PURE REASON (Norman Kemp Smith trans., 1929) (2d ed. 1787). But it seems to me that once we have recognized the co-presence of these ways of seeing, and all of its logical consequences, we become in a manner both prescriptive deonticists and descriptive consequentialists, in that we feel and act upon the normative force of reciprocity while recognizing, as a positive (and again, even a tautological) matter, that that which tends to be reciprocated favorably by people in a society will be that which people in that society tend to value, while that which is reciprocated disfavorably is that which is generally disvalued. Recognition of the latter, of course, is simply recognition that social norm systems as wholes—as systems, rather than as the persons whose norm-expressive actions constitute those systems, are, trivially, consequentialist—in that they, again trivially, involve general encouragement of what is valued, thus bring, in the large, valued consequences. But that is not by a long shot the same thing as saying that their participants are consequentialists. Far from it. (That would be to commit Harsanyi's error in reverse—to attribute the logic of the system to the participants, in the manner that Harsanyi attributed the von Neumann-Morgenstern axioms governing individual choice to social choice.) See Hockett, Deep Grammar, supra note 70. The systems yield favorable consequences because their participants think and act deontologically. See LUCAS, RESPONSIBILITY, supra note 92, at 47 (“Mutual Assured Destruction would not have worked if either side had been thought to be au fond consequentialist.”).

This approach finds support in recent linguistics work. See ROBERT B. BRANDON, MAKING IT EXPLICIT: REASONING, REPRESENTING, AND DISCURSIVE COMMITMENT (1994) [hereinafter BRANDON, EXPLICIT]; ROBERT B. BRANDON, ARTICULATING REASONS: AN INTRODUCTION TO INFERENCEALISM (2000). Brandon's approach views grammar and logical inference as rendering explicit certain "norms implicit in practices." See BRANDON, EXPLICIT, supra, at 623. Practices are not simple behavioral regularities, they are "implicitly normative in a way that mere behavioral regularities are not." Id. at 626. They can only be "specified in explicitly normative terms." Id. at 625. There are thus important points of contact between Brandon's work and the normative-practice-interpretive approaches to law taken by Ronald Dworkin in RONALD R. DWORFIN, LAW'S EMPIRE (1986) and Jules Coleman in JULES L. COLEMAN, THE PRACTICE OF PRINCIPLE (2001). (Note that Coleman refers to his approach to law as "pragmatist," while Brandon works in that subfield of linguistics known as "pragmatics." There are important antecedents in Kant, Frege, Wittgenstein, and Peter Winch. Perhaps, also, in the work of Jürgen Habermas, the title of whose recent monograph on law is particularly suggestive in the present context. See JÜRGEN HABERMAS, BETWEEN FACTS AND NORMS (William Rehg trans. 1996).

Particularly intriguing in connection with the present essay is Brandon's observation that practices give rise to what he calls "deontic scorekeeping" and "social scorekeeping practices." BRANDON, EXPLICIT, supra, at 141 and 626 respectively. Those who make assertions make "doxastic commitments," which commit one to acting in keeping with actual belief in what she has asserted and "entitle" her to make inferences from the same, to make of the asserted proposition a reason for further action. "Competent linguistic practitioners keep track of their own and each other's commitments and entitlements. They are (we are) deontic scorekeepers." Id. at 142. If Brandon is right, then we can see an important reason for the traditional linkage between truth and justice (particularly as I have characterized the latter). One "commits" to another in asserting by, in effect, promising that one believes the truth of what one asserts. The other party then takes the assenter seriously as a person, as one who believes and acts upon the basis of beliefs (making
reasons of them), by accepting the asserter's sincerity. That is a kind of exchange. If then the asserter goes on to speak or act in some manner normatively (inferentially or action-wise) inconsistent with belief in the truth of what has been asserted, then the asserter in a sense breaks a commitment, breaks a promise, to those to whom she has spoken. In speaking untruthfully to them, she has done them an injustice.

It is also worth noting in this context the earlier cited work in the sociological, social psychological, and evolutionary game-theoretic literature, which purports to be describing norms experienced by actors as deontologically experienced, even while, from a more consequentialist point of view (the "view from nowhere"), species-favorable. From the same "evolutionary" point of view, we might mention some of the work in the "sociobiology" literature suggesting that justice norms—or reciprocity norms of some type might in some sense be "hard-wired" into human beings and other creatures, such that they would tend to be experienced normatively and deontically while being viewable positively and consequentially as species-survival-enhancing. See, e.g., M. Milinski, Tit for Tat in Sticklebacks and the Evolution of Cooperation, 325 Nature 433 (1987) (indicating reciprocity among two species of fish in "predator-inspection"); Robert Axelrod & William D. Hamilton, The Evolution of Cooperation, 211 No. 4489 Science 1390 (1981) (more fish, this time grooming); Eric A. Fischer, The Relationship Between Mating System and Simultaneous Hermaphroditism in the Coral Reef Fish, 28 Animal Behavior 620 (1980) (title says it all); Gerald S. Wilkinson, Reciprocal Food Sharing in the Vampire Bat, 308 Nature 181 (1984) (reciprocal altruism among bats, in what amounts to a form of social "hunger insurance"); C. Packer, Reciprocal Altruism in Papio Anubis, 265 Nature 441 (1977) (male baboons take turns with wife of cuckolded rival from one occasion of cuckolding to the next); D.L. Cheney & D. Seyfarth, Recognition of Individuals Within and Between Groups of Free-Ranging Vervet Monkeys, 22 Am. Zoologist 519 (1982) (monkeys respond more quickly to distress calls of others who have recently groomed them). Note also in this connection that if Chomsky is correct that all humans are "wired" with a sort of "universal grammar" then grammar would simultaneously be positive (part of the "wiring") and normative (governing meaningful speech). See NOAM CHOMSKY, SYNTACTIC STRUCTURES (1957); NOAM CHOMSKY, ASPECTS OF THE THEORY OF SYNTAX (1973); See also FRED SOMMERS, THE LOGIC OF NATURAL LANGUAGE (1982); JEAN PIAGET, THE MORAL JUDGEMENT OF THE CHILD (Marjorice Gabine trans., 1960) (1932); see generally JOAN E. GRUSEC & HUGH LYTON, SOCIAL DEVELOPMENT: HISTORY, THEORY, AND RESEARCH 81-160, 326-62 (1988).

Finally, it is worth noting here the important philosophical work on the objectivity of morals and "cognitivism" in moral theory. See, e.g., SUSAN L. HURLEY, NATURAL REASONS: PERSONALITY AND POLICY (1989); JONATHAN DANCY, MORAL REASONS (1993); DAVID O. BRINK, MORAL REALISM AND THE FOUNDATIONS OF ETHICS (1989); DAVID WIGGINS, NEEDS, VALUES, TRUTH (1998) (1987); A.J. AYER, ET. AL., ESSAYS ON MORAL REALISM (Geoffrey Sayre-McCord ed., 1988); JOHN MACDOWELL, PHILOSOPHICAL PAPERS, Vol. II. (1999); RONALD DE SOUSA, THE RATIONALITY OF EMOTION (1987); JOHN SEARLE, SPEECH ACTS (1973); Foot, supra note 87. There is double irony in the history of that philosophical view, which, in opposition to the writers just cited, severs "is" from "ought." First, consequentialism, which arises from a moral tradition inaugurated by David Hume (the first explicitly to draw the distinction) itself both "normatizes" what is positive, makes an is an ought, in treating as a moral requirement that which happens to tend to increase welfare, while "positivizing" (or at any rate "contingentizing") what is normative (what is morally necessary) by countenancing the non-reward of what tends to increase
more plausible, as well as a more just, social contract than the utilitarians, the Kaldor-Hicksians, or John Rawls could say that we have signed.

We need not endorse the contractarian approach to social justice to accept the view of justice I have offered here. Insofar as we are genuinely impartial, we shall view the proceeds of the birth lottery, and all proceed-portions subsequently traceable back to that lottery, as morally arbitrary. We shall wish therefore to neutralize them—to compensate for them—and also to compensate all earned deserts as earned deserts. We shall not require a contract following on sharp negotiations to do that. Justice, in this case, will not be readily assimilated motive-wise to market-provided "insurance" at all. My point in speaking of a social contract has been that if we do accept a view of persons as self-serving bargainers—which, alas, it seems most people take to be the view with which we must start—and if we do see justice as the outcome of such persons' bargaining under fair conditions—behind a veil of ignorance—then we are viewing justice not just as a contract, but as an insurance contract. And my larger point has been that that contract's dictates will be just what we, as impartial divvys of all goods and ills, opportunities and risks, would have decided.

There is a critical "rub" at the center of any account of justice, whether we view justice as a matter of impartiality or of social bargain. It is a critical information problem. How do we, impartial or bargaining, know what the "initial endowments" are? How do we distinguish between and parse out ethically exogenous endowment and endogenous effort, residuum and desert, in particular cases? How do we determine which portion of one's "value-added" to a given bit of raw material is attributable to her morally arbitrary, given natural talent—itself part of the "raw material"—and which to her (often talent-developing) productive virtue?

These are the central problems for justice, and again, they welfare if the rewarding, even though morally mandated by the social contract and legitimate expectations, is not on a particular occasion necessary to incent the welfare-improving action. Second, Hume, with his friend and colleague Adam Smith, actually began the tradition of tying "is" and "ought" even prior to the emergence of utilitarianism as a distinct moral theory, by arguing that what we call good and what we encourage is generally what appeals to our natural sympathies and tends to improve the social lot of others. See DAVID HUME, A TREATISE ON HUMAN NATURE (Temple Press ed. 1951) (1739-40); DAVID HUME, AN INQUIRY CONCERNING HUMAN UNDERSTANDING (Charles W. Hendel ed. 1955) (1748); ADAM SMITH, THE THEORY OF THE MORAL SENTIMENTS 212-18 (D.D. Raphael et al. eds., photo. reprint 1982) (1779).
jointly constitute an information problem. I treat the problem more generally in other work, but for purposes of the present essay I shall consider it only insofar as it affects income insurance, hence shall treat it simply as an insurance problem that I shall propose means of circumventing in subsequent sections.¹²⁷ The insurance-affecting face of the problem is sufficiently well known in the business and the literature of insurance that it has acquired, in its best-known forms, the overtly ethics-connotative names of “adverse selection” and “moral hazard,” themselves coupled under the overtly egalitarian-suggestive heading of “asymmetric information.” Before moving on to the specific institution of the insurance market, however, I would like to close this section of the Article by quickly examining the value-expressive role of market institutions more generally, in order to drive home the point that the account of justice here offered is largely—though imperfectly—embodied in our most salient, omnipresent and publicly discussed forms of norm- and value-expressive organization and regulation.¹²⁸

It has perhaps gone unnoticed thus far that the tit-for-tat of social value to which I have resorted in linking justice to virtue and value can be found at work in an institution seldom associated with justice. Yet that is precisely what a market is—when properly configured—a standardized example of the broader tit-for-tat relation. And thus the market is, potentially, an ideal engine of justice. For it follows quite directly on the view of justice set forth above that insofar—though only insofar—as markets operate efficiently (with no externalities, so that all occasioned costs are covered by their occasioners) and those who participate in markets do so on equal terms (with symmetrical information as regards the transactions in which they engage; symmetrical bargaining power, so that all participants are non-coercive price-takers and non-participants may freely enter; and endowments descended from a symmetrical

¹²⁷ I discuss the problem in Section 4. I assess means of dealing with the problem in Sections 4, 5, and 6. I propose how we might “end-run” around it in Section 6. As for my more comprehensive treatment of this general and justice-crucial information problem, see Hockett, Market-Able Justice, supra note 17; see also ROEMER, OPPORTUNITY, supra note 22; ROEMER, DISTRIBUTIVE JUSTICE, supra note 22, at 255-79; John E. Roemer, A Pragmatic Theory of Responsibility for the Egalitarian Planner, 22 PHIL. & PUB. AFF. 146 (1993), reprinted in JOHN ROEMER, EGALITARIAN PERSPECTIVES: ESSAYS IN PHILOSOPHICAL ECONOMICS 179 (1994).

¹²⁸ See Joseph H. Carens, Compensatory Justice and Social Institutions, 1 ECON. & PHIL. 39, 39-40 (1985) (charging philosophers with failure clearly to see the problems they propose to solve because of the level of abstraction on which they view the problems).
initial division), markets will accurately track and manifest their parties' proper justice-relations. Markets will accurately monitor participants' "justice-accounts." Markets will, like a kind of decentralized, parallel-processing supercomputer, take in and synthesize more information (at least as to money-valuable goods, including paid labor) than any single mind is able to do, accepting, processing, and producing appropriate justice "outputs" on the basis of all critical justice-pertinent—namely, comparative value—information. What is more, markets will display that information in a conveniently summarized form—a schedule of prices. For the efficiency price of a good, including insurance or labor income, initial endowments, bargaining power and information to a fair ultimate allocation, see supra note 56 (bear in mind that the initial endowment must take account of inalienable resources such as talents and handicaps, not just alienable ones). All of these "insofar"s are of course tall orders, but we endeavor in significant measure to ensure these conditions in our present markets. These include public (or government-subsidized) education (designed to help equalize the initial endowments, notwithstanding San Antonio Independent School Dist. v. Rodriguez, 411 U.S. 1 (1973)); antitrust law (to assure free-er market-entry and non-coercive, value-additive competition), laws against fraud (to even out informational access), etc. I hope that in underscoring the distributive justice-significance of these public policies I might be assisting in renewal of our public commitment to them.

Instructive in this connection is a quote attributable to Andrew Carnegie: "One of the chief sources of success in manufacturing is the introduction and strict maintenance of a perfect system of accounting, so that responsibility . . . can be brought home to every man." Paul Johnson, A History of the American People 552 (Harper-Collins Publishers 1997).

The "market as computer" and "information-processor" though not specifically as "justice-computer," figured prominently in the so-called "great socialist calculation debate" of the 1930s. The upshot of that debate was the socialists' concession that the informational burdens on any socialist state planner would be too great to effect an efficient allocation of resources optimally satisfying consumer wants, hence optimally expressing consumer-valuations. "Market socialism" was the socialist theoreticians' response. Intriguingly, however, at least one prominent conceder, Oskar Lange, became obsessed with computers and cybernetics as these began to grow sophisticated near the end of his life; he apparently thought that they might offer a means of replicating the market's information-processing functions on behalf of socialist planners. See Enrico Barone, The Ministry of Production in the Collectivist State, in IL Giornale Degli Economisti (1908), reprinted in Socialist Economics 52 (Alec Nove & D.M. Nutti eds., 1972); Friedrich A. Hayek, The Nature and History of the Problem, in Collectivist Economic Planning 1, 2-3 (F.A. Hayek ed. 1938); Friedrich A. Hayek, Socialist Calculation: The Competitive 'Solution,' 7 Economica 125 (1940); Oscar Lange, On the Economic Theory of Socialism, in On the Economic Theory of Socialism (Benjamin Lippincott ed., 1938); Social Behavior, supra note 18; Ludwig von Mises, Planned Chaos (1947). For more on the history of the debate, see Schumpeter, supra note 39; Alec Nove, The Economics of Feasible Socialism Revisited 129-39 (2d ed. 1991); John E. Roemer, A Future for Socialism 28-36 (1994).
sold in an efficient market reflects the opportunity cost that its possession or use by one party represents, not only for that party herself, but for other parties—the good’s social opportunity cost, we might say. 132 In an efficiently functioning market, those prices reflect the relative values of valueds, i.e., of goods and labor (at least, of those that are tradable or money-valued). Indeed, they reflect that very proportionality that justice requires, and that the process of reciprocal trade effects, between deed and desert, between “δ” and “ε.” 133 They do so with a precision not found in less regularized and standardized relations of reciprocal exchange. A complete and properly functioning market, then (and again, this is an admittedly very pregnant condition), would constitute a sort of comprehensive and precisely calibrated justice machine.

A corollary to these observations is that where markets are missing or incomplete, or where they do not conform to the neu-

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132 To borrow and adapt from a well-known phrase from a well-known article concerned with another, but in fact closely related, topic. In this connection, see, e.g., LINDBLOM, supra note 114, at 136 (“Take special note that, with efficiency prices, the cost of anything for a person is what that person must give up to get it, assuming that the only way he can get it is through a voluntary transaction. . . . Prices [produced by Walrasian equilibria] are called ‘efficiency prices’ because they represent the terms – the prices – at which interchange from a starting position bring to all participants all the gains to all that are possible other than gains possible by compelling or imposing losses on some participants.”); see also DWORKIN, SOVEREIGN VIRTUE, supra note 22, at 70 (“[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.”) Again, however, it must be emphasized that for the market to do what I claim it can do, it must be “neutral” – it must treat all participants as equals; all must be able to enter it freely, must be price-takers not dictators, and participants must not impose costs that they do not cover (“externalities”). A corollary, less often (indeed, scarcely ever) remarked in the literature, is that participants must enter the market from positions ultimately descended from initial endowment-equality. See id. (“Of course it is sovereign . . . that people enter the market on equal terms.”). For more formal treatment, see sources cited supra, note 56. The well-known article noted above, featuring the notion of social cost, need hardly be cited—but is, of course, Ronald H. Coase, The Problem of Social Cost, 3 J. L. & Econ. 1 (1960).

133 See, e.g., LINDBLOM, supra note 114, at 125 (“When all possible favorable trades are completed, observers will see that for each specific exchange, . . . the final trades are almost all at the same ratio . . . . So long as there were exchanges at two different ratios, trading would not stop.”); see also id. at 135-36 (“At the end of the trading, the prevailing ratio for each traded good or service is of course linked to all other prevailing ratios . . . . This set of ratios for all goods and services can be expressed as a set of prices.”). For more formal treatment, see Shubik, supra note 114. Note that, in the idiom of “social cost” and “social opportunity cost” introduced earlier, what prices show in their proportional relations are the relative social costs of each of the goods’/services’ consumption.
trality-conditions stated above, justice—or at least “macro-justice” among large numbers of people—will be rather more difficult to track. Ascriptions of justice therefore will be more prone to vagueness or, worse, simple indeterminacy than where markets are present, neutral, and efficient. Justice as a more complete and finely tuned social contract requires more complete and properly functioning markets in the valueds whose provision justice demands be compensated. One means, then, of rendering justice more determinate—thus effectable, hence more extensive—in a given context involving many parties or potential parties is not only to ensure the fair and efficient functioning of markets that already are in operation, but to “marketize,” or standardize already common and de facto or desired trading that has not yet taken full-fledged market form in that context. This, in turn, means that we must “commodify” more valueds that are traded or that would be traded in that context. That is simply to say that we must foster, encourage, and regulate more regular practices of trading in that context.

Now “commodification” is, of course, a dirty word. Its designatum frequently is said to threaten to alienate us from the things or people, deeds or transactions that would be commodified. The desire to commodify or marketize also is said to constitute a fool’s errand, for, it is said, the valueds that one would presume to commodify, and the interactions that one would presume to marketize—i.e., to transform from interactions to transactions in the latter word’s more familiar market-oriented usage—are “incommensurable.”

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134 Here, then, is another possible answer to Rawls’ complaint about moral desert. See supra note 117.
135 Much more on market-completion in its more technical sense infra, Section 6.
137 See generally RADIN, REINTERPRETING PROPERTY, supra note 136.
138 Id.
In fact these sorts of quibble are much overblown. Where we "trade-off," we can trade (in a manner we do trade), and when we trade (indeed, even when we trade-off) we establish, or demonstrate, co-measurability—proportionality—hence commensurability. And in fact, de facto trading and commensuration are more common, I suspect, than seems to be supposed.\textsuperscript{140} But we need not demonstrate this claim conclusively or iron out its difficulties here, as the present Article is concerned with the prospect of trading in, and thereby both better distributing and justice-measuring, already money-valued income-risk. As labor is already traded, there is no reason that we ought not trade in risks to labor-income. Indeed, until we complete markets in those risks, we shall not really have just markets for that labor itself. Just labor markets require that we complete markets in labor-income risk, so that people can more freely pay such others as more willingly would bear that risk, to bear it.\textsuperscript{141}

To sum up the relations between justice, markets, justice-information, prices, market-regulation, and market-completion, particularly in regard to income-risk, we might try this simple syllogism: Justice is "equality plus or minus merits—or deserts." Deserts arise from reciprocal exchange behavior and thus reflect relative valuations. Full justice requires full deserts-information and thus full valuation-information. Where exchanges are efficient, fair, and frequent enough for statistically reliable proportional

\textsuperscript{140} For example, if we "spend"—the word is suggestive—more time with our unpaid hobbies than with our families, there is a sense in which we establish a de facto scale of comparison and commasurement, even covaluation ("in terms of" time), between those hobbies and (time spent with) those persons. We "value" one or time spent with one as much as or more than time spent with the other. Of course, generally we desire both, and they might even be "complements" in some degree in certain cases (the game of Monopoly, for example, probably is best enjoyed with family). There might be—there likely are—concave marginal rates of substitution, such that we would prefer not to have to do only with one to the exclusion of the other in most cases. But the point is that we are trading, whether we like to admit it or not. Purity of heart might be to will one thing—if it is, we're most of us "impure." The allusion is, of course, to Soren Kierkegaard, Purity of Heart is to Will One Thing (Douglas V. Steere trans., 1967).

\textsuperscript{141} Note that there is thus a close analogy here to the ways in which derivatives markets improve the efficiency of spot markets by speeding the rates at which the latter reach their equilibrium prices.
valuations to emerge, valuation-information, hence deserts-information, itself becomes reliable and expressible as price-information. Where the particular valued—or in this case disvalued—is risk to income, justice-information as to that disvalued’s distribution will be more reliable if the risk can be priced, and this will be possible, in general, only if we can establish markets in that risk.

2.4. A Critical Case in Point: Just Risk-Sharing and Risk-Trading

This Article, recall, is concerned with the proper—i.e., the just—distribution of systemic income-risk faced by individuals and wrought by or attendant upon the “new” global economy. Individual income-risk represents, of course, a detriment or burden which individuals and the societies that they constitute generally will wish to avoid, all other things being equal. It is socially and individually disvalued. But particular risks to income generally will of course be disvalued at different rates by different people. It is, on the conception of justice just offered, a dictate of justice as well as, tautologously, of efficiency and simple common sense that both opportunities and incentives be structured so as to facilitate the minimization and/or selling off of risks that can be (partly or wholly) avoided or sold, and to distribute equally those which cannot. That is, it is just to hold people to account for risks that they bring about, fail to mitigate, or neglect to trade away, provided that such be possible—these patent risks are their deserts—and to equalize, over the whole of society, the bearing of such risks or degrees of risk—latent risks—as people cannot avoid, mitigate, or shed through trade. These latter risks, which we might call the “residuum,” are to be considered part of what we called at Subsection 2.3 the baseline endowment. In the δ/ε schema of that sec-

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142 What counts as a risk will ride upon what those who constitute a society generally consider to be burdensome and to be avoided. Risk is thus a schematic category—an “ε” in the sense elaborated in Section 3, supra. Moreover, risk often will be differentially disvalued by different people. The social disvaluation rate—the “social cost”—of risk thus corresponds to the equilibrium rate at which the bearing of that risk-insurance—would sell if available in the society in question (again, assuming properly functioning markets as described in Section 2.3, supra).

143 Interesting in this connection is Hal R. Varian, Redistributive Taxation as Social Insurance, 14 J. Pol. Econ. 49, 50 (1980) [hereinafter Varian, Redistributive Taxation] (“These data suggest that the movements of individual incomes over time contain a large random component, i.e. a component that is not explained by differences in tastes and [physical] endowments.”). I discuss Varian’s proposed means of handling that “random element” at Section 6.2.2.
tion, individually avoidable or shedable risks are \( \varepsilon \)'s appropriately following on \( \delta \)'s. Individually unavoidable and untradable risks do not belong in the \( \delta/\varepsilon \) deserts-earning game at all—they are definitionally undeserved, part of the ethically exogenous endowment at the baseline or the starting gate that must be equalized.

Now the precise location of the demarcation line between these forms of risk—the patent and the latent—is a justice-crucial information problem that fuller risk markets can help to solve. First, by completing risk-markets, we would effectively eliminate the tradeable/untradable risk line altogether; and no risk or increment of risk that is untraded would need be regarded as undeserved because untradable. The line between deserved and undeserved risk, then, would be determined solely by other forms of differentially exploited opportunities to head off, mitigate, or eliminate risk. Second, new and more complete markets will assist in solving the information problem that is the location of that line as well. By focusing upon new forms of information relating to the diligence/fault divide—forms that correlate to that justice-decisive information, and are more available to all than the more familiar "hidden knowledge" problems that plague justice in other contexts (e.g., talent versus effort), hence much more symmetrically distributed—we lessen the harm wrought by that other divide. Markets can process that information, and thus enable us to do fuller justice. Moreover, markets, as the information attractors, processors and impounders (in prices) described at 2.3, can be exploited actually to enrich, not merely to organize, the informational environment. New information technologies (as discussed further below in Section 6) as well as new theory, are rendering new forms of information, as well as new markets, tantalizingly closer to full availability. Again, we will further examine, explore and exploit these possibilities in this Article. But we shall not be getting too far ahead of ourselves in noting even now that a crucial part of the answer lies in that very phenomenon which has engaged the justice-motive ultimately prompting this Article in the first place: latent, systemic, individually uncontrollable, and individually unconcealable income-risk.

3. **So Much (Macro-) Moment, So Little (Micro-) Control: Systemic, Unshared, Untradable Income-Risk in the Global Economy**

In the previous Section we distinguished between "unavoid-
able," "residual," "systemic," or "latent" income-risk on the one hand, and "avoidable," "individually preventable" or "patent" risk on the other. The former is precisely the kind of risk that justice dictates should be socially-pooled and distributed, for it is by definition practically unanticipatable risk against which even productively virtuous individuals cannot provide. While productive virtue dictates that individuals act privately to head off risks that they can anticipate and act upon, justice's baseline endowment-equality component dictates that the residuum of risk that cannot reasonably be expected to be individually foreseen and avoided be allocated among everyone in identical increments, as if all of us were back at the same starting gate.

A full accounting of systemic income risk in the new, global economy might well make for a book.\(^{144}\) It will perhaps be best for present purposes, however, to sacrifice universality and maximal empirical texture for a more impressionistic strategy, organized by particularly salient subcategory. There are at least three broad types of risk attending the new economy which are in large if not full measure systemic. These are: unforeseeable sectoral redundancies; human capital lock-in; and unavoidable adjustment-lags.

3.1. "Just Like That?": Unforeseeable Redundancies

A well-functioning economy is virtually by definition a dynamic economy. New products and processes appear with unpredictable and sometimes bewildering regularity.\(^ {145}\) Not only are longstanding wants and needs constantly coming to be addressed in new, more effective, and/or more efficient ways, but new wants and needs themselves also are being conceived, sown, advertised over, and ultimately (one hopes) satisfied all the time. One of the principal identified advantages of "globalization" itself, indeed, is precisely that it accelerates this process of dynamic change.\(^ {146}\)

New products and productive processes cannot generally be

\(^{144}\) Or at any rate a full chapter of a book—one which the Author is writing. It happens that the more such risks we can catalogue, the more opportunities there will be for risk-sharing, as discussed at Section 6, infra.

\(^{145}\) This near-truism receives celebrated, and somewhat melodramatic, articulation in SCHUMPETER, supra note 39; see, in particular, id. at 81-86 (discussing "The Process of Creative Destruction"); see also WILLIAM BAUMOL, THE FREE MARKET INNOVATION MACHINE 1 (2002); PHILIPPE AGHION, ENDOGENOUS GROWTH THEORY (1997) (explaining the incredible growth of free-market economies).

\(^{146}\) See Gordon, supra note 1, at 1522; see also RAZIN & SADKA, supra note 7, at 3-8.
foreseen—not, at any rate, by many, and certainly not as regards the precise timing of their becoming both widely demanded and feasibly supplied. If they could, they would presumably all be instantiated already.\textsuperscript{147} It is in fact owing to what is at first the non-generality of particular new possibilities, according to standard microeconomic theory, that entrepreneurs are able to envisage and capture—thus be motivated by—the temporary monopoly rents generable by envisaging, conceiving, and inventing new goods and services in the first instance.\textsuperscript{148} The well known price-theoretic danger of "rent-dissipation" presumes that it will disincentivize inventive activity. It would seem to follow that to require a population generally to anticipate all new products and services would be to require a world of comprehensive rent-dissipation and virtually no inventive activity at all.\textsuperscript{149}

What sense, then, would it make to refuse to afford social insurance against sectoral redundancy—i.e., to hold all non-entrepreneurs with respect to a given new good or service entirely responsible for not having anticipated its possibility and made their career choices accordingly? The answer is that it would make

\textsuperscript{147} One thinks in this connection to the proverbial University of Chicago professor, who remarks confidently that the ten dollar bill his student spots on the walk cannot be authentic, else it would already have been retrieved. The professor's error, of course, lies in assuming that every possible source of value is exploited instantaneously. That might be true of arbitrage opportunities in efficient, information technology-rich capital markets, but it doesn't seem to be true many places else.


\textsuperscript{149} Such is, of course, one reason classically offered for property rights, including intellectual property rights. See Harold Demsetz, Toward a Theory of Property Rights, 57 AM. ECON. REV. 347, 348 (1967) (discussing the role of property rights as a means to guide incentives and maximize internalization of externalities); see also Schumpeter, supra note 4, at 81-86, 111-20; Jack Hirshleifer, The Private and Social Value of Information and the Reward to Inventive Activity, 61 AM. ECON. REV. 561, 572-73 (1971) (discussing the impact of private knowledge and knowledge on information); Jean Tirole, The Theory of Industrial Organization (1988); Terry L. Anderson & Peter J. Hill, Cowboys and Contracts, 31 U. CHI. J. LEGAL STUD. 489, 489 (2002) ("expand[ing] Harold Demsetz's seminal work on property rights by arguing that property rights entrepreneurs discover previously unowned or unpriced attributes of a resource and capture rents by defining and enforcing rights to those attributes"); Paul Goldstein, Copyright, Patent, Trademark and Related State Doctrines: Cases and Materials on the Law of Intellectual Property 6-24 (5th ed. 2002). A partial caveat would of course involve such inventive activity as would benefit the inventor alone (and perhaps subsequently be copied). Copyright and patent laws are designed precisely with that end in view.
no sense at all—unless we wished to encourage the development of a universally anxious culture of superfluous "inventors" and preemptive "responders" eagerly acting to create or accommodate themselves to not-yet-existent markets lest they be left to starve. Surely our actual social policy, which rewards bonafide want-satisfying inventors rather than purposely punishing non-inventors, is the more sensible approach.

It seems fair, then, to regard the risk of unemployment, or at any rate the need for job retraining, borne, for example, by a coal-miner in the face of newly-discovered uses for petroleum as appropriately carried (at least in part) by society as a whole. Likewise, the risk faced by the newspaper printer that an internet or some other electronic news medium might come along and substantially displace traditional printed media, or relatedly, broad changes in the social safety net, such as curtailments of government-offered unemployment insurance, breakdowns in the extended family, and so on—backdrops against which people have planned careers and made decisions concerning education and training. Although change of this sort can to some extent be foreseen or anticipated and provided against, it can only be done to some degree. And while the primary risk-bearer in a situation like this—the individual employee—can and should act to mitigate the damage wrought by such contingencies' coming to pass, here too the individual's capacity to mitigate is only to some degree. One advantage offered by the new markets to be proposed is precisely that they will facilitate the calculation of such degrees.

3.2. The Best Years of Our Lives: Human Capital Lock-in

There is a substantial economic literature devoted to the subject of "specific human capital." The idea is that human capital, like any form of capital, is built upon and accumulated over time. Of-

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150 Or of Luddites ready to vandalize what comes along.
ten economies of scale and attendant specialization efficiencies demand that the accumulation be carried out in a manner responsive to the particular needs of specific sectors, industries, or even individual firms. The problem, of course, is that specialization to one skill-set often will tend, as a matter both of temporal opportunity costs and of the frequent mutual exclusivity of skill-sets,\(^\text{152}\) to diminish one's usefulness with respect to another skill-set. The result is that if the original skill-set is obliterated by some technological or other development, rendering a firm or sector redundant, the individual who has developed her human capital to those tasks will, suddenly and unforeseeably, be rendered redundant. Through little or no fault of her own, she will no longer be as "marketable."

Most of us respond to the possible future uselessness or valuelessness of an asset by accumulating assets of more than one type. "Don't place all of your eggs into one basket." "Diversify your portfolio." Diversification is, of course, a form of insurance—a means of preventing precisely the sort of covariance that is discussed in this Article's next Section in connection with the insurability of risk.\(^\text{153}\) Yet, human capital generally is not diversifiable in the way or to the degree that other forms of capital are.

To begin with, the requirement of some participants in the labor force that they develop specific human capital is, quite simply, the very contrary of diversification. Moreover, human capacities and the length of a human life (particularly a working life) generally limit one to developing only so many skill-sets during her time on this planet. It takes time to develop marketable skills. One is therefore, to some extent, locked into those skills that she initially invests in developing early on in, or midway through, her career. While mid-life career-changes have become more common than they once were,\(^\text{154}\) it seems doubtful that "third-of-the-way-

\(^{152}\) A body-builder, for example, by rendering herself "muscle-bound," will render herself a poorer ballerina.


\(^{154}\) See, e.g., Labor Secretary Chao Says U.S. Workplace is Changing, AaggieDaily (November 15, 2002) (describing Labor Secretary's speech at Texas A&M University, during which she stated that the "average person will change jobs nine times over the course of his or her career.")}, reprinted at http://rev.tamu.edu/stories/02/111502-12.html (last visited Feb. 27, 2004).
through," "two-thirds-through," or more frequent career changes involving the use of radically different skills, will be commonplace in the foreseeable future.

What is more, present institutions do not permit the ready division and diversification of one's human capital holdings by, for example, purchasing pieces of other persons or their income-streams ("talent pooling"). For example, in a world of complete asset markets, a doctor might diversify her human capital portfolio by purchasing portions of the butcher's, the baker's, and the candlestick-maker's future income streams, while selling a portion of her own generated stream. Members of the other occupations might do the same. As it happens, however, customs, difficulties attendant upon enforcing service contracts, and laws prohibiting personal servitude significantly constrain the prospects for such trading. And even insofar as the latter might be effected through, say, hedging contracts, currently there are no clearinghouses in which such contracts might be purchased, sold, and backed by margin account. One point of this Article, of course, is to envisage

155 See Oliver E. Williamson, The Economic Institutions of Capitalism: Firms, Markets, Relational Contracting 258-59 (1987) (observing that labor is non-diversifiable); see also Donald F. Gordon, A Neoclassical Theory of Keynesian Unemployment, 12 Econ. Inquiry 431, 443 (1974) (noting that one cannot "sell a piece of oneself if one is a lawyer in Cincinnati and buy a portion of a carpenter in San Diego"); Branko Horvat, The Political Economy of Socialism 447 (1982) (recognizing that individual workers have only one labor power or job while owners can acquire a diversified portfolio of shares).

156 This, of course, has not always been the case, indenture having been a common form of securing loans and paying off debt in, for example, late medieval times, and recommended in the early nineteenth century by no less a figure than Chief Justice Marshall. See Sturges v. Crowninshield, 17 U.S. (4 Wheat.) 122 (1819) (stating that debtors may be confined for failing to perform contractual duties or as a means of inducing debtors to perform). A modern form of contractual future-income indenture for the sake of securing educational (i.e., human capital-development) funding has been famously proposed by Milton Friedman, The Role of Government in Education, in Economics and the Public Interest 123, 141 (Robert A. Solow ed., 1955). See also William Vickrey, A Proposal for Student Loans, in Economics in Higher Education 268-80 (S. J. Mushkin ed., 1962); Nicholas Barr, Income-Contingent Student Loans: An Idea Whose Time Has Come, in Economics, Culture and Education: Essays in Honour of Marc Blaug 155 (G.K. Shaw ed., 1991); Alan B. Krueger & William B. Bowen, Income-Contingent College Loans, 7 J. Econ. Persp. 193 (1993) (citing a similar proposal by former President Clinton). Some pop stars also appear to have begun to reintroduce the notion of personal indenture as a means of raising financial capital. See, e.g., Joshua Chaffin, Man Who Sold the World Loves to Court Top Artists: David Pullman Created Bowie Bonds and He Likes to Litigate, Fin. Times, Aug. 16, 2001, at 23. Sections 5 and 6 will introduce means of completing markets in a manner effectively allowing for the trading of statistically correlated proxies for human capital.
how such clearinghouses might be brought into being—the subject of Sections 5 and 6.

The upshot is that in general, a person rendered redundant by some unforeseeable technological development will simply have to endure through a lagtime—one likely to constitute a significant fraction of her entire working life's duration—en route to accumulating a new portfolio of marketable skills on a par with her first such set. Hers is not the only lagtime about which to be concerned.

3.3. Waiting for Things to Get Better: Macrocycles & Macrolags

Not all shocks to one's income stream are the product of permanent technical change and the consequent redundancy of one's previously accumulated human capital. It frequently happens that one is rendered temporarily redundant by shocks to the macroeconomy and market-saturation, sectoral slow-downs, inventory build-ups, wage- and price-rigidities, "liquidity traps" and related developments associated with general macroeconomic or sectoral downturn. Particularly significant instances in recent years have

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157 See, e.g., FRANKLIN ALLEN & DOUGLAS GALE, FINANCIAL INNOVATION AND RISK SHARING 136 (1995) ("Most individuals' primary asset is their human capital. This is subject to significant fluctuations in value as industries grow and decline . . . . Those people who have nontransferable skills have suffered a large uninsured capital loss.").


There are of course various speculations as to what manner of exogenous shock generally drives macroeconomic cycling. See, e.g., Finn E. Kydland & Edward C. Prescott, Time to Build and Aggregate Fluctuations, 50 ECONOMETRICA 1345 (1982) (examining the role of technical innovation); MILTON FRIEDMAN, A PROGRAM FOR MONETARY STABILITY vii-23, esp. 22-23 ("Every [episode of fluctuation] has been accompanied by a significant monetary disturbance . . . [and] [t]he monetary disturbances have had a [sufficiently] independent origin in enough cases to establish a strong presumption that they are contributory causes rather than simply incidental effects of the economic fluctuations."); MILTON FRIEDMAN & ANNA J.
resulted from shocks to the global financial markets caused by high market-volatility, rooted in turn at least partly in the proliferation of high-speed information-processing, trading, and communications technologies throughout those markets. There is nothing, in general, that the individual member of the labor force can do to head off such developments. (But note, in anticipation of Sections 4 and 6, that for precisely that reason it should be possible to avoid moral hazard problems by tying insurance to such developments.)

In general, kinks in the macroeconomy of this sort work themselves out over time, usually through the familiar channels of interest rate, wage, and price adjustment. But wages and prices, as is well known, often are sticky—they do not change with the immediacy that neoclassical price theory demands in order that "Say's Law" be practically obeyed in the short run as it might theoretically be in the long run. And this stickiness, like macroeco-

SCHWARTZ, A MONETARY HISTORY OF THE UNITED STATES 1867-1960 (1963); Robert J. Barro, Unanticipated Money Growth and Unemployment in the United States, 67 AM. ECON. REV. 101 (1977) (exploring empirical results supporting the notion that "only the unanticipated point of money expansion influences unemployment"); David M. Lilien, Sectoral Shifts and Cyclical Unemployment, 90 J. POL. ECON. 777 (1982) (arguing that most of the unemployment fluctuation of the 1970s was caused by "structural shifts," e.g., demand for services versus demand for goods); James D. Hamilton, Oil and the Macroeconomy Since World War II, 91 J. POL. ECON. 228 (1983) (arguing oil price shocks play a role in recessions).

159 Again, the Asian Financial Crisis is a conspicuous example. For more on its genesis and implications, as well as on its ultimate effects upon employee incomes throughout the affected region, see Hockett, Macro to Micro, supra note 6. For more on financial market volatility and its effects on the informational efficiency (or otherwise) of financial markets, see Section 5, infra.

160 See Hockett, Macro to Micro, supra note 6 (noting the effects of adjustment on the macroeconomy).

161 This is by now a quite familiar story. See supra note 159. Still illuminating, however, is JOHN MAYNARD KEYNES, THE GENERAL THEORY OF EMPLOYMENT, INTEREST AND MONEY (1936). "Say's Law," alas, has suffered nearly as many alternative formulations, even by the Author himself, as has Kant's Categorical Imperative. In what is likely its most familiar articulation, the "law" states that "supply creates its own demand." Say's Law actually bears at least two possible interpretations, the first, "mechanistic" one being captured by the "demand-creation" maxim. This is now labeled "Say's Equality." See BARR, supra note 156, at 149-78; SCHUMPETER, supra note 39, at 611-25. The other interpretation, now labeled "Say's Identity," has it that because all productive inputs are factor payments, supply-side investment by definition gives rise to equivalent potential demand. Keynes' innovative attentions to flow-lags, differing marginal propensities to consume and save, money-hoarding, and "sticky" wages and prices might be seen as the first comprehensive effort to explain why "Say's Identity" failed, at least in the short run, to warrant the oversimplified mechanistic predictions seemingly entailed by "Say's Equality."
nomic slowdown itself, is not practically under the control of the laborer. He might be willing to accept a lower wage or to work fewer hours for a time, but the collective bargaining agreement to which he is subject, and thus the labor laws which reinforce that agreement, might not allow him to accept this lower wage or to offer working hours intermediate between the simple binary choice of fully employed and unemployed.\textsuperscript{162} And this is not even beginning to consider the general levels of prices and interest rates, over which the individual bears essentially no control whatsoever.

It thus seems fair not to hold the individual responsible for general economic downturns, the slow rate at which such difficulties iron themselves out, or the resulting protracted losses to his income. These risks, like those occasioned by technical change, consequent redundancy, and specific human capital lock-in, are best regarded in significant part as systemic risks, appropriately borne by all in roughly equal measure.\textsuperscript{163} They are part of the risk-residuum, the exogenously given, deserts-unjustified endowment. But they are also, because systemically affecting all, risks that are visible to all—they amount to publicly available information—hence, risks against which it ought to be possible to insure privately. This takes us to the general theories of insurance and of social insurance, the latter of which, as we shall see, might fairly be recast as a theory of just insurance.

\textsuperscript{162} There have of course been interesting proposals along these lines. See, e.g., JULIET SCHOR, THE OVERWORKED AMERICAN: BREAKING THE CYCLE OF WORK AND SPEND (1994); JEREMY RIFKIN, THE END OF WORK (1996); MARTIN WEITZMAN, THE SHARE ECONOMY (1984). Note also that a shorter work week has been attempted in France as a means of sharing the burden entailed by labor market saturation. See David Woodruff, France Moves Smoothly to Shorter Work Week, WALL ST. J., November 9, 1998, at A20. Finally, see Robert Hockett, Assets and Stakes in the Efficient Liberal Republic: Conceiving, Mapping, Advocating and Implementing “Ownership Solutions” to Socio-Economic Dysfunction [hereinafter Hockett, Assets & Stakes] (forthcoming) (manuscript on file with author), where “capital-diffusion” in the form of broader corporate ownership is advocated as one means of addressing such problems in a manner consistent with America’s propertarian, pro-growth and “homesteading” ideological traditions. My proposals need not be seen as competitors to these ideas. They are, in fact, fully complementary.

\textsuperscript{163} As for that qualifier, “in significant part,” we shall see in Sections 5 and 6 that informationally rich trading markets in hedging instruments tied to systemic risks will facilitate price-discovery, hence monetary valuation, in connection with the non-foreseeable increments of individuals’ income risks.
4. INSURANCE AS JUSTICE AND AS “MARKET-OUTPUT”: FAIR AND (MOSTLY) EFFICIENT RISK-SHARING THROUGH TRADING

It is somewhat surprising that nobody, so far as this author has been able to determine, has endeavored systematically and comprehensively to integrate the philosophico-economic theory of distributive justice with the full economic theory of insurance. For reasons that soon will become apparent (if they are not apparent already), the marriage would seem to be a natural. Insurance is, after all, like justice a matter of distribution, in this case the distribution of risk. Risk is, in the terms used in Section 2, a valued (or disvalued) distribuendum—a value-burden the distribution of which implicates justice. Choices behind veils of ignorance, more-

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164 I attempt to do just that, comprehensively, in Hockett, Market-Able Justice, supra note 17, and to sketch the relation in this Section of the present essay. I should note that Ronald Dworkin innovatively uses a “hypothetical insurance market” to brilliant, if ultimately unsuccessful, effects in exploring what a just system of redistributive taxation designed to compensate people for handicaps and differential talents would look like. Dworkin, Sovereign Virtue, supra note 22, at 73-99; see also Colin M. Macleod, Liberalism, Justice, and Markets: A Critique of Liberal Equality 98-105, 132-150 (1998); Rakowski, supra note 90, at 126-38; Varian, Redistributive Taxation, supra note 143. For the (relatively few) weaknesses of Dworkin’s generally inspiring effort, see Hockett, Market-Able Insurance, supra note 17; Roemer, Distributive Justice, supra note 22, at 245-61. I discuss Dworkinian and Varianian insurance more infra, Section 6.2, in explaining why the new markets I am proposing, which could be exploited (if not indeed established) by a governmental unemployment-insurance entity structured more as a financial intermediary than as a welfare agency, would constitute a better “second best” to ideal just insurance than do either Dworkinian-Varianian social insurance or the current Aid to Families with Dependent Children (“AFDC”) program.

An attempt at least to discuss justice and insurance together, albeit in a rather piecemeal, fragmentary and ultimately unsatisfying manner, is Kenneth Abraham, Distributing Risk (1986) (compiling a number of articles originally appearing in the legal literature). Dworkin’s and Abraham’s works jointly exhaust the class of writings of which I am aware that so much as hold justice and insurance together in the same thought. Unless, of course, we count Gollier, supra note 61, Harsanyi cites, supra note 60, and Vickrey, supra note 60, and the countless public finance texts that briefly cover “justice” (generally Rawls’s account alone) and social insurance (generally welfare, Medicaid and Social Security programs) in discontinuous chapters. See, e.g., Hyman, supra note 98, Harvey S. Rosen, Public Finance (4th ed. 1995), and Stiglitz, supra note 98. Or, that writer on justice who has explicitly treated the original position as a decision problem under uncertainty (Harsanyi), and that one writer on financial theory who has observed the portfolio problem as involving a “veil of ignorance” (Gollier). See supra notes 59 and 71, respectively.

165 And, as observed supra notes 60 and 62, Harsanyi’s and Rawls’s employing the device of a “veil of ignorance” in deriving principles of justice converts the justice problem into a problem of rational choice under uncertainty—hence (and in that sense) an insurance (or “portfolio”) problem.
over, which as we have seen have figured prominently in discussions of justice, are choices under uncertainty—they are insurance problems. Intriguing as these connections are in their own right, there are additional reasons to consider justice and insurance in tandem. As insurance problems, for example, are readily parsed as portfolio problems, the marriage of justice and insurance theory offers a chance to exploit, on behalf of justice, terrific advances made in financial theory over the past several decades, and a chance to exploit new markets and technologies that have arisen partly as results of those advances. Indeed, the marriage of justice and insurance (hence portfolio) theory offers the promise that we might exploit globalization itself (which has in no small part been enabled and effectuated by the very technologies that lie at the heart of "the new finance") in addressing the harms that globalization, along with its benefits, has wrought. Full synthesis of the theories of justice and insurance thus not only illuminates some important and fascinating conceptual relations between, and fuller separate appreciations of, justice and insurance themselves, but also, more urgently, offers the opportunity at long last of articulately and comprehensively addressing some of our most pressing and persistent ethical and economic problems through some very practical and thus far untried programmatic means. This Section accordingly endeavors to synthesize precisely such a theoretical framework, all the while with a menu of precise practical programs—to be discussed in subsequent Sections—in view. We begin with the economic theory of insurance.

4.1. Definable and Verifiable Risks, Predictable Variances, and Shared Information: Prerequisites to Efficient Insurance Markets

The theoretical prerequisites to the development and long term viability of a private insurance market—in the terms used at Section 2, a market in which the "valued" traded is the bearing of or provision against loss—are by now well rehearsed, though the risk-distributional and justice-significance of those markets and their prerequisites are rather less so.\(^{166}\) Insurance is a means of

shifting, through trade, risks from those who disvalue them more to those who disvalue them less. An insurance market is thus a means of pooling, through trade, broad categories of anticipated risk which in relation to a pool's risk-bearers taken as a whole are affordable while in relation to all or most risk-bearers as individuals are not. By all "chipping in" and establishing, through payments of premiums, a common pool of resources sufficient to cover the total expected risk-costs to the pool (the distribution of which within the pool is antecedently unknown), participants in an insurance market not only minimize the expenditures that each of them would need make in order fully to self-insure, but lower the total social cost of risk as well. For were all fully to self-insure, resources that might have been invested in greater production of other goods would be held back. The "antecedently unknown" condition is important. In the absence of a veil of ignorance, we don't face risks, but determinate burdens with determinate distributions, and the self-serving who are not subject to those risks simply will let the losses lie where they may. An efficient insurance market, then, amounts to a "justice-opportunity," a chance to convert antecedently unknown "brute" luck into "option" luck. But that opportunity rests upon certain features of the risk(s) to be insured against, and, as noted, the knowledge states (or what I shall sometimes call "information endowments") of the parties to

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167 I digress, for the moment, from why those who "disvalue them less" disvalue them less. It need not be a matter of comparative personal attitudes toward risk; it might be a matter of differing opinion as to risk's likelihood, or of the ability of one party to bear risk more efficiently than another—perhaps because the party which disvalues the risk less has organized a pool of risk-bearers over which risk in the aggregate can be dissipated.

168 In this connection I can hardly improve upon the words of the venerable Smith: "The trade of insurance gives great security to the fortunes of private people, and by dividing among a great many that loss which would ruin an individual, makes it fall light and easy upon the whole society." SMITH, WEALTH OF NATIONS, supra note 40, at ch. 1.

169 See, e.g., Kenneth J. Arrow, Insurance, Risk, and Resource Allocation [hereinafter Arrow, Insurance], in KENNETH J. ARROW, ASPECTS OF THE THEORY OF RISK-BEARING (1965), reprinted in 4 KENNETH J. ARROW, COLLECTED PAPERS OF KENNETH J. ARROW: THE ECONOMICS OF INFORMATION 87 (1984) [hereinafter 4 ARROW, COLLECTED PAPERS] ("The possibility of shifting risks, of insurance in the broadest sense, permits individuals to engage in risky activities which they would not otherwise undertake ... and society will be better off by the increased production.").

170 This useful distinction appears to originate in DWORKIN, SOVEREIGN VIRTUE, supra note 22, at 73, though it is perhaps rooted in G.E.M. Anscombe, On Brute Facts, 18 ANALYSIS 69 (1958), reprinted in ANSCOMBE, COLLECTED PAPERS, supra note 25, at 22.
the prospective insurance contract—and, to a salient extent, of the societies to which those parties belong.

The first requisite risk feature generally is referred to as insurable event orthogonality, or "independence." 171 There is a venerable debate in the theoretical literature on probability as to whether independence—and probability more generally—should be considered a metaphysical ("objective," "frequentist") or an epistemic ("subjective," "personalist," "expectationist," "Bernoullian," "Bayesian") category. 172 While this distinction takes on considerable practical significance in connection with the other prerequisites to efficient insurance discussed infra (as well as in connection with cardinally measurable utility as discussed in Section 2), 173 and

171 Or "randomness" or "non-catastrophicity." See Borch, supra note 166 at 163-74; Outreville, supra note 166 at 132-33; Vaughan & Vaughan, supra note 166 at 22; other sources cited supra, note 166.


some such significance in connection with some of the means available to ensure independence (also discussed infra), for the moment it should merely be flagged as a matter of theoretical import. As a practical matter, in order for insurance to be efficiently providable, the probability of an insured event's befalling one prospective member of the risk pool must generally be found to be more or less independent of that of the event's befalling other members. (Note that there must therefore be probability information available.) In the absence of an ascertainably sufficient degree of such independence—a state referred to as "covariance"—the insured event will tend to occur in wave-like, or more or less general catastrophic fashion. Under these circumstances there are fewer (or no) unaffected persons available to finance—to trade with, shift resources to, or compensate—affected ones, and the pooling of compensatory resources and channeling of those resources from those less needful or valuing of them to those who need or value them more, particularly when administrative and transaction costs are factored into the equation, is simply impossible; everybody needs them.\(^{174}\)

Independence and covariance are of course matters of degree. In general, the more covariance and less independence there are between the prospective insurable events befalling various insureds, the less likely it is that insurance—as distinguished from general disaster relief\(^{175}\)—will be possible at all, let alone privately providable. In addition, it makes it more difficult for a purported insurer credibly to commit to indemnify.

The second prerequisite to insurability is the determinability (or verifiability) and the measurability (or estimability) of an in-

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\(^{174}\) See note 179, supra, for a formal summation of this and the following prerequisite to a sustainable insurance market.

\(^{175}\) The latter can of course be seen as a form of non-contracted insurance (at least in its distributional aspect); but even this, then, will depend upon the existence of some who are unaffected, or at least less affected, by the disaster—generally people in some distant, unaffected locality.
sured event’s definitional contours, probability and cost—amalgamable as “probable cost.” Determinability is a semantic as well as an ex post epistemic category; parties to the insurance contract must agree upon what, more or less precisely, shall count as an instance of the insured event and how to determine whether such an event has transpired. Estimability is, for its part, forthrightly an ex ante epistemic category; the concern is with what can be foreseen and forecast. (Note that, through the workings of the “law of large numbers,” probable costs become more predictable with greater frequency through time for the events falling within the insured event class; cost variance is reduced.) Where the insured event’s likely prospective cost cannot in any way be assessed, there is no way of knowing how much in the way of compensatory resources to pool, thus how much to assess the insured by way of premiums. Where a product—here insurance—cannot be reliably priced, it is analytically impossible for a market to emerge or to continue. The would-be consumer does not know what to pay, the would-be producer/provider does not know what to charge, and no one has any reason to believe the latter economically capable of living up to a contractual commitment to indemnify.

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176 See OUTREVILLE, supra note 166, at 132-33; VAUGHAN & VAUGHAN, supra note 166, at 21; other sources cited at note 166; see also Kenneth J. Arrow, Information and Economic Behavior [hereinafter Arrow, Information], in 4 ARROW, COLLECTED PAPERS, supra note 169, at 136 (“If contracts are contingent on the occurrence of some event, then it must be verifiable whether or not the event occurred.” In anticipation of our next prerequisite, see id. at 165 (“The range of possible contingent contracts becomes limited to those for whom the events are easily verifiable by both parties.”) (emphasis added)). Note that in general the probability must be less than one (i.e., less than certain), otherwise the insurance premium will equal the loss cost plus the administrative cost of the insurance, hence will be more expensive than the loss itself.

177 The “law of large numbers” actually refers to at least two families of theorems, one canonically referred to as “weak,” the other as strong (generally called “central limit theorems”), both of which tighten up and lend precision to the basic insight that statistical frequencies stabilize as the number of trials grows larger. For popular exposition, see IAN HACKING, AN INTRODUCTION TO PROBABILITY AND INDUCTIVE LOGIC 189-208, esp. 190, 205 (2001). More formal treatment can be found in any standard probability text, for example, WILLIAM FELLER, I AN INTRODUCTION TO PROBABILITY THEORY AND ITS APPLICATIONS 243-61 (3d ed. 1968); WILLIAM FELLER, II AN INTRODUCTION TO PROBABILITY THEORY AND ITS APPLICATIONS 219-84 (2d ed. 1971); DANIEL W. STROOCK, PROBABILITY THEORY: AN ANALYTIC VIEW 16-19 (weak), 40-43 (strong) (rev. ed. 1993).

178 See, e.g., LINDBLOM, supra note 114 at 130.

179 Note that we can sum up the independence and estimability requirements as follows: It is a commonplace that the insurance premium $P$ for insured event
One should note that if the probability of the event's occurring to an identified individual is one (i.e., is certain), insurance for the identified individual also will be, absent voluntary or compelled altruism, impossible. For again, insurance markets coalesce on the basis of shared uncertainty (ignorance or lack of information) faced by those who chip into the pool. Hence, somewhat paradoxically at first sight, ordinary market-provided insurance is available in face of the estimability requirement only if the insured event is both uncertain as regards affected individuals and cost-measurable as regards the full risk-pool. Too much information kills the private market (by prematurely lifting the veil of ignorance\(^\text{180}\)), as does too little.

The third prerequisite to an efficient insurance market is, notwithstanding its label, epistemic, metaphysical and even ethical in nature: information held by parties to the prospective insurance contract must be more or less symmetrically distributed.\(^\text{181}\) Asymmetrically distributed information comes in two forms, either of which threatens the viability of insurance markets.

Where the insured is able to conceal an insured event's probability of occurring from the insurer, the market is said to be subject to "adverse selection" or "anti-selection."\(^\text{182}\) Prospective insur-
ers knowing or fearing that insureds know more than they do about the relevant probabilities will tend to expect or plan for the worst—assuming that only those who know themselves to be particularly likely to suffer the event’s falling will seek to insure in the first place—and therefore see the particular risk as covarying, the market as a classic “market for lemons.”183 In response, they will either charge an average rate (pooling equilibrium) that better risks find too high and thus decline (demand-side withdrawal) or withdraw themselves (supply-side withdrawal).184 A sort of “Gresham’s Law” effect ensues; “bad risks drive out the good.”185

Where the insured not only can conceal the relevant probability but is able to manipulate or affect it, the market is said to be subject to “moral hazard.”186 Intuitively, the concern here is that the insured, precisely because she is insured, will refrain from taking actions which tend to lessen the insured event’s likelihood of occurring, or even will take actions which affirmatively enhance that likelihood. (There is thus, in the sense of Section 2.3, an incentive concern.)187 If the event is of the sort that tends to occur with sig-

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184 It seems to me that this assumes a particular degree of risk-aversion on the part of would-be insurers (rather as we noted that Rawlsian justice assumed a particular degree of risk-aversion among rational choosers behind the veil of ignorance—see supra, Section 2.2), and that the would-be insurers themselves in turn are assumed to assume non-risk-aversion on the part of prospective customers who do not know themselves to be subject to the risk in question, but I intend here only to report the consensus theory, not to displace it.

185 Gresham’s Law, of course, is that “bad money drives out good.” RANDOM HOUSE WEBSTER’S UNABRIDGED DICTIONARY 839 (2d ed. 1986).

186 See BORCH, supra note 166 at 325-30; OUTREVILLE, supra note 166 at 133-34, 179-80; GRAETZ & MASHAW, supra note 182, at 16-18; HIRSHLEIFER & RILEY, supra note 182, at 296-307; PHILIPS, supra note 182, at 57-58; SALANIÈ, supra note 103 at 107-42 (again, beyond the insurance context alone); M.V. Pauly, The Economics of Moral Hazard, 58 AM. ECON. REV. 531 (1968); Arrow, Information, supra note 169, reprinted in 4 ARROW, COLLECTED PAPERS, supra note 169, at 77, 85; Kenneth J. Arrow, The Economics of Moral Hazard: Further Comment, 58 AM. ECON. REV. 537 (1968), reprinted in 4 ARROW, COLLECTED PAPERS, supra note 169, at 103; Arrow, Uncertainty, supra note 153, at 941-73, reprinted in 6 ARROW, COLLECTED PAPERS, supra note 153; CAMPBELL, supra note 99, at 156-65.

187 See discussion infra Section 2.3.
nificantly greater frequency if not affirmatively provided against, and many insureds refrain from so providing, or if insurance itself tends to lead directly to the event’s more frequent occurrence (e.g., fire-insureds set fires), the market is again beset by a kind of insurance-induced covariance, and tends either to operate inefficiently or to prove unsustainable. A salient hypothetical example in connection with this Article’s concerns would be the displaced or unemployed laborer who refrained from seeking new employment or new skills precisely because she was the beneficiary of unemployment insurance (the proverbial Reagan “welfare queen” in her AFDC-financed Cadillac188).

4.2. Broader Pooling, Better Information: Typic Means of Addressing Classic Impediments to Efficient Insurance

Participants in insurance markets and practitioners (as well as legislators) of insurance law have developed a variety of means by which to address the classic impediments to fairness and efficiency in insurance markets. It is both conceptually and ethically intriguing to observe how transparently these methods and rules appear to manifest concerns with both of those values.189

Comparatively little can be done, by way of rendering insurance more feasible, to prevent or alleviate the actual covariance of insured events. In general, one simply addresses its likelihood within or financeability by the pool of insureds, by broadening that pool itself as widely as is practicable. The wider or deeper the pool, the smaller is the fraction thereof that truly random events will likely befall.190 One might attempt to ameliorate the effects of covariance through epistemic (informational) means as well; the discovery of statistical or microstatistical (“causal”) relations between subfeatures y and δ of events Γ and Δ, for example, will ren-


189 The following paragraphs lay out the specifics. For more general background, see, e.g., ABRAHAM, supra note 164; KENNETH S. ABRAHAM, INSURANCE LAW AND REGULATION: CASES AND MATERIALS (3d ed. 2000); ROBERT E. KEETON & ALAN I. WIDISS, INSURANCE LAW: A GUIDE TO FUNDAMENTAL PRINCIPLES, LEGAL DOCTRINES, AND COMMERCIAL PRACTICES (1988); ROGER C. HENDERSON & ROBERT H. JERRY II, INSURANCE LAW: CASES AND MATERIALS (3d ed. 2001); ROBERT H. JERRY II, UNDERSTANDING INSURANCE LAW (3d ed. 2002).

190 See OUTREVILLE, supra note 166, at 132; VAUGHAN & VAUGHAN, supra note 166, at 21. Broader pooling also improves estimability, through the workings of the “law of large numbers.” Id.
under the degree of covariance between $\Gamma$ and $\Delta$ more predictable; one might, upon such discovery, find that $/\gamma$ (or more conventionally $\Gamma \setminus \gamma$) and $/\delta$ (or more conventionally $\Delta \setminus \delta$) can be separately insured because it is only $\gamma$ and $\delta$ that covary.\textsuperscript{191} But this is of course, again, a means of accommodating rather than preventing covariance; pool-broadening redefines the class of persons, empirical correlation-discovery the risks (hence sometimes also the persons) insured.\textsuperscript{192}

The estimability of probable costs likewise is addressed by both epistemic (informational) and pool-broadening means.\textsuperscript{193} Like the number of events that can be insured against, the degree of precision with which such insurance can be priced (through operation of the law of large numbers) is a positive function both of the number and consequent standardizability of potential contracts, and of that quantum of knowledge available to society at large (or, more specifically, to the scientific community) to which insureds and insurers are able to gain access. Like covariance, then, inestimability is a constraint upon insurance markets that recedes generally with the advancement of society's scientific knowledge—what we might call "the social information endowment"—and the widening of public awareness of and interest in insuring against particular risks. There is, relatively speaking, comparatively little that individual prospective insurers and insureds can do to facilitate insurance markets by attacking covariance and inestimability. They are problems faced by the collectivity of would-be insurance market participants.

The challenges posed to insurance markets by asymmetric information are in many cases more easily addressed than are those posed by the other obstacles to efficient insurance (it is often easier to equalize information, and to do so more quickly, than it is to augment the aggregate social information endowment, which

\textsuperscript{191} That is, that entire classes of such subfeatures can be separately insured. (Read "$/\gamma$" and "$/\delta$" as "non-$\gamma$" and "non-$\delta$." (Or read "$\Gamma \setminus \gamma$" and "$\Delta \setminus \delta$" as "the non-$\gamma$ $\Gamma$'s" and "the non-$\delta$ $\Delta$'s.").)

\textsuperscript{192} One possible form or result of the refinement of empirical knowledge of statistical correlates is "risk-classification" or "segmentation" on the basis of personal features (e.g., genetic traits) over which persons bear no control. In such cases justice and "efficiency" understood as simple wealth-maximization can diverge, as discussed infra, Section 3. See also Arrow, Uncertainty, in 6 ARROW, COLLECTED PAPERS, supra note 153, at 39-40.

\textsuperscript{193} See OUTREVILLE, supra note 166, at 132-33; VAUGHAN & VAUGHAN, supra note 166, at 21.
grows gradually with the advancement of science). Where the problem is not so much the quantity or quality of available information but the distribution of that information, the solution lies in facilitating the evening-out—i.e., the rendering more just\(^{194}\) of informational availability. Thus, in the case of adverse selection, we find explicit or legally implied warranties and rules against fraud which, in effectively removing the risk of "lemons" from markets, render such markets sustainable.\(^{195}\) Familiar examples from actual insurance markets are the inspections of homes prior to affording fire (or even mortgage) insurance, and the preexisting condition clauses found in, and physical examinations required by, many health insurance contracts.\(^{196}\)

In the case of moral hazard, insurance markets are facilitated by merit-rating (or bonus-malus pricing), deductibles, and so-called coinsurance contracts, under which the insured continues to bear some of the cost of an insured event's occurring, thus continues to face incentives to prevent the event's occurrence; \(^{197}\) also by the fact that some events by their very natures will tend as a practical matter only to be coinsurable, as when, say in the case of a terrible burn accident, no monetary compensation is likely to leave the insured pleased that the event befell her, thus to have encouraged

\(^{194}\) "More even" means "more just" here because we are not at this level of abstraction in the hypothetical assuming any differential deserts to the information and thus are still at the baseline of initial equality. See supra Section 2.3; infra note 211.

It bears noting that increasing the number of people in possession of information in a sense is an augmentation of the social information base; one increases the number of knowers, and, presumably, with that the number of consequent informed decisions taken by members of society.


\(^{196}\) See VAUGHAN & VAUGHAN, supra note 166, at 29, 170-71, 312; see also Arrow, Uncertainty, in 6 ARROW, COLLECTED PAPERS supra note 153, at 39-40; sources on insurance law cited supra note 215.

\(^{197}\) See BORCH, supra note 166, at 318; OUTREVILLE, supra note 166, at 150-52; VAUGHAN & VAUGHAN, supra note 166, at 382-83, 585-86; see also Arrow, Insurance, supra note 169, at 85-86; Kenneth J. Arrow, Optimal Insurance and Generalized Deductibles, 74 SCANDINAVIAN ACTUARIAL J. 1 (1974), reprinted in 3 ARROW, COLLECTED PAPERS, supra note 173, at 212.
her actually bringing it about. In the unemployment context, coinsurance takes the form of lowered wage- or salary-replacement rates, the idea being that if one is indemnified at a rate lower than that at which she was paid prior to being disemployed, she will continue to bear incentives to seek renewed employment.198

It bears noting that in some cases insurance markets are thought to be either unsustainable, or available only through ongoing government provision or subsidy, only to turn out later to constitute quite lucrative opportunities for private providers.199 Here, a classic case is the market for mortgage insurance, which, for a variety of reasons, was thought to be incapable of private provision until the federal government stepped in to provide it with the National Housing Act of 1934 ("NHA") and follow-on legislation.200 The government subsequently turned profits of sufficient magnitude as to invite the establishment of a lively market of private provision, which is now available not only through "Fannie Mae," "Ginnie Mae" and "Freddie Mac," but also (thanks to the operations of these latter) through the securitized mortgage market.201

199 Perhaps some vindication here for the mild skepticism registered supra note 184, in regard to adverse selection.
201 I provide a detailed account of the development of federal housing and mortgage insurance programs in Hockett, Assets and Stakes, id.. See also FEDERAL HOUSING POLICY AND PROGRAMS 1-184 (Paul Mitchell ed., 1986). The story runs roughly as follows. The Federal Housing Administration ("FHA"), established during the depression in the 1930s to jump-start the housing industry and facilitate home-ownership by a larger swathe of the population, for the first time offered insurance on, and via the requirements imposed upon sellers in order to qualify for insurance effectively standardized, long-term mortgages. See National Housing Act, supra note 201. (Standardization of course happened to be an economic prerequisite to the later development of a liquid secondary mortgage market.) The Veterans’ Administration ("VA") got into the same line in 1944. See Servicemen’s Readjustment Act of 1944 (the G.I. Bill), ch. 268, 58 Stat. 284 (1944). In 1948, the Federal National Mortgage Association ("FNMA" or "Fannie Mae") was established in order to create a liquid secondary market for FHA- and VA-insured mortgages. See Act of July 1, 1948, Pub. L. No. 80-864, 62 Stat. 1206 (1948). Similar agencies—the Government National Mortgage Association ("GNMA" or "Ginnie Mae") and the Federal Home Loan Mortgage Corporation ("FHLMC" or "Freddie Mac")—were established with roughly the same purpose in view in 1968 and 1970. See Housing and Urban Development Act of 1968, Pub. L. No. 90-448, 82 Stat. 476 (1968); Federal Home Loan Mortgage Corporation Act of 1970, Pub. L. No. 90-351, 84 Stat. 451 (1970). Through these agencies the federal government backed and effectively issued the world’s first mortgage pass-through securities.
The lesson afforded by experiences like that of the NHA and its progeny is threefold: 1) The lack of a private market at tn does not entail the folly of (at least temporary) government-provision or guaranty of the product in question at tx>\(n\). 2) The lack of a private market at tn does not entail the unsustainability of a private market at tn or tx>\(n\). 3) Indeed, 1 and 2 jointly suggest a particular role that government might sometimes usefully play, namely, to *demonstrate* the possible self-sustainability of a private market where prospective providers, owing to cultural-inertial and collective action problems, risk-aversion or other causes, currently fear to tread. For reasons of precisely this sort, markets analogous to the mortgage-backed securities market (effectively, securitizing income-correlates), and (at least temporary) government action, are countenanced infra, Sections 5 and 6.\(^{202}\)

4.3. *With One Possible Caveat: Efficient Insurance as Ex Ante Distributive Justice*

The theory of distributive justice is readily synthesized, in significant measure, with the economic theory of insurance.\(^{203}\) We can, in effect, by fully specifying the insurance problem with a view to the informationally enriched contractual justice model sketched earlier in Section 2.3, convert the ideal insurance market into a more responsibility-textured rendition of what Rawls would call "the original position" behind the veil of ignorance.\(^{204}\) In doing so we shall find that just and genuinely efficient insurance markets are near-mutual analytic entailments. More concretely, it is easily shown that the three conditions of event independence (noncovariance), symmetric information, and probable-cost estimability that

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\(^{202}\) I consider other possible "asset-building" and "capital-diffusion" programs analogous to the FHA mortgage-insurance program in Hockett, *Market-Able Justice*, *supra* note 17. Note, again, that the veil of ignorance itself gives rise to an insurance problem. See also *supra* Section 2.2.

\(^{203}\) I endeavor to carry out such a synthesis comprehensively in Hockett, *Market-Able Justice*, *supra* note 17. Note, again, that the veil of ignorance itself gives rise to an insurance problem. *See generally* RAWLS, *JUSTICE*, *supra* note 22.

\(^{204}\) See generally RAWLS, *JUSTICE*, *supra* note 22.
are theoretically necessary to and sufficient for the existence of efficient insurance markets are, properly understood, likewise (nearly) necessary to and (nearly) sufficient for distributively just risk-pooling. Or at any rate we shall see that most typic measures that provide these necessities enhance both the efficiency and the justice of risk-bearing arrangements, suggesting that justice and efficiency in insurance are in significant measure extensionally equivalent.

Event independence, as noted above, is optimized primarily through maximal expansion of the risk-pool, while distributive justice for its own part requires that all who face systemic or latent, as opposed to individually preventable or patent, risk be included in the pool—i.e., again, that the pool-size be socially maximized. At least one means by which insurance markets are rendered more efficient, then, also constitutes a means by which they are rendered more just.

A caveat is in order in respect of the other method of addressing covariance discussed above. As noted, the discovery of statistical correlation between subfeatures $\gamma$ and $\delta$ of events $\Gamma$ and $\Delta$ might render the degree of covariance between $\Gamma$ and $\Delta$ more predictable and even allow for the separate insurability of $\Gamma \setminus \gamma$ and $\Delta \setminus \delta$. Now suppose that $\gamma$ is a particular genetic trait and $\delta$ a specific illness. In such case it will enhance insurability, and indeed lower the costs of insurance among those individuals within the clusters of people bearing traits $\Gamma \setminus \gamma$ who are uncertain about their likelihoods of contracting the diseases $\Delta \setminus \delta$, simply to deny insurance to those in subclass $\gamma$ or raise the price of their premiums. Yet if carrying the trait $\gamma$ is not attributable to the responsibility-accounts of those carrying it, then on the theory of justice that I offered in Section 2.3, this exclusion will be unjust. Justice, then, might diverge from efficiency in the latter ideal's standard consequentialist or wealth-maximizing sense of aggregate cost-saving. In a case like this we might have to choose between justice and efficiency, though on the theory of justice I have presented, there really is no question as to which way we must go. Justice always is our duty; wealth-maximizing efficiency is simply a common—though as we now see not always necessary—byproduct. (In the

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205 This is what is meant by "risk-classification," or "-segmentation." See discussion infra note 215; OUTREVILLE, supra note 166, at 150-51; GRAETZ & MASHAW, supra note 182, at 16-18.

206 Dworkin is thus, on my theory as well as his own, quite correct in, as he does in those articles cited supra note 41, arguing that efficiency considered in ab-
language of Section 2.3, the genetic trait is part of the initial baseline endowment, which justice requires ideally be equalized over all before the value-adding deserts-earning game gets underway.)

It should also be noted, however, that things actually are a bit more complicated here than talk of a simple trade-off might imply. For against the efficiency loss attributable to any prohibition on using genetic (or other ineluctable) information in deciding whether to insure and how much to charge, we must balance the diminishment of more general market participation and productive effort by the victim of any unjustly distributed risk against which, by hypothesis, no productively virtuous, preventive measure could have been taken. (Think, again, of a genetic defect in this connection.) As for market participation, it is well established that the unsharability of risk tends to generate an excess of caution and a suboptimal level of social risk-taking. We might think of this as an obverse of the market for lemons. Those who know that they will not be assisted if they turn out to suffer a harm through no fault of their own are likely to over-self-insure, and thus withdraw more resources than are socially optimal from the demand market for other products. A sort of Gresham's law with respect to risk haunts again: bad—because unsharable—risk drives out good, in the sense that even those who are not subject to genetic defects stay out of demand markets more than they need do for goods other than self-insurance.

A related incentive effect is the likely effect upon factor morale

stration from just distribution is not actually a value—as distinct from a fetish—at all. Indeed, we might even argue that ignoring the baseline inequity of differential handicaps and talents is akin to a departure from the Pareto ideal; "moving" from the pre-birth equitable baseline to inequitable distribution of inborn endowments is itself a violation of the Pareto principle. Those born (relatively) handicapped are rendered "worse off" by the birth lottery.

Note also that there is an analog to this inherent, faultless risk-associated trait—carrying on the one hand, and the only obstacle to the coextensionality of justice and efficiency in production on the other—in other words, innate talent/handicap differentials. Again, see the articles cited supra note 41. Insofar as we attend only to efforts and thus responsibility, justice, and efficiency on my theory will coincide, both in the risk/insurance context and in the production context. It is only that increment of risk or product attributable to that for which one is not responsible that might efficiently but not justly be penalized or rewarded.

207 See discussion supra note 184.
208 Id.; see also discussion supra note 183 (describing such a market).
209 See Akerlof, supra note 183; Sanford J. Grossman & Joseph E. Stiglitz, On the Impossibility of Informationally Efficient Markets, 70 AM. ECON. REV. 393 (1980) (modeling a market in which incentives to trade are grounded in differing beliefs).
in a world where harms against which one can do nothing by way of virtuous prevention (as opposed to socially suboptimal private provision) are not shared in the manner that justice would seem to dictate. It seems doubtful that one who has seen—and thus become disillusioned with—a world in all of its profound injustice is likely to remain a socially productive person to the same degree that he would have been before his disillusionment. It surely would be better, or more socially efficient, to render his prior illusion a truth than complacently to accept the truth that it is illusion. 210 In sum, then, we find that in the case of event independence or noncovariance, the same means of rendering insurance markets more efficient in general render them more just, with one partial caveat concerning one possible—and ambiguous—efficiency effect where we make justice rather than efficiency “job one.”

The means of addressing inefficiencies wrought by asymmetric information also generally effectuate risk-justice, although in this case again there is a possible—and once again ambiguously cutting—caveat. Symmetric information is justly distributed information, 211 while the principal products of asymmetrically distributed information—adverse selection and, especially, moral hazard (like their solutions—merit rating and bonus malus pricing)—by their very terms hint at this inequality’s ethical significance. 212 Justly distributed information, in turn, sometimes is effected by transparency rules (such as the above-mentioned express or implied warranties, preexisting condition clauses, and home inspections), which equalize information upward; and sometimes by mandatory real or simulated shared opacity 213 (such as the “abstain” compo-

210 See discussion in supra note 18; Frohlich & Oppenheimer, supra note 18; Tyler et al., supra note 18; Greenberg, supra note 18; Montada, supra note 18; Muller & Jakam, supra note 18.

211 Symmetric information is justly distributed information, at least insofar as asymmetries are not deserved in light of differential virtue or fault on the parts of the parties. See discussion supra Section 2.3; Hockett, Market-Able Justice, supra note 17; Robert Hockett, Fairness in Finance: Baseline Equality, Merited Advantage and the Just Allocation of Asset-Value-Pertinent Information as Regulatory Norms (2000) [hereinafter, Hockett, Fairness in Finance] (forthcoming) (manuscript on file with author).

212 See discussion supra notes 186-188 and accompanying text.

213 A “veil of ignorance” is of course a means of effecting shared opacity. See supra notes 58-62 and accompanying text. Note that such a veil mechanism will in general result in allocations that are both just and efficient. See, in particular, Gollier, supra note 61, at 312-327, who derives an envy-free (hence fair), Pareto-
nent of securities-regulatory "disclose or abstain" rules\textsuperscript{214}, which equalize information downward. Such "leveling up" and "leveling down" norms in effect prevent either unjust insider advantage or unjust risk-classification (market-segmentation) on the basis of knowledge that all parties possess but that, because the information concerns individually \textit{unpreventable} risks, not all should be regarded as entitled to act upon.\textsuperscript{215} (Prohibitions on the use of genetic information in formulating health insurance contracts would again provide an illustrative example in this connection.\textsuperscript{216})

We should not be surprised to find rules imposing what I have called "simulated shared opacity" upon insurance markets when advantages are not associated with diligence or virtue, or when that which is to be insured against is not attributable to vice or fault. Earlier in this Article, we encountered \textit{precisely} such a simu-


\textsuperscript{216} Such prohibitions, and more generally the debate over the use of genetic information, are the subject of, for example, the Genetic Nondiscrimination in Health Insurance and Employment Act, H.R. 602, 107th Cong. (2001); A Bill to Prohibit Discrimination on the Basis of Genetic Information with Respect to Health Insurance, S. 318, 107th Cong. (2001); A Bill to Protect the Civil Rights of All Americans, and for Other Purposes, S. 19, 107th Cong. (2001); see also \textit{JUSTICE AND THE HUMAN GENOME PROJECT} (Timothy Murphy & Marc Lappe eds., 1994); \textit{JOHN HARRIS, WONDER WOMAN AND SUPERMAN: THE ETHICS OF HUMAN BIOTECHNOLOGY} (1992); \textit{RUNAAN GILLON & ANN LLOYD, PRINCIPLES OF HEALTH CARE ETHICS} (1994); \textit{JOHATHAN GLOVER, WHAT KIND OF PEOPLE SHOULD THERE BE?} (1984); \textit{THE CODE OF CODES: SCIENTIFIC AND SOCIAL ISSUES IN THE HUMAN GENOME PROJECT} (Daniel J. Kevles & Leroy Hood eds., 1992); \textit{FROM CHANCE TO CHOICE: GENETICS AND JUSTICE} (Allen Buchanan et al. eds., 2000); Dennis Karjala, \textit{A Legal Research Agenda for the Human Genome Initiative}, 32 JURIMETRICS 121 (1992); Kenneth J. Arrow, Medical Information and Medical Insurance: An Ethical Dilemma? (1994) (unpublished mimeo, Stanford University Department of Economics).
lated opacity, and we shall encounter it again in Section 6.2 infra: it is the veil of ignorance.\(^{217}\) The whole point of the veil is to impose fairness upon the parties to a transaction, on the theory that for each party’s interests to be weighted equally, each party’s decisions must be laundered of the effects of such morally arbitrary advantages and disadvantages as are brought to the transacting situation. As discussed in Section 2, where one’s advantages—be they genetic, familial, subcultural, or otherwise—are not attributable to one’s productively virtuous behavior (when one is not responsible for, or does not in effect deserve, them), they do not figure into one’s “justice account,” and should not be available to be capitalized upon unless and until the initial endowments of morally arbitrary advantage and disadvantage have been more or less equalized among all.

It is worth dwelling for a moment, in this connection, upon two sets of relations between justice as symmetric information and efficiency. There are, as we noted, two means of “symmetricalizing” information—one a form of leveling up, and the other a sort of leveling down. Where we equalize informational access by rendering previously asymmetrically distributed information symmetrically distributed and permitting all to act upon it—leveling up—we achieve greater justice and greater efficiency simultaneously. More information generally makes for greater production and wealth, as more people are enabled to take more rationally informed, efficacious, and ultimately productive measures than before. The interests of justice and efficiency in such case are entirely complementary. On the other hand, where symmetry is achieved by means of simulated shared opacity—leveling down—the informational environment is in effect impoverished, and justice might then seem to be achieved at some cost to efficiency (again, at least when conceived as wealth-maximization). On the other hand, as seen in connection with the assuring of event independence (noncovariance), the effect on efficiency here is likely to be ambiguous, in that injustice itself tends to spur unnecessarily high rates of self-insurance and consequent socially suboptimal market-participation, as well as socially suboptimal effort on the part of the disillusioned, disinceneted victims of the injustice.

In sum, then, we find that addressing informational asymmetry by increasing the quantum of information upon which people are

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\(^{217}\) See RAWLS, JUSTICE, supra note 22, and accompanying text.
able to act, via an increase in the number of information-possessors and non-restriction of action on the basis of the information, renders insurance markets more just and efficient simultaneously. And addressing asymmetry by decreasing the number of people permitted to act upon information renders markets more just and perhaps more (or less) strictly efficient in light of mutually countervailing cost and incentive effects.\footnote{Note that if one were sure that the efficiency effects were negative in sum, and were to decide that this loss somehow "outweighed" the justice concern, he might just as well optimize the social savings even further, simply by euthanizing the infirm. Surely simply stating this prospect is sufficient to make plain the lexical priority (if not the sole priority—see the sources cited supra note 41, and Hockett, Market-Able Justice, supra note 17) of justice.}

Turning finally to efficient insurance's epistemic requirement of insured event definability and probable-cost estimability, we find that the constraint limits not only the possibility of an efficiently functioning insurance market, but also of what I have called the accurate justice-accounting that figures so importantly in the choice-evaluable theory of justice proposed in Section 2.3. (The scales of justice cannot operate if they cannot weigh.) One simply cannot efficiently insure against or justly allocate risk of any kind without some sense of risk-contour and risk-magnitude; and the latter, as noted above, are forms of information developed in considerable measure through the development of empirical science and the broadening of risk-pools so as to facilitate both contract-standardization and accurate social-cost/efficiency-price estimation through the working of the law of large numbers. The latter operations and their significance—standardization and cost/price-estimation—entail, as argued at Section 2.3, an important justice-as well as efficiency-role for markets, an informational role that I exploit and recommend that we exploit more infra, Section 6.\footnote{Note that empirical science can also assist with the central justice problem noted at supra Section 2 as well—the need to sort between talent and effort. Our present concern is more limited; it is to do with sorting between more tractable systemic risk and effort.}

Thus we see that the third and final obstacle to efficient insurance markets, against which means of amelioration must be adopted, also stands as an obstacle to effecting justice in the distribution of risk. And there is no reason to believe that the same means of rendering risk-magnitudes estimable cannot be employed for both purposes. Again, more information makes for greater efficiency and greater—more textured, more finely grained, more complete—
justice.

Inasmuch as Section 2 of this Article was surtitled "Justice as Insurance," while the present Section is surtitled "Insurance as Justice," it might be well to sum up the relations between the two subjects before moving on. They are, using the terminologies employed in both Sections 2 and 4, as follows: justice as "mutual advantage," i.e., justice as the outcome of a bargaining process engaged in by self-serving agents dickering behind a veil of ignorance, will coincide with insurance as "purchased" from the same position. It will constitute, in effect, a Walrasian risk-bearing equilibrium (risk here, by dint of the veil, construed to embrace the birth lottery as well as the apportionment of benefits and burdens after birth). This outcome also happens to coincide with what justice as impartiality—i.e., a distribution apportioning the proceeds of the birth lottery equally and all subsequently earned deserts as they're earned, simply because this is the non-morally-arbitrary division—would dictate. Insurance, in turn, will coincide with justice insofar (and only insofar) as insurance itself is, or replicates, such an equilibrium; just insurance is insurance such as would be sold and purchased from behind the veil, where the purchasers and sellers buy and sell behind the veil.\(^{220}\) Now the social contract, I submit and have argued,\(^{221}\) ought to be construed this way, at least to the degree that it is favored as the outcome of a primal choice. (One need not, as noted at Section 2.3, bother with a primal choice or contract at all, if acting impartially and not as a mere self-serving bargainer.) The contract can be seen as a Walrasian risk-bearing equilibrium reached behind the veil, hence, as an equal endowment Walrasian equilibrium. Insofar as we enable private risk-markets to simulate such an equilibrium, we shall have efficient justice; we shall have fulfilled our social contract obligations to each other.

The remainder of this Article is, accordingly, devoted to exploring the degree to which society might live up that ideal with respect to one particularly salient form of risk—systemic income risk. (Another work extends the field to other kinds of risk.\(^{222}\)) That is to say, in light of the challenges and opportunities presented by the

\(^{220}\) Bear in mind, this only means the parties don't know who falls prey to sundry risks, it doesn't mean that they don't know the magnitude or incidence of risk, or what might be done to avoid or mitigate some risks.

\(^{221}\) See supra Section 2.3.

\(^{222}\) That extended work is Hockett, Market-Able Justice, supra note 17.
new economy as laid out in the Introduction and described through Section 3, that the close conceptual isomorphism that we have just laid out in Section 4 between the requirements of justice and efficiency in the distribution of risk, and the centrality of markets to the generation of justice-pertinent information (via the price mechanism) discussed at Section 2.3, a question naturally arises: what are the capacities of private markets to afford just and efficient insurance against such previously elaborated systemic income risks\(^\text{223}\) as are occasioned by the new global economy?

5. A PAUCITY OF WELL-APPORTIONED INFORMATION: PRIVATELY INSURING AGAINST INCOME RISK IN CURRENT MARKETS

Income for most people comes principally in the form of salaries or wages earned through their paid occupations.\(^\text{224}\) Insurance against income risk, therefore, for most people will in large measure be wage- or salary-insurance.\(^\text{225}\) Insurance of the form one might expect for wages or salaries, in turn, typically would take the form of a contract between insurer and insured.\(^\text{226}\) In exchange for

\(^\text{223}\) See supra Section 3 (discussing three broad types of risks to include unforeseeable sectoral redundancies, human capital lock-in, and unavoidable adjustment lags).

\(^\text{224}\) There is a variety of ways in which to operationalize this claim and render its meaning more specific; the claim remains true on all of them. See LAWRENCE MISHEL ET AL., THE STATE OF WORKING AMERICA 2000/2001 85-93 (2001) (providing data on U.S. labor and employment trends); see also ALLEN & GALE, supra note 157, at 136 ("Most individuals' primary asset is their human capital.").

\(^\text{225}\) I therefore ignore, for present purposes, portfolio- and related forms of income-insurance. I consider these and their promise for pension incomes in Robert Hockett, What is Pension Insurance? (forthcoming) (manuscript on file with author) [hereinafter Hockett, Pension Insurance]. I also ignore for present purposes the protection of human capital and its proceeds in the form of health and occupational hazard insurance, which, because not subject to the same adverse selection and moral hazard problems as employment insurance, are more or less readily available privately on current markets.

\(^\text{226}\) BORCH, supra note 166, at 1; OUTREVILLE, supra note 166, at 131, 139-41; VAUGHN & VAUGHN, supra note 166, at 157. To some degree there is a "social contract" embedded in "social insurance" actually covering income risk. See, e.g., GRAETZ & MASHAW, supra note 182, at 26-46 (discussing the foundations of social insurance in America). And advocates of social insurance programs often use the very term "social contract" in describing "the social insurance compact." Id. The theory of justice offered supra, Section 2.3, in a manner simply "deepens" the understanding implicit in such observations, by noting that well beyond (and "behind") the realms of standard social insurance programs lies a basic understanding that all harms or benefits not attributable to merit are our common lot (our "equal initial endowments"), while meritorious and unmeritorious deeds, by contrast, merit established recompenses (our "subsequently earned deserts").
a premium paid by the insured, the insurer would promise to make a payment or payments to the insured upon the occurrence of some contingency\textsuperscript{227}—in this case, the loss of wage or salary income. The first question that ought to be addressed in connection with the current insurability of income, then, is the degree to which the pertinent risks faced by earners of wages and salaries pose particular problems for fulfillment of the classic prerequisites to efficiently functioning insurance-contract markets.

5.1. Classical Insurability and Standard Income-Contracts

Imagine that Prospective Insured ("Prospective"), a salaried executive, approaches an insurer ("Insurer") for an income-insurance contract. Insurer, if she be rational, is likely to pose a number of salient questions.

To begin with, some—indeed, perhaps the most likely and magnitudinally significant—risks to Prospective's salary will take the forms of sectoral redundancy, sectoral slowdown, and macro-economic downturn.\textsuperscript{228} Insofar as these risks indeed are sectoral or region-wide in nature, they will of course to some degree covary with similar risks faced by others.\textsuperscript{229} Insurer therefore will be loath to insure Prospective's salary unless she can set off Prospective's risks against other, noncovarying risks faced by someone else, call him "Prospective Prime," and similarly situated persons. Unless and until there is at least one Prospective Prime for every Prospective, Insurer is likely either to refuse to insure or to charge a very high premium indeed.\textsuperscript{230}

Next, note that problems of asymmetric information acutely plague this prospective transaction. Insurer will perhaps ask, first, "does Prospective know something that I don't know about her

\textsuperscript{227} As pointed out \textit{supra} note 116, there are two contingencies here—the payment of premiums and the occurrence of the insured event. That is, $\delta$,$\gamma \ni \varepsilon$. This structure constitutes, in the usage set forth at \textit{supra} note 116, a state-contingent claim contract.

\textsuperscript{228} See \textit{supra} Section 3. As noted previously, insofar as human capital has had to be accumulated or developed with great specificity for the exclusive purposes of a particular firm, then firm redundancy (or bankruptcy) would also count here.

\textsuperscript{229} See \textit{supra} Section 4.1 (describing the prerequisites for efficient insurance markets).

\textsuperscript{230} This is, of course, a simplification. In actual fact what will happen is that the premium will vary with the degree to—the proportion at—which the aggregate income risks faced by the class of "Prospectives" can be offset by those faced by the class of "Prospective Primes." It is hoped that the reduction of those classes to two representative members serves a useful heuristic purpose.
own or her current employer's prospects? Why is she approaching me in the first instance?” Insurer is, of course, fretting over adverse selection—perhaps it is all and only those who have good reason to fear for their incomes' futures who are seeking to insure. And such people are, of course, better able to know such things than is Insurer.

Insurer will ask, second and perhaps more compellingly, “what is to prevent Prospective from simply leaving her employment, or from diminishing her work effort, or from refraining to mitigate by seeking new employment if disemployed after I have signed the contract? And how am I to monitor her to ensure that she acts in keeping with the contract if I provide against such contingencies in the contract's conditioning of payment?” Insurer is of course fretting over moral hazard. Similar frets, notoriously, beset those who seek to design efficient social insurance programs—the “end of welfare as we [knew] it” prior to 1996 was, in essence, the end of moral hazard of more than five years in duration.

Finally, Insurer will inquire into what probable cost to her is represented by this contract. One component of this magnitude is more or less easily estimable—Prospective's salary and salary-replacement-rate are readily determined and written into the contract. However, the other component—the likelihood of Prospective's actual loss of employment—might be somewhat more difficult to determine, particularly in the absence of an active corps of analysts regularly and persistently ferreting out information bear-

231 See the discussion supra Section 4.1, on the three prerequisites to an efficient insurance market, specifically symmetrical distribution.

232 But see supra note 184 (expressing some misgiving over the dominant, Akerlofian theory of adverse selection).

233 See supra Section 4.1 (describing the moral hazard problem in insurance markets).

234 Unless, of course, we factor in the “moral hazard” (i.e., the justice hazard) of ceased welfare payments to people unemployed for over five years through no fault of their own during some future lengthy economic downturn such as that which has afflicted Japanese society since the early 1990s. See Personal Responsibility and Work Opportunity Reconciliation Act of 1996, Pub. L. No. 104-193, 110 Stat. 2105 (1996); see also GRAETZ & MASHAW, supra note 182, at 71. For a quick review of the Japanese slump, see, e.g., Adam S. Posen, Some Background Q&A on Japanese Economic Stagnation, Testimony Submitted to the Subcommittee on Trade, Committee on Ways and Means, U.S. House of Representatives (July 13, 1998), available at Institute for International Economics website, http://www.iie.com/publications/papers/posen0798.htm (last visited Feb. 27, 2004).
The upshot of these challenges is that one will not expect there to be a particularly robust market in private income-insurance contracts. And lo, such is precisely the case. The actual market in such policies is anemic at best. Efficient insurance markets seem

235 I discuss the role that markets in "macro-proxies" might play in increasing the size of such a corps, and the justice-significance of such a development, in Section 6. There is, of course, already a sizable such corps and plenty of relevant data for related purposes, particularly the need to value firm-issued securities.

236 See, e.g., GRAETZ & MASHAW, supra note 182, at 71 ("Individual unemployment insurance is virtually unknown. And insurers who have attempted to write individual disability policies have often had disastrous experiences."); ROSEN, supra note 164 ("[T]here is no market for poverty insurance—it simply cannot be purchased."). Interestingly, as if to provide the exception to prove the rule, history offers the example of several modestly successful programs of privately provided unemployment insurance in the form of labor union-offered plans, in which "[t]he 'moral hazard' of malingery [was] naturally reduced to a minimum," owing to the impossibility of keeping "a refusal of a reasonable [new job] offer... a secret." See I. M. Rubinow, Subsidized Unemployment Insurance, 21 J. Pol. Econ. 412, 416 (1913); see also PAUL H. DOUGLAS, STANDARDS OF UNEMPLOYMENT INSURANCE 32-33 (1932) (discussing voluntary trade union policies). These plans covered very few workers, however, and, as noted, were at best only moderately successful. See generally JOHN R. COMMONS & JOHN B. ANDREWS, PRINCIPLES OF LABOR LEGISLATION (4th ed. 1967) (1936) (discussing principles, developments, and changes in labor legislation). It should be noted that the facts here tend to confirm the predictions generally made throughout Henry Hansmann's insight-filled work on the ownership of enterprise. See HENRY HANSMANN, THE OWNERSHIP OF ENTERPRISE 66-119, 265-86 (1996) (explaining benefits and costs of employee ownership and discussing insurance companies).

Similar lessons have been drawn from more recent programs of trade union-provided unemployment insurance in the United Kingdom. See MICHAEL BEENSTOCK & VALERIE BRASSE, INSURANCE FOR UNEMPLOYMENT 79 (1986) ("[T]rade union schemes have a built-in system of checks and balances that effectively removes the problem of moral hazard. The local union branch office is in the best possible position to verify a member's claim."). But see id. at 78 (asserting that, nevertheless, "in none of the trade union accounts... is there any explicit recognition of sound economic actuarial principles in matching claims to contributions. Rather, union provident schemes, like national insurance benefits, operate on a pay-as-you go basis.").

Another partial exception that corroborates the general rule should be flagged—that is, mortgage-protection and credit-loan policies which continue peoples' mortgage and personal loan payments in the event of disemployment. See generally TAMIE BURCHARDT & JOHN HILLS, PRIVATE WELFARE INSURANCE AND SOCIAL SECURITY: PUSHING THE BOUNDARIES (1997) (discussing a variety of private employment insurance proposals). These exceptions are "partial" and "general rule-proving" in that: a) they tend to be available only to the "best" risks—doctors, lawyers, and other professionals—and, by the nature of the case, homeowners; b) they tend to be available only at the time the purchaser takes out the mortgage or loan, and cannot be redeemed until after some defined period has lapsed; and c) they tend to limit payment considerably, thus amounting to a form
simply impossible of provision through current contractual means. That being the case, in light of efficient and just insurance markets' near-mutual extensional entailment as related in Section 4, just insurance markets likewise appear unattainable through current private contracting practices. Might we expect, however, a more active—and just—market in wage and salary insurance if instruments other than standard insurance contracts were offered?

5.2. Income-Insurance Through Derivative Hedging Instruments?

The model of the modernly deep, liquid, efficient capital market offers an intriguing prospect for the more just and efficient pooling and pricing of systemic income risk.\(^{237}\) Securities are, after all, themselves a means by which issuing firms diversify a host of risks among a broad class of able and readily willing insurers.\(^{238}\) Dividends, interest, and/or securities-price-appreciations are the premiums that those investors charge for holding firm risk.\(^{239}\) Active markets in the "contracts" which entitle investors to those premiums are paradigmatic cases of the risk-justice-accounting markets discussed in Section 2, and they have fabulously broadened the risk pool to minimize the dangers to entrepreneurs and shareholders alike of covariance.\(^{240}\) They have also spawned the birth of sizeable industries of analysts devoted to the acquisition of co-insurance.

\(^{237}\) On the general significance of market liquidity, depth, and efficiency, see supra note 114. Works discussing these characteristics in relation to market operation include MAUREEN O'HARA, MARKET MICROSTRUCTURE THEORY 153-250 (1995); SHUBIK, supra note 114, at 399-427; JAMES TOBIN (WITH STEPHEN S. GOLUB), MONEY, CREDIT, AND CAPITAL 12-14 (1998); Maurice Pagano, Trading Volume and Asset Liquidity, 104 Q. J. ECON. 255 (1989); Maurice Pagano, Endogenous Market Thinness and Stock Price Volatility, 56 REV. ECON. STUD. 269 (1989). For more on efficiency specifically, see infra, note 267.

\(^{238}\) The insurance function of the corporate form and, by extension, the capital market, is forgotten to many of those who are not conversant with the origins of these institutions. The lacunae are well filled by CHARLES KINDELBERGER, A FINANCIAL HISTORY OF WESTERN EUROPE (2d ed. 1973) and, in somewhat chattier fashion, JEREMY BERNSTEIN, AGAINST THE GODS: THE REMARKABLE STORY OF RISK (1996). See also Arrow, Insurance, supra note 169, at 79 ("The most important [non-literal-insurance risk-shifting institution] is the market for common stocks. By this means, the owner of a business divest[es] himself of some of the risks, permitting others to share in the benefits and losses.... [T]hus, the stock market permits a reduction in the social amount of risk-bearing.").

\(^{239}\) Again, Arrow discusses risk in relation to insurance in Arrow, Insurance, supra note 169, at 45.

\(^{240}\) Id.
and evaluation of value-pertinent information, thereby rendering information increasingly symmetrical in the holding and specific risk more readily estimable (and thus priceable).\textsuperscript{241} The modern—particularly the Anglo-American—capital market is, quite simply (at least when properly regulated\textsuperscript{242}), one of the world's most efficient processors of value- and justice-pertinent information in the sense discussed in Section 2.3. Hence it is, potentially, one of the most just and efficient insurance mechanisms—a market for the insurance of economy-wide income-generation.\textsuperscript{243} Might a similar market spring into existence for the insurance of individual incomes?

We should first rehearse some of the basic mechanics of currently available securities (hence contracts) that an individual might issue. While a great—and growing—variety of such instruments already are available, most species are variations upon or hybrids of but three basic genii—futures, options, and swaps.\textsuperscript{244}

The futures contract commits and entitles the purchaser (or

\textsuperscript{241} Again, see infra note 267 on efficiency; see also O'HARA, supra note 237, at 252-60 (discussing market transparency as an issue in market performance); Ananth Madhavan, Trading Mechanisms in Securities Markets, 475 J. Fin. 607 (1992) (examining "the process of price formation under different forms of market organization when information is imperfect and traders act strategically"); ANANTH MADHAVAN, SECURITY PRICES AND MARKET TRANSPARENCY (Rodney L. White Center for Financial Research, Wharton School Working Paper, 1991) (demonstrating that "market transparency can actually increase price volatility and lower market liquidity").

\textsuperscript{242} Recent scandals involving Enron, World Com, and even Martha Stewart, needless to say, render plain the pregnancy of this condition.

\textsuperscript{243} This is true at least if its participants were to proceed from equal initial endowments and that market was effectively regulated against fraud, coercion, anti-competitive practices, and the like. See supra Section 2.3. (discussing the model for an efficient market); GOLLIER, supra note 61, at 307-23 (discussing efficient risk sharing and corresponding rules that "imply [a] group's degree of absolute tolerance to risk per capita is equal to the mean individual absolute risk tolerance in the corresponding state").

\textsuperscript{244} For a sophisticated account of the history, current variety, and the process of invention of such instruments with a theoretical view to the forces that prompt and constrain securities-design, see ALLEN & GALE, supra note 157, at 11-43 passim. Accessible works on the fundamental mechanics and pricing-mathematics of hedging instruments and their valuation include JOHN C. HULL, FUTURES, OPTIONS AND OTHER DERIVATIVES (1998), PAUL WILMOTT, DERIVATIVES: THE THEORY AND PRACTICE OF FINANCIAL ENGINEERING (1998), and LAWRENCE C. GALITZ, FINANCIAL ENGINEERING: TOOLS AND TECHNIQUES TO MANAGE FINANCIAL RISK (1995). Helpful introductory treatments are ROBERT W. KOLB, FINANCIAL DERIVATIVES (2d ed. 1998) and Roberta Romano, A Thumbnail Sketch of Derivative Securities and Their Regulation, 55 Md. L. Rev. 1 (1996). Additional academic discussions can be found in PRACTICAL READINGS IN FINANCIAL DERIVATIVES (Robert W. Kolb ed., 1998).
“long”) to deliver or take delivery of a specific good (which might even be simply another security) at a specific time and place at a pre-specified price. It symmetrically entitles and commits the seller (or “short”) to receipt or delivery of the good at that price in exchange for payment. Shorts on established futures markets are required to maintain margin accounts in order to guarantee their ability to pay. The markets and their margin account maintenance requirements facilitate credible commitment, rather in the way that reserve requirements enhance confidence in financial intermediaries like banks and insurance companies. Such mechanisms thus facilitate the efficient functioning of these financial markets. In effect, the futures contract is a means by which counterparties mutually insure against certain contingencies—changing crop yields and/or prices, for example. Prospective losses are shed, and relatively certainty acquired, at the price of some prospective gain. The position that one takes is, presumably in most if not all cases, a function of one’s assessment of the relative probabilities of such contingencies as well as one’s taste for or aversion to risk.

The option contract is much like the futures contract, save that the long purchases the right to purchase (“call”) or sell (“put”) without simultaneously bonding herself to making the purchase or sale. Because that bond, in the futures context, is part of the long’s payment for the right of purchase or sale, the purchaser of an option must ordinarily pay an additional monetary premium for the contractual retention of freedom of action. Options are thus more expensive than futures, other things being equal.

The swap is simply the contractual trade of one entitled income- or payment-stream for another over some specified period. A bank holding loans and entitled to receipt of interest payments thereon denominated in dollars, for example, might trade the right to those payments for another bank’s reciprocal right to similar payments denominated in pounds sterling over the course of a

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245 One might argue that in an informationally perfectly symmetrical market, the taking of different positions should reflect nothing more than the parties’ differing risk-aversions to (and, perhaps, if knowledge be restricted to “brute facts,” their differing probability assessments of) the particular contingencies over which they are contracting. (“That’s what makes horse races,” as the adage has it.) More on this can be found in Hockett, Fairness in Finance, supra note 211. See also Franklin Allen & Douglas Gale, Optimal Security Design, 1 REV. FIN. STUD. 229 (1989), reprinted in ALLEN & GALE, supra note 157, at 157 (modeling a market incorporating the transaction costs of issuing securities and differing estimations of their value); Grossman & Stiglitz, supra note 209 (modeling a market in which incentives to trade are grounded in differing beliefs).
year. Naturally, the counterparty banks often expect—or at any rate are betting on the prospect of—opposite outcomes in the matter of exchange rate fluctuations. The bank going short in dollar-denominated debt might be wagering that the dollar will decline in value relative to the pound, while its counterparty wagers the contrary.

It is not necessarily the case that counterparties to a futures, option, or swap transaction actually believe that market conditions definitely will unfold such that they will win the implicit bets that they are making through their transactions. Rather, in many (if not most) cases these parties simply are exploiting the possibility of such a contingency in order to provide against some other possibility likely both to counter-vary with that contingency and to be detrimental to their interests. They are, that is, hedging—diversifying the risks represented to them by varying contingencies, by diversifying portfolios of offsetting contingent entitlements or claims. They are thus smoothing the variances in their incomes over time.

The structure of hedging and its potential applicability to the problem of income-insurance is perhaps most perspicuously brought out in that of one particular hybrid instrument—the "collar." The collar is essentially the simultaneous sale of a call option and purchase of a put option on some revenue-generating asset. (Note that a job is, in the requisite sense, such an asset.) The transaction enables the asset's holder, at the price of surrendering some upside of the income generated by the asset, to protect against—to insure against—some downside loss in that same income-stream. In effect, the counterparties to a collar are, like all parties to hedging transactions, taking opposite sides of a bet; each party is, for a

246 See discussion regarding Hicks, infra note 312; see also Romano, supra note 244 (providing an introductory look at derivatives).

247 Again, many parties also simply "speculate" in such instruments, that is, wager through them. See introductory texts cited supra, note 271. The boundary separating speculation and hedging is notoriously difficult to draw and there seems little point in drawing it. Insuring is readily characterized as betting, and betting as insuring. For purposes of interpretation of some later sources quoted in this Article, however, it might be useful to think of speculation as transacting in regard to future contingencies in which one lacks a direct stake (apart from the speculating transaction) in those contingencies. Hedging with respect to such contingencies, by contrast, takes place when one is vested (even prior to the hedging transaction) in those contingencies. In the language of the derivatives trade, the hedger bears a pre-hedge interest in the value of the underlying, while the speculator does not. As shall be seen, the presence of large number of speculators in a market, as distinguished from hedgers, facilitates the efficiency of hedging.
premium, insuring the other. The question thus naturally arises whether individuals might insure against income risk by entering into some form of collar transaction—i.e., through the purchase of "salary-collars" or analogous instruments.248

The answer, at one level of abstraction, would appear to be a ready "yes." A salary-collar would simply be an income-insurance contract with a particular form of premium structure—the premium being the stream of surrendered upside income instead of some regular fixed payment. At a somewhat lower, more pragmatic, level of abstraction, however, we see quite readily that we are faced, at least to a significant extent, with the very challenges to efficient income insurance—possible covariance, asymmetric information, insured event probable-cost-inestimability, and thus non-credible commitment—that were discussed above in Section 5.1. Prospective counterparties whose prospects do not covary, hence, parties who generally live far apart or are employed in unrelated industries, would have to find one another—a significant search—hence information—cost. Parties would have to be able to estimate likelihoods of each other's loss of labor income—again, a considerable information cost, particularly to individuals or locally-restricted firms. And then there would be the problem of adverse selection—each party potentially in effect playing Groucho Marx, wondering why the other, much like he, is looking for a counterparty in the first place—and the problem of moral hazard—each party operating with an incentive to shirk so as to gain but not lose.249 For the same reasons that a standard insurer would presumably be unlikely to offer a standard insurance contract guaranteeing income, a prospective counterparty would be unlikely to take the opposite side of a collar or other hedging transaction with a prospective self-insurer, at least in the absence of some sort of guarantee that the other party would continue to work diligently

248 Two professors, one of law and the other of economics, have proposed collar instruments for the protection of returns on retirement investment accounts. See Martin Feldstein & Elena Ranguelova, Accumulated Pension Collars: A Market Approach to Reducing the Risk of Investment-Based Social Security Reform (Nat'l Bureau of Econ. Research, Working Paper No. 7861, 2000) (proposing a "pension equity collar"); Gordon, supra note 1 (proposing the same); see also Zvi Bodie, Financial Engineering and Social Security Reform [hereinafter Bodie, Financial Engineering], in Risk Aspects of Investment-Based Social Security Reform 291 (John Y. Campbell & Martin Feldstein eds., 2001) [hereinafter Risk Aspects].

249 See generally, the discussion and sources regarding risk and information, supra notes 182-188.
to earn income—earn "upside" income—and would be able (e.g., by maintaining a margin-account) to meet his payment obligations.

To an important degree, these are collective action problems, which might be solved by what is in effect the concerting of risk-trading action carried out by financial intermediaries—mutual funds, pension funds, and the like. But on top of the standard challenges just rehearsed, the still exotic and unfamiliar nature of most hedging instruments thus far will tend to limit the number of parties prepared—at least individually—to countenance taking part in any hedging transaction.\textsuperscript{250} (Insofar as the measures proposed at Section 6.3 succeed, however, this problem will be mitigated.)

Even the comparative sophistication, relative transaction- and information-cost-savings abilities, and consequent pooling capabilities of those who run financial intermediary institutions might well not suffice to offset that reluctance, for there must be willing customers between whom such institutions can mediate. But might a somehow jumpstarted "stock market" in individual income-hedging instruments, complemented by certain forms of information not currently generated or analyzed, change matters?

\section{6. Betting on Correlates: Financially Engineering Efficient Near-Justice Through Macro-Proxy-Trading}

We should briefly recapitulate the principal challenges facing just and efficient wage and salary insurance: within an economy, many risks to wages and salaries are likely to covary. Information with respect to the noncovarying risks is likely to be severely asymmetric; prospective insureds generally will know and control more with respect to their future income prospects than will prospective insurers. The probabilities of such contingencies are likely to be only partly estimable by prospective insurers in the absence of some market in (or tax-financed supply of) information (suitably interpreted) which relevantly bears upon those probabilities.\textsuperscript{251} While no action conceivably to be taken by an individual prospective insurer or insured seems likely to be up to the task of address-

\textsuperscript{250} Cf. \textsc{George Crawford $\&$ Budyat Sen}, \textit{Derivatives for Decision Makers} 198 (1996) (noting the general ignorance of most individuals regarding the technical details of derivatives transactions). Of course, the reluctance is not necessarily justified. \textit{Id.} The potential problem figures more prominently in Section 6.

\textsuperscript{251} Only macro-variables with which incomes are partly correlated—e.g., GDPs—will be generally predictable to some degree. It is that predictability which the proposals countenanced in Section 6.1 exploit.
ing and surmounting these challenges to private income insurance, it is not difficult to envisage means of doing so through collective action.

The key, we shall see, is to turn our attention from the risks themselves to correlates that can serve as (at least partial) surrogates for those risks, correlates which themselves are not subject to the information problems that plague those risk-classes that ultimately concern us. Were we able to convert these correlates, in effect, into the insured events and provide trading markets in those, many of our problems would be solved. We would have markets in which income-risks could be voluntarily traded between those who disvalue them more and those who disvalue them less. We would thus have simultaneously more just and more efficient income-insurance. Let us see precisely how this might be.


252 A "more complete" market simply means a market that supplies more goods—including financial assets—in satisfaction of current and potential wants than do existing markets. More technically, a complete market is one allowing trade in assets covering all elementary "state claims," i.e. states of the world the occurrence or nonoccurrence of which somebody might wish to insure against. (An asset covering a state-claim is a contingent claim. It is contingent in both of the two manners in which an insurance contract is contingent, as noted supra, note 128. There is the payout/premium contingency of any contract, as noted supra Section 2.3. There is also the payout/stated event contingency that renders the contract an insurance contract (\(y \land \delta \Rightarrow \epsilon\)).

Market incompleteness results when: a) there are fewer assets than state claims, b) there are as many assets as state claims but those assets' values are not linearly independent, or c) there are as many assets as state claims, but not all of those assets are tradable—human capital being a good example. I elaborate upon all of this in Hockett, Market-Able Justice, supra note 17, and more background can be found in, generally, JAMES MAGILL & MARTINE QUINZII, THEORY OF INCOMPLETE MARKETS I (1996). For purposes of the present essay the technical theoretical aspects of market-completion need not concern us; the intuitive understanding will do. Markets in income-risk-hedging are, for the reasons outlined in Section 4, radically incomplete. I should also flag here the possibility of simulating complete markets through dynamic trading strategies, a prospect innovatively and extensively modeled in the Nobel-winning work of Robert C. Merton, collected in his CONTINUOUS TIME FINANCE (1992). See also ALLEN & GALE, supra note 157, at 137-38; JOHN H. COCHRANE, ASSET PRICING (2001); DARRELL DUFFIE, DYNAMIC ASSET PRICING THEORY (2d ed. 1996); R.W. Banz & Merton H. Miller, Prices for State-Contingent-Claims: Some Estimates and Applications, 51 J. BUS. 653 (1978); D. Breeden & R. Litzenburger, Prices of State-Contingent-Claims Implicit in Option Prices, 51 J. BUS. 621 (1978); Stephen A. Ross, Options and Efficiency, 90 Q. J. ECON. 75 (1976). This is fully explored, again, in Hockett, Market-Able Justice, su-
As a sort of heuristic exercise, let us begin with a very concrete story, a tale that both gives visceral narrative expression to much of what has been established in this Article thus far, and sets the stage for the more theoretic and programmatic points to be made below.

Meet Bob and Barbara. Bob is a small-town lawyer. He has been in practice since the late 1970s, when he graduated from his state university law school. He is in his mid-fifties, and is pretty good at what he does. His practice involves, primarily, drafting wills and advising private parties in estate-planning, assisting small business people in the formation of business partnerships or limited liability companies and the drafting of contracts, facilitating small business transactions and negotiations, and like work.

When Bob decided to become a lawyer, the town where he lived and grew up was humble but reasonably prosperous. Its population had been by and large stable in size, perhaps slowly growing, for decades. It was a pleasant, easy place to live. Bob

*pra* note 17.

Like so much else, much of this work springs in considerable part from the fertile mind of Kenneth Arrow. See Kenneth Arrow, *Le Rôle de Valeurs Boursières par la Répartition la Meilleure des Risques*, 40 ECONOMETRIE, COLLOQUES INTERNATIONAUX DU CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE 41 (1953), translated in The Role of Securities in the Optimal Allocation of Risk-Bearing, 31 REV. ECON. STUD. 91 (1963), reprinted in 2 ARROW, COLLECTED PAPERS, supra note 158 at 3 (showing that a combination of contingent single-numéraire-unit-paying contracts payable on various contingent events (e.g., for $1 paid on the occurrence of event ε—now called "Arrow Securities") and spot markets for ordinary commodities is formally equivalent to a complete market of contingent commodities—i.e. of futures contracts covering all commodities under all contingencies—which in turn allows for the derivation of intertemporal general equilibrium, with all of general equilibrium's standard optimality properties, in the face of uncertainty). The catch, of course, is in actually establishing such complete contingent claims markets; the present Article is meant both to motivate the search for means to do so, and in part to point the way toward how we might begin to do so.

See also Maurice Allais, *Généralisation des Théories de l'Équilibre Economique Général et du Rendement Social au Cas du Risque*, 40 COLLOQUES INTERNATIONAUX DU CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE 81 (1953) (providing similar insights presented at the same conference at which Arrow presented his findings); Maurice Allais, *L'extension des Théories de l'Équilibre Général et du Rendement Social au Cas du Risque*, 41 ECONOMETRICA 269 (1953) (same). The method was evidently pioneered by Hicks—a fascinating case of high theory's envisaging general possibilities on the basis of more limited common practices noticed by the theorist (in this case, the behavior of early twentieth century British futures markets). See the Hicks sources cited *pra* note 47, and following text and discussion. It was anticipated by the work of Böhm-Bawerk and other members of the "Austrian School" of capital theory in the later nineteenth century. See generally sources cited *pra* note 22.
was very much taken with the character of Atticus Finch in the Harper Lee novel, and went to law school with the aim of becoming his own town’s Atticus. Upon graduating he returned to his hometown, hung out a shingle, soon married his high school sweetheart, Barbara (who had attended the business school at Bob’s university and now owned a small sole proprietorship), and made a down payment on a stately, one hundred year old “fixer-upper” of a home. Presently, he and Barbara began to bring children into the world. Bob did not make a great deal of money in his practice, but he earned enough, when added to Barbara’s income, to keep the family quite comfortable, set aside funds in anticipation of the children’s education, improve the house, and keep the mortgage payments up to date.

Some time in the early 1990s, things began to just noticeably change in Bob’s and Barbara’s town. Fewer children seemed to be being born, and fewer still were staying or returning to town after graduating from university. The population was gradually aging, and more people seemed to be departing than moving in.

About the same time, a number of large, multi-department retail stores and fast food establishments began to crop up on the outskirts of the town, capitalizing on national and even global economies of scale (often, indeed, selling cheap imported goods from developing countries), and paying their employees—first teenagers and retirees, then increasingly young and middle-aged adults—lower wages in order to offer goods and services at lower prices. These businesses attracted customers away from the charming town square, and many of the independent, locally-owned shops and restaurants that had once brought in or paid living profits, salaries, or wages and rendered that square so quaint and enjoyable began to deteriorate or close. Barbara’s business was among those affected.

The new businesses tended to retain counsel from the larger law firms located in the nearest metropolitan area, not Bob, when in need of legal assistance. And, of course, there were now fewer in-town clients requiring recourse to Bob’s particular portfolio of skills, which Bob had developed carefully and gradually with the local clientele’s needs in view. The larger law firms, unsurprisingly, were also uninterested in what Bob might offer. He was no longer all that young, and as noted before, had developed his capacities very much with a particular set of needs—classic small-town needs—in view. What is more, laws schools poured out scores of younger lawyers, still protean and not yet fully formed,
every year. These folk generally preferred and were more easily adaptable to the city lawyer’s life and work than was Bob. So even were Bob’s livelihood the only thing that mattered to him or the only piper to whose tune Bob had to dance, it is far from clear that he could have simply changed his clientele and practice areas. Similar observations, alas, would hold of Barbara.

On top of all this, even had Bob and his family been vocationally and temperamentally prepared to relocate to another place where Bob’s and Barbara’s abilities might have been more marketable, they would in a sense have been, to a quite significant degree, in other ways “locked in” to their present place of residence. It is not simply that their lives and traditions have been rooted in their town for decades. It is, for one, that their children, well educable in the town’s public schools, would likely have to attend distant magnet or expensive private schools were the family to move to the larger city and were Bob and Barbara to hope that the children might continue to develop their minds and sociabilities as well as they are currently doing. And it is, at least as urgently, that Bob’s and Barbara’s parents, now quite up in years, are in need of assistance and unlikely to live much longer should they themselves relocate. A nursing home would be quite expensive, not to mention demoralizing; so, of course, would be a new home, given the decline in property values in the town as a consequence of the town’s economic prospects and the greater expense of a new place in the city or suburbs. Bob and Barbara would have to work further from the home than presently, and thus be unable to look in on their parents during the day should the entire family take up residence in one house. It also seems unlikely that Bob and Barbara would be able to afford a large enough home as would be required by this latter prospect, for because the town’s prospects are on the wane, their own property’s value has diminished markedly, and Bob and Barbara remain contractually committed to mortgage payments tied to the home’s previous value.

Bob and his family are, increasingly, in a bind. They are going to have to make some painful choices. And, no matter what choices they make, they are going to be significantly worse off than they used to be and, naturally, expected to be by this point in their lives. Could Bob and Barbara have acted to prevent things coming to this pass? Was the whole scenario, in the language of the law, reasonably foreseeable in the 1970s? Are Bob and Barbara in any recognizable sense at fault for having relied, to their detriment, upon things’ having gone largely as they’d gone for many dec-
ades? Is there anything, realistically speaking, that they could have done to mitigate this, and is there now? Is it just for them and theirs to suffer if the answers to these questions are, in some sense, "no"? Is it welfare- or income-efficient, for that matter, if, say, someone might have shared this risk with them quite willingly but for the absence of a market in such risk? Would it not in any event be more just and more efficient if such risk-trading opportunities had bee available, of if they were now? Why aren't they?

We could have made this story more poignant by picturing Bob as, for example, a steel or other industrial worker. In such a case his losses would be even more dramatic, and even more directly wrought by economic "globalization." Let us keep Bob as he is, however, in order to show that even less dramatic examples closer to home give reason to consider markets such as this Article proposes.

What we have been envisaging, of course, is a classic "social insurance"-implicative story. Social insurance is meant precisely to ease some of the "no fault" hardships and dislocations that we find occasioned by certain unforeseeable catastrophes and macroeconomic changes. Significantly, however, there is no form of social insurance currently on offer by political jurisdictions exercising authority over advanced economies which would address Bob's and Barbara's situation.

Now one way of looking at social insurance, this Article suggests, is as a surrogate for missing markets. For familiar reasons that we have noted supra, we do not currently find private insurance markets for the trading or laying off of risks like those which now are eventuating for Bob and his family - risks that could more efficiently be borne by people other than Bob and Barbara. Social insurance programs, administered by governments possessed of authority over broad territorial expanses, step in to fill some of the more dramatic of the resultant gaps, by exploiting governmental powers to universalize risk pools and collect compulsory premiums in the form of taxes, and their powers to monitor, to some extent, insureds. But there are well-known information costs and consequent inefficiencies that attend such monitoring efforts, and constant political pressures to exit the compulsory premium-paying risk-pools (i.e., to be let off the taxation hook) exerted by many who, often by fortune (e.g., inherited wealth) rather than by diligence, find themselves less subject to risk, even while less risk-averse, than others. The two sources of instability, of course, dovetail: opportunistic behavior by some who exploit the difficulties
that attend monitoring affords ammunition to the better-off who
denigrate the legitimacy of the salient programs.

It is worthwhile carefully considering, then, whether, by both
returning to first principles, as we have done above in Sections 2
through 4, and by turning to new mathematical, legal and informa-
tion technologies only recently to have become available and still
coming on-line, as we shall see below in Sections 6.1.1 through 6.3,
we might actually provide the heretofore missing markets for
which standard social insurance programs are offered as a coarse-
grained and far from complete substitute. If we might, then we
might supplement existing social insurance programs with new
forms of *de facto* social insurance—new forms, indeed, of actually,
*literally, privately* provided insurance. And thus we might, by
means not subject to the classic vulnerabilities of traditional social
insurance programs, spare Bob, his family, and many like them
much of their apparently unfairly and inefficiently borne anguish.
We might, that is, render the distribution of certain kinds of risk
both more efficient and more just in the bearing.

Bob’s and Barbara’s story also can help render concrete the les-
sions just rehearsed in Section 5, concerning the prospects for pri-
vately insuring against asset-value- and income-risk in *current*
markets: suppose now that Bob and Barbara had wished somehow
to insure, back in the late 1970s or early 1980s, against what now is
befalling them and their family. Of course, the unavailability of
such insurance as we have discussed and shall discuss would ren-
der it somewhat surprising for Bob and Barbara even to consider it.
The imaginative space in which demands are formed is itself in
part a function of what already is supplied—that is, invention is
the mother of necessity as much as necessity is the mother of in-
vention. But ignore that for the moment. The question here is,
why is there in fact no supply of such insurance as Bob and Bar-
bara might use even for them so much as to imagine or begin to
exploit? The reasons are rooted in those prerequisites to efficient
insurance discussed above.

A principal source of income-loss and asset-value-loss—
sectoral, regional or general macroeconomic downturn or obsoles-
cence, associated demographic trends, and so on as described in
connection with Bob’s value-added, his particular occupation, his
home-valuation and so on—gives rise to a classic covariance prob-
lem. Unless Bob can access a risk-pool well beyond his local and
vocational environments, his insurance potential will be quite lim-
ited. For his neighbors and colleagues likely are suffering the same
losses as he is suffering. Likewise for Barbara.

Insured event determinability and probable cost estimability also are problematic in Bob’s and Barbara’s case. With respect to determinability, notice that the would-be insured event is not some singulary, salient, dramatic one-off affair—e.g. a fire or death—such as would easily be cabined and verified in the occurrence. It is a multi-factoral, protracted affair, rather like the case of the proverbial frog in the gradually heating water. As for probable cost estimability, the cost factor is not terribly difficult—it’s simply the lost income or asset-value—but probability is a different story. In the absence of careful long-term trend-watching over a lengthy period, the results of which watching are readily accessible both to would-be insurers and to Bob, the risk here is going to be quite indefinite as a matter of magnitude (at least ex ante, which is of course the relevant temporal perspective from the point of view of insurance). Were a market for such insurance already to exist and be highly liquid, there would of course be incentives for the ferreting-out and publication—at least in the form of observable prices impounding it—of such information. But there is not yet such a market (another case, like supply and demand, of “chicken and egg”).

The asymmetric information problems here are even worse: Bob’s prospective insurer, had Bob approached her in hopes of purchasing a policy covering what is now happening to him and to his family, would have been apt to wonder whether Bob knew something that she did not. After all, that insurer would, in view of the observation made just above at A, have to be located, or have access to many others located, outside of Bob’s locality, and probably wouldn’t be a small town lawyer. So Bob is of course better situated than his prospective insurer to know what his town’s and his practice’s long term prospects are. And the prospective insurer will know this. So that prospective insurer, recognizing a possible adverse selection bias, will be reluctant to insure Bob.

The moral hazard problem is yet more acute, at least with respect to Bob’s income and perhaps to some extent even with respect to the value of his home. After all, if the insurance policy is drafted in terms of income and home valuation alone—which it will have to be, absent a readily accessed locus of more “macro”-oriented, fluctuating data such as small town lawyers’ income trends and small town homes’ valuational trends more generally—what is to keep Bob’s income or home value from dropping simply owing to Bob’s own negligence? Our prospective insurer faces a
classic moral hazard risk, the monitoring against which will likely be prohibitively expensive both as a legal and as a logistical matter.

Notice that a private market for insurance against Bob’s fate, apparently rendered impossible by the factors just rehearsed, is missing through no fault of Bob’s or his prospective insurer’s. Bob is perfectly honest and diligent, his prospective insurer quite ready to insure him, up to a point, if only she can trust Bob and her own powers of assessing likely risks such as those that faced Bob, quite remotely, in the later 1970s. (It is critical that we keep the temporal perspective in mind. We now have “20/20 hindsight” with respect to Bob himself. The present project is concerned more directly with the Bobs of the future, whom we cannot now readily identify, in order that they might avoid Bob’s quandary when things begin to unfold for them as they have done for Bob.) Our insurer, who either bets directly on people like Bob or pools risks faced by many diverse people together as a financial intermediary, is a person of good will who is presumptively—because she is an insurer—much better able to cover risks like Bob’s than is Bob, if, again, she can only trust Bob and feel relatively confident about the verifiability and real probable cost of Bob’s possible misfortune. Moreover, were she able to be reimbursed by Bob were his prospects to improve after initially dropping and bringing him an insurance payout—e.g., after a popular “communitarian” movement and disillusionment with metropolitan life begins to take people back to the towns—she might be even more willing to insure Bob.

It begins to look as though what really is missing here, then, is not good will or a willingness to trade risks from those less efficiently to those more efficiently able to bear them, but rather, certain critical forms of information and a critical mass of prospective participants who, were they to be made vividly aware of the possibilities, would be willing themselves to constitute a market such as would begin to “incentivize” both the generation and the institutional concentration and deployment of that needed information (“chicken and egg” again). What we have here, that is to say, is perhaps in crucial part a classic problem of inertia, of collective action, predicated upon a set of long-settled informational expectations.

Patterns of expectation as to what is possible and what is not have developed around long enduring—up to now—understandings of what is technologically feasible (in both an informational and in a legal sense) and what is not. We are accustomed to thinking of information such as bears upon Bob’s income
and asset-value prospects as the sort of stuff that is gathered, if at all, only with long periodicity, and which is, again, if gathered at all, dispersed over varied, disconnected sites that do not "talk" to one another. (Perhaps some government office keeps some of the information—e.g., home value trends from decade to decade. Perhaps the Department of Labor keeps other bits of it—e.g., lawyers' income trends from 15-year period to 15-year period. Perhaps the American Bar Association keeps yet other bits—e.g., trends in profitable legal practice areas measured in 20-year increments.) And the legal forms taken by our transactions tend to reflect those settled expectations: we insurance-contract over singulary, highly salient, one-off type events—events generally involving one or a fairly small number of persons, not many people, and taking place at one time, not over protracted periods. Paid insureds do not typically point to countless others in order to verify what has happened to them, or "give the money back" to insurers when their continuously unfolding fortunes gradually pick up for the better.

But technological feasibility—in both the informational and legal senses—has changed: it is now possible, quickly and repeatedly over time, to gather, amass and centrally locate all manner of data bearing upon peoples' wealth-prospects in a manner previously unimaginined. And legal technology has kept pace with information technology: new kinds of contracts are continually being designed, such as enable people to take opposite sides of transactions on the basis of information that is of differential value-import to the counterparties. If the only thing standing in the way of exploiting these new technologies in order to supply currently missing markets is inertia or collective action challenge—everybody waiting for the others to act—then we might, quite simply, realize terrific Pareto gains—everyone made better off—if we can but jump-start, collectively, the instituting of such markets. And if the understanding of justice offered above, according to which most of Bob's and his family's sufferings were not reasonably foreseeable, hence not chargeable to his "diligence account," and are in that sense undeserved, then the supply of such markets will represent, not only a substantial Pareto gain, but a critical justice gain. Let us now then visualize, a bit more concretely, the sort of instruments and markets that might be of benefit to Bob and those like him—indeed, to all of us.

Picture, if you would, a new kind of hedging instrument and a new kind of market in such instruments. These instruments and markets are not fanciful extensions of current markets in exotic de-
First, a "small practice lawyer's income" collar: assume the existence, for the moment, of an index of small practice lawyer income. Perhaps the American Bar Association, perhaps the Labor Department, perhaps the Internal Revenue Service, perhaps some other institution tracks incomes of lawyers engaged in small private practice, aggregates them, and expresses them in terms of some arbitrarily selected base year, as is familiarly done with the GDP, the CPI, and other such aggregates. Now imagine that we design a contract, either between Bob and some financial intermediary which pools the savings and risk-provisions of multiple parties, or between Bob and some other counterparty from whom he purchases the contract on an organized exchange. The contract provides that, when ever at the end of some predetermined period—say a half-year, a month or a week—the index rises above some pre-determined level, Bob must direct a payment toward that intermediary. And it provides that, when ever the index falls below some pre-determined level, the intermediary directs a payment toward Bob. (The "collar," is, as noted in Section 5, analyzable in familiar derivative terms as the simultaneous sale of a call option and purchase of a put option on revenue generated by an asset. Here the "asset" simply is the index tracking Bob's occupational prospects.) Bob and his counterparties are of course required to maintain margin accounts with the intermediary or the broker on the envisaged exchange, to guaranty performance. If clearing is effected frequently—e.g., daily per the "marked to market" system—the margin accounts need not be prohibitively large.

Second, a "small town domestic product" collar: imagine the instrument just described, but now with the pertinent index tracking the economic performance of Bob's town or of small towns more generally, suitably defined. When the index rises, Bob pays out; when the index falls, Bob's counterparty pays in.

Third and finally, a "regional [or "small town"] real estate value" collar: As before, but now with the relevant index tracking real estate values in the pertinent area or of the pertinent — e.g., "small town"—type. Again, Bob pays out or receives pay-ins, which vary countercyclically with the performance of the aggregate to which his net worth is tied. Bob's cyclical net worth is "smoothed," "collared." He surrenders some "upside" gains in re-
turn for lessening his "downside" losses. His counterparties do the same.

We can imagine many other such instruments. We can imagine parceling data in all manner of ways, all with a view to tying the aggregate of prospects upon which Bob in effect "bets" more closely to the prospects of returns upon his human capital, his social capital (that of his town), his real property, and so on—in sum, to his full net worth. More such instruments will allow for a more fine-grainedly customized, more fully optimized, portfolio. In so far as there are willing counterparties, these effective "swaps" of asset-value-stream will, by definition, result in welfare gains for all. And in so far as they enable Bob to mitigate the ravages of fortune over which he lacks control, they will result both in justice gains with respect to risk-allocation, and in chargeability, through his "diligence account," of Bob both with some degree of responsibility to insure and with some degree of "constructive knowledge"—in the form of securities prices—of the likely longer term income-consequences of his choices. In a moment we shall particularize those observations a bit more, by reference to the prerequisites to just and efficient insurance described above. First, however, we must exercise our imaginations one more time:

Imagine not only that instruments such as those just sketched, and their associated indices, exist, but also that there is a well-established, active trading market in such instruments—indeed, in many state-contingent (in this case, derivative) claims upon some (or even all conceivable) forms of wage- or salary-associated fluctuating income aggregate—i.e., an active market in something (or some things) that is (or are) correlated with precisely the sort of variable that renders income risk what I have labeled "systemic" and thus meriting, in justice, income-risk-sharing.253 "Perpetual fu-

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utures contracts," for example, or vocational income-collars, or local real estate value collars, tied to standardized measures (indices) of a state's or region's GDP, a vocation's average income rate, or a locality's average real estate values, are purchased and traded widely upon this market. Shorts in these contracts in effect direct payments to longs whenever the underlying measure—the stipulated index—rises above some predetermined ceiling level, and longs compensate shorts when the underlying index falls below a predetermined floor.\textsuperscript{254} There is, in effect, a sort of contingent-

\begin{itemize}
\item DERIVATIVES, REGULATION AND BANKING 193 (Barry Schachter ed., 1997); see also ALLEN \& GALE, supra note 157, at 1-53, 136 ("One way of providing insurance would be to have futures or options contracts based on output in a particular industry. This security would allow people to hedge their human capital risk. As yet such securities do not, of course, exist. They could perhaps be synthesized by, for example, shorting a diversified portfolio of stocks in an industry. The transaction costs of doing this are large, however.").
\item Currently the principal champion of markets in hedging instruments tied to macro-indices, at least in terms of publication volume, seems to be Robert Shiller. See ROBERT SHILLER, MACRO MARKETS: CREATING INSTITUTIONS FOR MANAGING SOCIETY'S LARGEST ECONOMIC RISKS (1993) [hereinafter, SHILLER, MACRO MARKETS], which offers helpful discussion of the possible uses of such instruments and markets as well as substantial contributions to the theory of index numbers—a matter which, as subsequently discussed, must ultimately be ironed out in order for the proposed markets to get off of the ground. See also Stefano Athanasoulis et al., Macro Markets and Financial Security, FED. RES. BANK OF NY ECON. POL'Y REV. 21, 21 (1999) (discussing Shiller's "proposed . . . new set of markets that could in theory provide better diversification opportunities"); Marianne Baxter et al., Synthetic Returns on NIPA Assets: An International Comparison, 42 EUR. ECON. REV. 1141-72 (1998) ("us[ing] the constant-expectant return model of Campbell and Shiller as our asset pricing model . . ."); ROBERT J. SHILLER \& STEFANO ATHANASOULIS, WORLD INCOME COMPONENTS: MEASURING AND EXPLOITING INTERNATIONAL RISK SHARING OPPORTUNITIES, at 1 (Nat'l Bureau of Econ. Research, Working Paper No. 5095, 1995) (detailing "methods of decomposing the variance of world national incomes into components. . . ."); ROBERT J. SHILLER \& RYAN SCHNEIDER, LABOR INCOME INDICES DESIGNED FOR USE IN CONTRACTS PROMOTING INCOME RISK MANAGEMENT, at 1 (Nat'l Bureau of Econ. Research, Working Paper No. 5254, 1995) (creating "indices of individual labor income"). Shiller, it should be noted, is not only a breathtaking visionary and practical humanitarian, but a most generous interlocutor and collaborator as well. Cites to his work can scarcely do justice to his salutary influence.
\end{itemize}
consol-swap, an iterated, ongoing bet between the parties.\textsuperscript{255} Insofar as peoples' opinions as to, or stakes in, the underlying's fluctuations differ, there is every reason to expect active markets in such instruments, at least once the initial and inertial obstacles to their establishment have been removed.\textsuperscript{256} Participants, of course, are required to maintain margin accounts with a clearing authority or broker, or in some other manner to guarantee payment, just as in current derivatives markets; failure to maintain the required balance results in the closing of one's short position and required purchase of a countervailing long position to cancel the short one.\textsuperscript{257} Thus, there is a form of ongoing, continuous relational contract between the parties to this transaction, rather reminiscent of the ongoing, dynamic social contract posited in Section 2.3 in explicating justice. If the instrument and market here envisaged (they need not take precisely this form—as suggested by the examples listed at the beginning of this Section and this paragraph, there are readily constructed analogues to all those instruments discussed in Section 5.2) are tied to the appropriate underlying index, it is easy to see how trade in and on them can afford a more just and efficient form of income-insurance than we currently find, by skirting the obstacles classically facing development of a private income-insurance market.

6.1.1. "Randomizing" Covariance

Not all sectors of an economy always covary with respect to their prosperings. While airlines or trucking companies languish in response to certain sector-specific shocks, for example, some railways might be expected to flourish.\textsuperscript{258} Tire sales and associated incomes, however, will fare as well or as poorly as automobile sales fare. Returning to our Bob and Barbara story for a moment, non-small-practice lawyers, for example, hoping to hedge their own income risks, are likely to be among Bob's counterparties—

\textsuperscript{255} Consols are perpetual annuities not often found in the United States but rather more familiar in Great Britain. On "swaps," see the discussion supra, Section 5.2.

\textsuperscript{256} These, as will be seen infra in Sections 6.3 and 6.4, are both considerable and addressable.

\textsuperscript{257} See Paul H. Kupiec, A Survey of Exchange-Traded Basket Instruments, 4 J. FIN. SERV. RES. 175 (1990) (investigating "basket" financial instruments).

\textsuperscript{258} A now, alas, easily envisaged hypothetical would be a well publicized act of terror which rendered large numbers of travelers skittish about airlines but willing to drive or take passenger trains.
they and Bob will in effect insure one another, each faring better when the other fares worse, and each directing payments to the others precisely when those others are more needful and they themselves less. Likewise Bob’s non-small-town-dwelling counterparties, and so on. It is easy to enumerate pairs and n-tuples of complements and substitutes within most economies, and would likely become even more so if there were to be an active market in state-contingent claims deriving their values from indices of the values of such statistically-associated goods. (More on this information-generation infra, as, again, at Section 2.3, supra.)

Beyond complementary and substitute sectors and industries, entire regions, nations, and even trading blocs often will vary countercyclically in their income-growth and -contraction phases. Germany and Japan, for example, often seem to have flourished precisely when Britain and the US have fared poorly, and vice versa. And even when countercyclicality is not so dramatic, there are nonetheless partial countercyclicality, degrees of countercyclical and lag times between even merely partly covarying fortunes among sectors, national economies and regional economies. The more sophisticated our econometric modeling, the more precision we can bring to bear in exploiting differential variances. And again, if a price-mechanism were established in derivative instruments deriving their values from such measures, we would expect pricing itself to provide much if not all of the information that we need. (More on that, again, infra.) If, then, people were able to hedge their incomes against countercyclically varying, partially cross-varying or laggingly varying sectoral, national or regional income aggregates, insurance-vitiating covariance would decline in importance and portfolios would draw significantly closer to optimally diversifiable.259

6.1.2. “Symmetricalizing” Asymmetric Information

Now suppose that wage- and salary-incomes could be insured not directly, but indirectly, by proxy, by insuring against larger, aggregated income-components with which individual incomes were predictably correlated or anticorrelated, but over which prospective insureds enjoyed no particular informational or manipula-

tional advantage vis-à-vis prospective insurers, particularly once prices impounded all such information and rendered it publicly available.\textsuperscript{260} Under such circumstances, there would be no problems of hidden information (concealed want of diligence) or monitoring costs. We would have eliminated most adverse selection and moral hazard challenges to privately offered income-insurance.\textsuperscript{261} In the idiom of our Bob and Barbara story, prospective insurers of Bob would worry less that he knows something that they do not. And they would no longer need worry that Bob might actually bring about the eventuation of the risk that he was seeking to insure.

Now query: what would those larger, aggregated income-components to which nobody enjoys privileged access likely be? The answer seems clear: what better candidate than those very sectoral, national, and regional income variables considered in connection with covariance—variables also associated with what, in Sections 2.4 and 3, we called "systemic risk," the bearing of which ought, in justice, to be rendered as widely (as equally) shared as is the information that is associated with it? Is any variable, apart from the income-earner's own diligence (which is \textit{not} publicly knowable), likely to bear a fuller or more direct impact upon an individual's income stream than the health of the industry, or of the national, regional or local economy in which she is employed?\textsuperscript{262} Perhaps sunspots, or Zodiac phases, bear the requisite degree of countercyclicality; it's really not important. The real point here is

\textsuperscript{260} See Sunder, supra note 259, at 456 ("The [empirical] studies ... demonstrate that it is possible for markets to disseminate information from perfectly informed insiders to the uninformed. Is it also possible for a market to perform the more subtle and difficult task of aggregating the less-than-perfect, diverse information in possession of individual traders, and disseminating it to all traders? If this were to happen, such a market would function as if \textit{every} individual trader has access to \textit{all} the information in possession of \textit{all} individuals.") (emphasis added). Sunder answers his own question with a qualified affirmative—it seems that markets must be well regulated and as complete as possible. \textit{Id.} at 461.

\textsuperscript{261} Of course, as the notion of "partial countercyclicality" adduced in the previous paragraph suggests, insurance in such case would only be partial, insofar as the correlation between income and aggregate were less than perfect. But the point is that this would be a considerable improvement upon the near complete \textit{lack} of systemic income-risk insurance that is on offer \textit{presently}.

\textsuperscript{262} I, of course, leave to one side the employee's own, \textit{physical}, health. That is covered in the more complete "just insurance" theory offered in Hockett, Market-Able Justice, supra note 17, at 4, which considers such matters as "gene insurance," "time-consistent health insurance," and many other new theoretically available, and justice-reflective, forms of insurance that we might place on markets.
that there are likely to be a variety of phenomena that are sufficiently "macro" as to be unaffec-
table by individual action by most parties (particularly once markets are established and prices im-
pound the information) and unlikely to be the object of privileged information by most parties as to constitute good surrogates for individual employment itself, provided only that they vary or co-
vary in some predictable degree with the employment in question and can be bet upon in some market, so as to constitute oppor-
tunities for hedging employment income.263

6.1.3. "Estimabilitating" Inestimability

Now consider one further likelihood: If a market in hedging instruments that derived their values from underlying aggregate values were to develop, is it not reasonable to expect that an active complementary industry of predictors and analyzers of those values would grow in tandem with it, just as such an industry has de-
veloped alongside modern securities markets?264 Surely, it is en-
tirely reasonable to anticipate that eventuality; it would, in fact, be unreason-
able not so to anticipate.265 Indeed, the would-be public

263 Particularly evocative in this connection is ARROW, Insurance, supra note 169, at 81 ("Suppose we could introduce into the economic system any institution we wished for shifting risk instead of being confined to those developed histori-
cally.... [I]t is not hard to see what an ideal arrangement would consist of. We would want to find a market in which we could insure freely against any eco-
nomically relevant event. (N.B. i.e., we would want a complete state-claims mar-
ket.) That is, an individual should be able to bet, at fixed odds, any amount he wishes on the occurrence of any event which will affect his welfare in any way.").

264 Of course, because of the link between many such aggregate variables and firm-profitability and consequent -valuation, not to mention municipal solvency in the case of municipal bonds, a large industry of such analysts already has de-
veloped in order to facilitate the accurate pricing of firm- and municipally-
issued securities. But, as is discussed in Section 6.2.1 infra, particular purposes de-
cisively influence the types of data that are collected and the weights that are as-
signed and interpretations that are placed upon such data. It would therefore ap-
pear likely that new forms of data, and certainly new means of interpreting some of that data, would develop alongside of what we now see should an active mar-

265 Id. One purpose of this Article is indeed to motivate more detailed, tech-
nical work in the way of thinking through what additional forms of data, and what additional forms of weighing and interpreting, might be sought. More on this infra Section 6.2.
good of such information would efficiently be privatized and internalized, in the sense that value could be gleaned by finding it, after which it would be rendered public in the form of price-adjustment. But such a development would perforce lead to substantial diminishment of the inestimability problem. Analysts would busy themselves ferreting out all manner of information bearing upon the present values of the income streams represented by, hence the future prospects of, sectoral, national, regional and local economies, as there would be significant prospects of gain (on the part of hedgers and speculators alike) from the gleaning of such information.266 This information would, of course, impound itself in the prices of the relevant hedging instruments, and thereby be pooled and rendered effectively public to all.267 This would not

266 This is, of course, elementary. See, e.g., POSNER, ECONOMIC ANALYSIS OF LAW 140 (5th ed. 1998) [hereinafter POSNER, ECONOMIC ANALYSIS OF LAW] ([S]peculation, . . . by giving people (speculators) a stake in forecasting prices correctly [that is, prices of the underlying] even though they are not involved in producing or consuming the [underlying] commodity traded in the market [and indeed, even if they are], increases the amount of price information in the market.”) Insofar as price information is, per Section 2.3 supra, justice-pertinent information, this activity of course assists in the working of justice. See also Hicks works cited supra note 47 and accompanying discussion and text; Romano, supra note 244.

267 I am of course appealing to the proposition that there is at least some degree of truth in the well rehearsed “Efficient Capital Markets Hypothesis” (“ECMH”), on which see, e.g., M. L. BACHÈLIER, THÉORIE DE LA SPÉCULATION (1900); F. A. Hayek, The Use of Information in Society, 35 AM. ECON. REV. 519 (1945); Paul A. Samuelson, Proof that Properly Anticipated Prices Fluctuate Randomly, 6 IND. MGMT. REV. 41 (1965); Eugene Fama, Efficient Capital Markets: A Review of the Theory and Empirical Work, 25 J. FIN. 383 (1970) (first distinguishing and discussing support for “strong” (all price-relevant information impounded), “semi-strong” (all published information impounded) and “weak” (all information as to past stock price movements impounded) forms of the hypothesis); Efficient Capital Markets II, 46 J. FIN. 1575 (1991) (reoperationализing the hypothesis through tests for “return predictability” (roughly corresponding to the “weak” form), “event studies” (“semistrong” form), and “private information” (“strong” form) and concluding, at 1602, that “[e]vent studies are the cleanest evidence we have on efficiency . . . . With few exceptions, [they are] supportive.”) (emphasis added); Harold Demsetz, The Cost of Transacting, 82 Q. J. ECON. 33 (1968); O’HARA, supra note 237, at 153-250. Ronald Gilson & Rainier Kraakman, The Mechanisms of Market Efficiency, 70 VA. L. REV. 549 (1984); Lynn K. Stout, The Unimportance of Being Efficient: An Economic Analysis of Stock Market Pricing and Securities Regulation, 87 MICH. L. REV. 613 (1988); Malkiel, supra note 264.

The hypothesis has come under rather exacting scrutiny over the past two decades. See, e.g., Fischer Black, Noise, 41 J. FIN. 529 (1981); Lawrence Summers, Does the Stock Market Rationally Reflect Fundamental Values?, 41 J. FIN. 591 (1986); Grossman & Stiglitz, supra note 209; ROBERT SHILLER, MARKET VOLATILITY (1989); ROBERT SHILLER, IRRATIONAL EXUBERANCE (2000); ANDREW LO & ARCHIE C. MACKINLEY, A NON-RANDOM WALK DOWN WALL STREET (1999). We seem to be
only eliminate the final remaining barrier to efficient income-insurance, it would offer at least two additional justice- and efficiency-pertinent benefits as well.

Firstly, the development of such an industry could be expected to bring about better economic forecasting even than that currently done by fiscal and monetary authorities. While such forecasting as is currently carried out by governmental and intergovernmental personnel (e.g., the Conference Board in the United States, or the International Monetary Fund on behalf of its Member Countries) no doubt is of very high caliber, it seems reasonable to expect the vaster armies of analysts whose own incomes directly would ride upon the quality of their forecasting to make at least incremental improvements in current methods of data collection and assessment. Moreover, standardization wrought by a developing market in the derivative securities here countenanced would lend itself, feedback-style, to yet greater liquidity and meaningful pricing, helping to optimize estimability.268

Secondly, relatedly, and for present (justice-) purposes rather more importantly, the development of informationally efficient individual income-hedging markets would take private income insurance well in the direction of optimal justice. Recall that a principal problem in sorting out the justice of income-risk-distribution is the separating of "systemic" or "latent" from "individually preventable" or "patent" such risks.269 Recall more generally my argument that an adequate theory of justice must be informationally richer and more nuanced, social-contractually more complete than those theories currently dominating the field—the consequentialist and

entering upon a renaissance of sorts in the field of "behavioral finance," and a fuller footnote would include cites to Professors Shefrin, Shleifer and Thaler in addition to those authors just cited. This is not the place for such an excursus. One needn't commit herself to optimal efficiency of securities pricing in accepting the force of the present argument. Even ECMH skeptics will concede that securities prices in deep, liquid markets impound and convey a great deal of important information which, in the absence of such markets, would not be widely available. The same will likely admit that more effective regulation can curb the manic and nefarious practices that undercut markets' rationality. See also next several pages and citations for more on this, and, again, sources cited supra Section 2.3.

268 See supra note 201, and accompanying text on the salutary (and apparently initially unforeseen) effects of FHA mortgage insurance on the standardization of mortgage forms and the subsequent (indeed, consequent) liquidification of mortgages in the form of an efficiency-enhancing secondary mortgage market. See also Douglas Gale, Standard Securities, 59 REV. ECON. STUD. 731 (1992), reprinted in ALLEN & GALE, supra note 157, at 309.

269 See supra Section 2.4 for a discussion of risk-sharing
Rawlsian accounts—in order to correlate our countless justice-implicative choices and actions, in particular our exchange relations, with their justice-appropriate recompenses (what I called "justice-accounting"). Now an informationally efficient income-risk-hedging market, it seems clear, would enable prospective job-takers and job-retainers, not to mention job-income-hedgers, more readily to trade their risks in accordance with the degrees to which they valued—hence, in a sense, deserved—them; and more transparently to assess the degrees of risk—an important form of social opportunity cost—represented by their own and alternative occupations. Hence, an income-risk-hedging market would aid their choices to move into, stay out of, remain in or out of, or hedge in relation to such occupations, simply by pricing the relative costs of the hedging instruments associated with differing industries, localities, regions, countries, etc. It would then be more reasonable

270 See supra Section 2.3. See also Posner, Economic Analysis of Law, supra note 266, at 54 ("Speculation performs a valuable economic function by helping to make prices accurately reflect the conditions of supply and demand."). Insofar as supply and demand accurately reflect scarcity, social opportunity cost and social valuation, active speculation in these markets would, again, per the terms of Section 2.3, facilitate accurate "justice-accounting."

271 Recall the discussion at Section 2.3 of markets as information-processors. Particularly interesting, in this connection, are the results of much empirical work done on "experimental markets."

First, when spot markets (i.e., markets of goods whose values underlie derivative securities) are supplemented by futures markets, convergence to equilibrium in the spot markets is considerably sped up, as would be expected in theory. See, e.g., Robert Forsythe et al., Asset Valuation in an Experimental Market, 50 Econometrica 537 (1982); Robert Forsythe et al., Futures Markets and Informational Efficiency: A Laboratory Examination, 39 J. Fin. 955 (1984); Jean-Pierre Danthine, Information, Futures Prices, and Stabilizing Speculation, 17 J. Econ. Theory 79 (1978); David Friedman et al., The Informational Role of Futures Markets and Learning Behavior—Some Experimental Evidence, in Futures Markets—Modelling, Managing and Monitoring Futures Trading (M.E. Streit ed. 1983); David Friedman et al., The Informational Efficiency of Experimental Asset Markets, 92 J. Pol. Econ. 349 (1984).


For more on the theory, see, e.g., sources cited at notes 252, 267, and 312, as
than it is at present to say (at least given properly functioning markets and rough symmetry of initial endowment among market-participants), of anyone taking a job attended by significant long-term income-risk, "she could have anticipated and prevented or hedged against the eventuation of that risk, for either there was a readily available counterparty to whom she could cost-effectively have transferred that risk, or the high price (or impossibility) of hedging against it told her of that risk's presence and inefficient (i.e., social-opportunity-over-costly) bearable magnitude; it was a more patent, less latent risk." It would also be more reasonable to say of that person, in a more detailed manner, "she could partially have hedged against the income risk associated with that occupation by investing in $\alpha$, $\beta$, $\gamma$, $\delta$, or some combination thereof, the prospects of which are (or were) variously inversely correlated with the prospects of that occupation in which she chose to work; that information also was patent, not latent." And of course it would not in fact even be necessary to say such things at all; all of the deserts or "penalties" implied would already have been imposed, in the form of the market-produced price of the hedge. For such a market and the information that it would impound, express, and price would, if efficient, by dint of its very functioning (and, again, commencing from a reasonable initial distribution of bargaining power among participants in the first place), sort out systemic (or latent) from patent (and hence voluntarily assumed, faultable) risk—as only the latent (non-asymmetric information-associated) risk would generally be able to be hedged, at least at reasonable rates. And insofar as the patent risk was able to be hedged, it would be due to the presence of mere speculators in the market, who also would likely be frequent counter-parties in the case of latent risk.272 (There would thus be a transformation of even patent risk into something fairly insured too, if people wanted to insure it, by dint of voluntary counter-gambling. This speculative opportunity would make for what might be a socially useful channeling of risk-taste alternatives to lotteries, in which the state is generally the winner.) Risks, in short, would come to be dynamically, fairly, and

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272 See infra note 312 for a discussion of speculators in the market.
socially optimally priced (assuming, of course, that market participants entered the market upon fair and equal terms) over time in view of available and ever-changing social knowledge.

In sum, then, and again returning once more to our Bob and Barbara story, people situated as was Bob in the later 1970s would be better able to assess the prudence of making Bob’s own vocational, locational, and real estate-purchasing decisions—and, of course, better able to hedge such bets as they made. (The earlier mentioned process of “justice-accounting” would thus be eased, at least with respect to many risks.) People situated as Bob’s prospective insurers would be likewise advantaged. Contracts between such parties would be more readily made with confidence about what was being “bet” upon, and the contracts themselves would be amenable to more temporally-flexibly defined—indeed, valuationally fluctuating—“bets.”

6.2. From Woulda and Shoulda to Coulda: A Brief, Constrative Excur- sus on Dworkinian Social Insurance. More Risk-Attitude Presumption and the Central Problem Left Unsolved

A brief stock-taking and summing-up might be in order. It was noted before that Dworkin uses a “hypothetical insurance market” to stimulating effect in, first, explicating his theory of justice as “equality of resources,” and, second, concluding that progressive income taxation can be regarded as a sort of underemployment insurance premium. Dworkin’s approach to the risk-justice problem deserves separate consideration as a (somewhat) competing proposal to that which I am offering (I say “somewhat” because one way of characterizing what I propose is as a sort of “real,” rather than merely Dworkinian “hypothetical,” Dworkinian insurance).

Dworkin’s proposal, like utilitarian and Rawlsian justice, rests upon risk-taste assumptions that we ought to avoid if possible; does not actually, in the end, address the problem which he (and I) wish to address; and recommends a policy-orientation which, alas, appears destined to be politically infeasible (at least in the United States) for some time to come. My own proposals, by contrast,

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273 Pun foreseen but not intended.

274 See discussion supra note 164.

275 That theory shares some perspective with my own, as explicated supra, Section 2.3, in its “ambition-sensitivity,” see supra note 84, and in its concern with dynamic equality, see supra note 90.
come closer to the real target implicated by our sense of justice (at least if we begin, like Dworkin, at a reasonable starting endowment), and are likely to be more appealing to a public that remains suspicious of taxation and enamored with "the magic of the marketplace."

The key insight of Dworkin's work is that an ideal picture of a just distribution of resources over time—a picture that is "ambition-sensitive" without being "endowment-sensitive"—includes state-claims among the goods for which individuals are able to trade. More specifically, the idea is that "underemployment insurance" would be ideally purchasable from behind the veil in order that peoples' own risk-preferences and willingness to expend effort—before they realized what the market for their particular talents might be—would determine the compensation they receive for any lack of marketability they experience in the ensuing post-veiled labor market. In this way, peoples' lots in the labor market would be rendered attributable to their own preferences and choices (their "ambitions"), rather than to the slings and arrows of outrageous fortune (their "endowments").

Now the proverbial rub here, of course, is that this particular "hypothetical insurance market" does not, and cannot, exist. There simply is no way actually to situate people behind a veil which screens from them all knowledge of what their abilities and marketabilities will be in the post-veiled market. Nor is there any means for insurers to determine, once the purchasers come out from behind the veil, to what degree any want of marketability stems from want of "ambition," and to what degree it stems from want of "endowment." Lacking that ability, we are faced with the same central problem noted before that challenges the instant and any other effort to theorize, then implement, distributive justice—namely, how to sort out talent ("endowment") and effort (or diligence, "productive virtue," Dworkinian "ambition"). As the dis-

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276 See Dworkin, Sovereign Virtue, supra note 22, at 108. The distinction, to an important degree, tracks my own between "patent" and "latent" risk as well as that between choice and circumstance, effort and talent. On these latter, see supra Section 2.3.

277 The availability of insurance converts "brute luck" to "option luck."

278 Actually, there is another rub as well. As described by Dworkin, even if it could exist, it would not address the very need that has occasioned it: the parsing of talent endowment from effort and occupational choice.

279 Note, again, that an analogous difficulty afflicts the theory of responsibility (fault) in the tort and criminal contexts. See generally supra note 96.
discussion notes in Section 2.3, this is, of course, a particularly sharp and important information problem. Insurance is a standard means of dealing with some information problems—those regarding one's own risks when the general incidence of risk is at least known. But here it is insurance itself that faces an acute problem of asymmetric information, the very one that prevents private markets in standard income-insurance contracts (noted in Sections 4 and 5) from coming into being in the first place. We are thus compelled either to come up with a means to circumvent that problem, or to come up with a sort of compromise to the ideal Dworkinian underemployment insurance.

Dworkin, of course, takes that second route. The key as Dworkin sees it is to exploit certain advantages enjoyed by government over private actors—in particular, its capacity to coerce participation in the insurance market—and then to "mimic" the "hypothetical" insurance market. He thus imagines entering certain crucial bits of data that might somehow be collected—in particular, goods-and-services demand-schedules and data regarding the total distribution of talents among the population—into a marvelous computer, out from which, voilà, issues the market-structure and income-strata that would be produced from that talent- and tastes-distribution. The government then performs a sort of Gedanken experiment concerning what the average citizen behind a "thin" veil of ignorance (where one knows her tastes but not her talents) should purchase in view of that market-structure and income-stratification. The government then taxes the citizenry accordingly by way of premium-collection, and provides underemployment insurance with the proceeds. In order to avoid moral hazard and to ensure solvency, the government places the burden of proof upon the underemployed to show that they really are unable to earn at the salary levels to which the government insurance is to raise them. This effectively requires the beneficiaries to prove a negative.

Requiring that beneficiaries prove a negative, of course, places a remarkably heavy burden upon their shoulders. But there are yet more formidable difficulties with Dworkin's proposal. These include the following: a) there is no means of acquiring data on the

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280 See discussion supra note 131 (discussing Oskar Lange, whose interest in cybernetics we noted in connection with the "great socialist calculation debate").

281 Hence "would" because Dworkin, as well as Rawls, denotes "should" as "would."
actual, innate talents (as opposed to diligences) of the citizenry;\textsuperscript{282} b) there is no marvelous computer or means other than the market itself of calculating the demand schedules proceeding from consumer tastes;\textsuperscript{283} c) the government is not able actually to generate the market-structure data and income-stratification schedules in question; and d) the single premium arrived at which Dworkin decides that people "should" (hence "would") actually pay\textsuperscript{284} is of course question-begging, coarse-grained ("one size fits all"), theoretically underdetermined (by dint of a, b, and c) hence implausible, and, finally, practically unimplementable. It appears, then, that this second alternative—the "second best" solution—actually is no alternative at all. The informational problems that give rise to the Dworkinian "first best" and "second best" solutions, along with the problem of an assumed universally predictable degree of risk-aversion, afflicts the "second-best" itself, and just as acutely.

We return, then, to the first solution-type noted before—how might we circumvent the fundamental information problem of parsing diligence from fault? This is precisely what the actual markets that I have here proposed are meant, to some extent, to do. We focus on surrogates (or proxies) for what is hidden (effort, lack of fault, Dworkinian "ambition"), and then offer real (not "hypothetical") markets in those surrogates. In effect, we enable people to bet on the prospects of their own and other industries, regions, and nations, by dealing in state-claims contingent upon those states.\textsuperscript{285} Most individuals will not have superior knowledge or greater abilities than anybody else to manipulate the prospects of such states; where they might, we subject them to insider-dealing regulation. We are therefore able to avoid the general information problems afflicting insurance markets of which Dworkin, in his thought experiment, appears ultimately to have lost sight. And in the very creation of such markets there results a sort of information-

\textsuperscript{282} See DWORKIN, SOVEREIGN VIRTUE, supra note 22, at 93; discussion supra note 61. This problem is the entry point of the "hypothetical insurance market" thought experiment.

\textsuperscript{283} See discussion supra note 131 (concerning the "great socialist calculation debate").

\textsuperscript{284} The latter arrived in part because of the impoverished information that Dworkin is actually able to bring into his calculations, and in part, oddly, because of assumptions that he makes as to the risk-preferences of his hypothetical would-be insureds. Recall that assumptions regarding risk-aversion acutely plagued Rawls's account of justice. See discussion supra note 78.

\textsuperscript{285} See discussion concerning ARROW, INSURANCE, supra note 169, at note 263.
generating and processing "machine" which better informs those seeking, as well as those providing, insurance themselves—one that does so rather more plausibly, and rather less fancifully, than Dworkin's deus ex machina, the "super computer." 286 We achieve justice (symmetry), in this case, not through simulated shared opacity—a veil of ignorance—but through actual shared knowledge. 287 And in so doing we achieve greater diligence-(or at any rate, faultlessness)-sensitivity, hence lower relative endowment-sensitivity. The better betting market is the potential actual one—the perfectly real, non-hypothetical income-proxy market.

These markets need not be treated as if solely for isolated individuals' ability to trade. As explored further in Section 6.3, we might see them traded in by institutions currently constituting part of the vast infrastructure of financial intermediation that has developed over the past twenty years. 288 Or we might reconceive and redesign, if only in part, the federal unemployment insurance program itself as such an intermediary—one that might even create markets themselves just as the Federal Housing Authority ("FHA") ultimately created the secondary mortgage market pursuant to its innovative, economy-stimulating, more just and efficient mortgage-insurance program in the 1930s. 289 The program might even offer a menu of options to prospective insureds, rather as the federal employee pension plan does to federal employees today. 290

If one could but bring about the creation of a more complete income-aggregate-associated state-contingent claims market, then, that would insure against systemic income-risk both more effi-

286 See generally discussion supra Section 2.3 (discussing the "super computer").

287 A veil, a simulated shared opacity, would of course remain necessary for the case of genetic traits, unless some truly magical form of "gene insurance" is developed, a prospect explored more in Hockett, Market-Able Justice, supra note 17.

288 In fairness to Dworkin, it should be pointed out that this infrastructure, as well as many of the developments in financial markets and financial market technologies that I urge should be exploited, came along well after Dworkin made the proposal here discussed. Though his monograph is but two years old, the cited pages are reprinted essays dating to 1981. Ronald Dworkin, What is Equality? Part I: Equality of Welfare, 10 Phil. & Pub. Aff. 185 (1981); Ronald M. Dworkin, What is Equality? Part II: Equality of Resources, 10 Phil. & Pub. Aff. 283 (1981).

289 See generally discussion supra notes 201, 202. By analogy with supplementary rather than full "privatization" of Social Security (such as proposed by Vice President Gore in 2000), we might call this "AFDC Plus."

290 On this system, see Hockett, Pension Insurance, supra note 225.
ciently and more justly, there would be more information, more symmetry wrought by means other than opacity, and thus greater efficiency as well. And it seems that in so doing, we would come rather closer to full income-risk justice in practice than the most effective thinker on the subject thus far has been able to do even in theory. What, then, stands in the way?

6.3. Why the Better Betting (Hedging) Market Does Not (Yet) Exist

So why does the better betting market that I have described not currently find a place among our risk-valuing and -trading institutions? The answer seems to be that we face a variety of obstacles on both the supply and demand sides to the creation of hedging markets in macro-aggregates. Many of these barriers are of course symbiotically related—there is a forward-looking chicken and egg problem with each side of the potential market in effect saying to the other, “after you.” On the supply side, there lacks the sort of measurements (income aggregates or indices), instruments with values derivative upon those measurements, and institutions necessary in order for an aggregate-income-risk “stock market” to

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291 To generalize somewhat more theoretically, what we are envisaging here is an income-market instance of the more general phenomenon of equilibrium in a market for (“spot”) commodities and contingent claims (“Arrow Securities”), effectively covering all preference-relevant states of the world. See JOHN HICKS, VALUE AND CAPITAL 130-140, 136 (2d ed. 1946) [hereinafter HICKS, VALUE AND CAPITAL] (describing a system of private enterprise with no forwarding trading and “spot,” immediate delivery of all transactions); discussion supra note 252 (discussing “Arrow Securities”). It is well established that where Arrow-contracts paying out purchasing power for any date/event pair are available alongside commodities, trading equilibrium in the resultant commodity/securities market both exists and is Pareto-efficient. See discussion supra note 252; GOLLIER, supra note 61, at 195-202. It is also well established that, assuming a starting point of equal initial endowments, the resulting EEWE will instantiate an attractive conception of fairness in allocation. See id. at 307-23. Hence, we are looking here at something that would be both more just and efficient than what we have at present.

292 See discussion supra Section 4.3 on the possible efficiency benefits of “levelling up” rather than “leveling down” in information-equalization.

293 It should be clearly emphasized, despite my criticisms here, how illuminating I feel Dworkin is in dealing with the general problem. Dworkin’s solution is both theoretically and practically inadequate, but in leading up to it, he is, quite simply, masterful in his exposition of the problem. It strikes me as quite remarkable that economists have spent the time that they have discussing Rawls, and not moved on to Dworkin and Dworkin’s antecedents, the “fairness” mechanism designers discussed supra, note 54. Had they done so, it might well have solved many of our general problems long ago. It is my sincere hope that this Article and Hockett, Market-Able Justice, supra note 17, renew the walk along that path.
function. While GDP measures are well tracked, to be sure, index numbers are lacking for many sectoral, regional, and labor income aggregates and their fluctuations. Also, missing are the same index numbers for more aggregates that more *partially* correlate with labor incomes. Such indices, and information from which they might be constructed, that are maintained are not in the public domain or have not been gathered or constructed with a view to the specialized purposes countenanced in this Article.294 More importantly, absent concerted public action (governmental or other), we are unlikely to find such data, measures and indices sufficiently forthcoming, for there are both well known theoretical difficulties attendant upon their construction and insufficient payoff to any one inventor prepared to undertake the arduous constructive task. Supply-side inertia, then, stands in our way.

Such being the case, demand is prevented in its very tracks from being so much as broadly entertained, let alone effectuated, by potential consumers of the prospective products. Yet the demand side of this potential equation also faces additional inertial obstacles of its own, reinforcing the inertial challenges on the supply side. Not least of these is the very unfamiliarity of the possibilities—and hence potential markets—that this Article is meant in part to place on the agenda.295

In order to fully describe the obstacles and how we might surmount them, it will perhaps be convenient simply to lump the supply- and demand-side challenges together and discuss them en suite.

6.3.1. *The Trouble with Index Numbers*

Indexing—the representation of vector by scalar quantities—probably constitutes the consummate act of oversimplification rou-

294 See Ronald H. Coase, *Industrial Organization: A Proposal for Research*, in *Policy Issues and Research Opportunities in Industrial Organization*, 59-60 (Victor R. Fuchs ed., 1972) (noting with "embarrassment" that "the National Bureau has carried out very little research directly concerned with problems of industrial organization"); discussion infra note 299. More on this matter of indices and the significance of the purposes for which they are constructed infra Section 6.3.1.

295 They are, of course, partly on the agendas of some of the financial theorists. But they are not yet on the public agenda, and their *justice* significance does not appear to have been dealt with, or understood by, anybody with any degree of sophistication.
tinely carried out by economic agents and agencies. Consider the Consumer Price Index ("CPI") a measure of consumer price inflation in the goods and services markets. Any economy modern enough to have raised interest on the part of its watchers in the general level of prices is bound to feature a practical infinitude of goods and services in circulation. Each of these submarkets will be subject, most of the time, to fluctuating prices—i.e., fluctuating rates at which the goods and services trade for money. The likelihood that such fluctuations would at all times be temporally synchronized and equal across products, services, and sectors is, quite simply, too miniscule to warrant consideration as a serious possibility. Moreover, a) changes over time of the relative compositions of products in markets, and b) "substitution biases" (underestimation of the impact of price changes because people substitute other goods for those whose prices change most) complicate the intertemporal accuracy of indices. Given these facts, a general measure of price (or labor-income) fluctuations is, of necessity, a very coarse-grained, rough-and-ready, reductionistic simplification which, it is hoped by those who formulate it, will be "close enough for government [or other quotidian] work." Yet such measures

296 There is, not surprisingly, vast and technically sophisticated literature on the theoretical and practical issues involved in indexing. See, e.g., IRVING FISHER, THE MAKING OF INDEX NUMBERS (1922); FIFTY YEARS OF ECONOMIC MEASUREMENT (Ernst R. Berndt & Jack E. Triplett eds., 1990); CHANG HSIAO, ANALYSIS OF PANEL DATA (1986); MEASUREMENT IN ECONOMICS (Wolfgang Eichhorn ed., 1988); THEORY AND APPLICATIONS OF ECONOMIC INDICES (Wolfgang Eichhorn et al. eds., 1978); JEFFREY M. WOOLRIGE, ECONOMETRIC ANALYSIS OF CROSS-SECTION AND PANEL DATA (2002); see also SCHUMPETER, supra note 39, at 1091-95 (noting the preeminence of economists in the development of the theory of index numbers).

297 Arbitrage opportunities opened by such fluctuations limit the prospects of such fluctuations not rationally reflecting underlying opportunity costs.

298 Similar difficulties of course beset the construction of labor-income indices, particularly in view of changes to relevant characteristics of laborers tracked over time, which render observations of the same or comparable earners over time more fuzzy and less accurate.

299 Indexing is also important for my term "justice-accounting," particularly in equalizing initial endowments of the relevant equalisandum (Rawlsian "primary goods," Senian "functionings," Dworkinian "resources," opportunities) when the latter is not homogeneous like "utility" or income. Note that Dworkin’s "hypothetical insurance market" is, in effect, a means to monetize and render commensurable both external and physiological resources, although Dworkin does not speak of it this way. See DWORKIN, SOVEREIGN VIRTUE, supra note 22, at 73-109; see also RAWLS, JUSTICE, supra note 22.

The justice-theorist who has probably given most thought to indexing as such is Sen. See, e.g., AMARTYA SEN, COMMODITIES AND CAPABILITIES (1985); SEN,
are developed and tracked for specific reasons; public and private policy choices will hinge decisively upon their movements. The developers of indices, therefore, must strive for as much accuracy as is pragmatically possible consistent with their purposes in the construction. That desideratum, in turn, necessitates a good deal of theoretical—generally, statistically and econometrically sophisticated—reflection and adjustment.\(^{300}\) It also, of course, requires the collection of vast quantities—and many types of data. The greater, more complex and inclusive that aggregate tracked along a univariate, scalar metric, the greater the variety of data and the degree of mathematical sophistication required in the construction of that metric.\(^{301}\)

Moreover, because the inevitable fudging that will attend any such Procrustean exercise will tend to benefit different interests according to the particular uses to which the index is to be put, and accordingly as the fudging falls to one or another side of accuracy, the general purposes of the exercise must be kept firmly in view throughout by those engaged in it.\(^{302}\) An index conceived and formulated by company-sponsored or -enlisted financial intermediaries, for example, might be expected to differ in its income-flow implications from a counterpart index conceived and created by, say, agents working for an auto-workers' union.

What all of this means for present purposes is that no single, private party is likely to gather and assimilate the requisite data

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\(^{301}\) *See generally* discussion and works cited *supra* note 296.

\(^{302}\) *Id.* Martin Shubik makes the point graphically, frequently, and entertainingly in conversation.
and to construct the macroindices to which derivative instrument prices can be tied. Unless that party is able to capture the rents that such collecting, interpretive and ultimately inventive activity will engender, which in turn entails that which is invented, runs a significant chance of turning out indices entirely too skewed in favor of the inventor to end up being broadly marketable absent some guarantee that a more "objectively" formulated index will generate sufficient revenue to the same. This poses, of course, a classic collective action problem; however, there are others.

6.3.2. A Surfeit of Inertial-cum-Collective Action Challenges

A truly objective, maximally useful macroindex would be a public good as would be the data used to construct it. The classic indicia of public goods, of course, are their general utility and practical nonexcludability. Macroindices and their constitutive data would bear such properties: they would be eminently useful in the fashioning of instruments usable by broad populational swaths to hedge against systemic income risk, and then—if rendered transparent enough to be credible—readily appropriated, mimicked, or incrementally improved upon by "Johnny come lately" instrument-designers who have contributed little or nothing to the initial exercise of data-collection, index-construction, and instrument-invention. The upshot, of course, is that macroindices and their associated data and derivative instruments will tend to be underprovided, if at all, by private actors. The ease of rent-expropriation by strangers at time results in suboptimal investment at time $t_m < t_n$. (Recall here the "rent-dissipation" problem noted in

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304 Some telling statistics on the magnitude of this problem, as it afflicted the development of new hedging instruments up to the early 1990s, are reviewed and discussed in Peter Tufano, Financial Innovation and First Mover Advantages, 6 J. APP. CORP. FIN. 83 (1992), and Peter Tufano, Financial Innovation and First Mover Advantages II, 25 J. FIN. ECON. 219 (1989). See also Dennis Carlton, Futures Markets: Their Purpose, Their History, Their Growth, Their Successes and Failures, 4 J. FUTURES MARKETS 237 (1984) (detailing how exchanges themselves can be done in by incrementally-product-improving competitors).
A demand-side counterpart to this supply-side underincentivization is simple consumer-cum-cultural inertia. Many unfamiliar new products face risks at the outset of their introduction that the public will view them skeptically—after all, “we’ve done well enough without it until now.” The fact that so many new products are introduced into and thrive within dynamic economies obscures the fact, unknown to most, that for every such success there is a great multitude of failures. (Again, note the discussion in Section 3.1.) In the case of hedging instruments, the risk of demand-side failure is likely to be particularly acute—at the onset. The rec- ondite nature of hedging, and the comparative financial illiteracy of the general public, renders the introduction of individual income risk hedging products a particularly “dicey” business.

The financial press, unfortunately, often compounds the problem here. The sensation generated by the comparatively small number of spectacular hedging debacles (e.g., the collapse of the Long Term Capital Management (“LTCM”) hedge fund) renders an ignorant public all the more skittish, particularly in cases where entire municipalities are big losers (e.g., Orange County, California, the largest municipal bankruptcy in U.S. history) and teams of Nobel Laureates (as was the case with LTCM). If cities, “rocket scientists” and “geniuses” can lose their shirts, reasons the prospective individual income risk hedger, what might happen to me? Even where the probabilities solidly have it that you face more risk through not hedging than through hedging, the devil that you know might well be preferred to the devil that you don’t know—particularly when the latter devil, according to the press reports, is scarcely tamable even by the hordes of Ph.D.-bearing

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305 Cochrane offers a similar sort of path-dependency, now-obsolete, local-optimum speculation by way of explaining why time-consistent health insurance is not yet available. See Cochrane, supra note 254, at 468-69.
306 See also ALLEN & GALE, supra note 157, at 3-41, 157-97.
307 Pun intended.
310 See Kimberly D. Krawiec, More than Just “New Financial Bingo”: A Risk-Based Approach to Understanding Derivatives, 23 J. CORP. L. 1, 2-3 (1997) (describing the magnitude of the bankruptcy of Orange County of California); Romano, supra note 244, at 4-5 (noting that “in the popular press and to the average citizen, ‘derivatives,’ much like speculation, has become a dirty word”).
mathematicians and theoretical physicists until recently being hired by financial intermediaries. Add to this the fact that derivative instruments typically are vulnerable to high short-term volatility—meaning that the hedger must be particularly iron-willed and cool-headed—and it might look as though "consumer derivatives" are destined to remain a practical impossibility for some time to come.


But see Carolyn H. Jackson, Note: Have You Hedged Today? The Inevitable Advent of Consumer Derivatives, 67 FORDHAM L. REV. 3205, 3207 (1999) ("Retail derivative activity is inevitable. Risk management benefits of derivatives are too substantial to be kept from consumers.").

A related inertial problem, as well its possible solution, should perhaps be flagged. HICKS, VALUE AND CAPITAL, supra note 291, at 137 n.1, finds that "in all forward markets there is likely to be a tendency for hedgers to predominate on one side or the other over long periods." Hence, "[n]o forward market can do without [outright speculators]." Id. Hicks bases his observations in part upon those made by Keynes in the latter's TREATISE ON MONEY, VOLUME II: THE APPLIED THEORY OF MONEY 152-55 (1930), where the author notes that in "normal" conditions supply and demand can be expected to remain the same, and spot prices are expected to stay the same, too. In such cases forward prices must be lower than spot prices, the margin between them being called, in the parlance of the day, normal "backwardation." Hicks observes apropos backwardation that

[H]easures the amount which hedgers have to hand over to speculators in order to persuade the speculators to take over the risks of the price-fluctuations in question. Ultimately, therefore, it measures the cost of the coordination achieved by forward trading; if the cost is very heavy, potential hedgers will prefer not to hedge.

HICKS, VALUE AND CAPITAL, supra note 289, at 138-39. Intriguingly, in connection with employment in particular, Hicks goes on to say that

It is usually in the interest of an employee to 'hedge' future sales of his labor—as he would do, if he could secure engagement for a long period. But it is not in the interest of his employer to make such contracts, unless he derives some particular advantage from so doing—as he would do, if this particular employee were difficult to replace.

Id. at 139 (emphasis added). Hicks concludes: "Generally, then, it is uncertainty about the future, and the desire to keep one's hands free to meet uncertainty, which limit the extent of forward trading under capitalism." Id. (emphasis added).
Moreover, a variety of potential problems beyond those plaguing prospective instruments plague the establishment of new markets on which such instruments might be traded. It is costly to establish a securities exchange, and certainly not costless to add new securities to the markets provided by established exchanges — particularly if the new securities differ in significant respects from the more customary instruments already traded.313

It bears noting again that the demand-side inertia here considered, and the supply-side inertia discussed above, are mutually reinforcing. Potential suppliers see prospective future profits as particularly unlikely given a skeptical prospective hedging public. The latter public, in turn, will view the instruments potentially offered them with greater ignorance and skepticism until they and their uses become more widely distributed and engaged. The upshot is a sort of financial analogue to the nineteenth century railroads, which apocryphally operated in one U.S. jurisdiction under a law requiring of two trains, when their conductors found themselves approaching one another from opposite directions, that each

The implications for our present project are more or less straightforward. First, it might not be reasonable to expect there generally, at least under "normal," stable conditions, to be a roughly equal number (or value) of risk-averse interests on either side of the intertemporal bet that constitutes the sort of long term macro-aggregate-associated hedging instruments contemplated here. Second, however: a) the story will be different in periods of volatility, which of course are precisely the periods in which all (and indeed, employees in various occupations whose fortunes might well differentially vary) shall be most concerned to insure employee incomes; and b) insofar as risk-embracing (simple wagering) motives are operative in the market (even during "normal" times of lower volatility), the instruments we envisage might indeed find counterparties, effectively offering risk-embracers the opportunity to bet against employment risk-avers. (It is such people, rather than the employers whom Hicks countenances, whom generally should be expected effectively to insure employee incomes.) Such is, of course, precisely the sort of "speculative element" that Hicks envisages, and there is copious evidence that this element is quite active in today's hedging markets. See, e.g., Romano, supra note 244, at 5 (finding that "spectacular losses borne by certain investors" do not detract from the continued importance of derivatives and that "[t]he largest derivative losers in the recent past [approximately 1989-1992] were, indeed, speculating."). Moreover, inasmuch as governments seem increasingly to be entering the business of financing municipal needs through encouragement and exploitation of gambling tastes via public lotteries, we might foresee government itself offering employment risk-hedging instruments as gambling vehicles to precisely the same speculative elements to whom they appeal via lotteries — again, for public purposes.

stop and await the other's passage.\textsuperscript{314}

6.3.3. Who's in Charge Here?: Regulatory Uncertainties

Buttressing the mutually reinforcing problems of supply-side and demand-side inertia in new income risk hedging instruments and markets, at least in the United States, is the continuing uncertainty as to what regulatory authority—the Securities and Exchange Commission (“SEC”) or the Commodity Futures Trading Commission (“CFTC”)—is charged with jurisdiction over many hedging instruments.\textsuperscript{315} This has been a problem on the American scene for some time, and only recently has it been temporarily settled with respect to current instruments.\textsuperscript{316} Unfortunately, innovation in the matter of instrument-design continues and even seems to be occurring along an accelerating trajectory at present,\textsuperscript{317} and nearly every new instrument or “hybrid” seems to resurrect the jurisdictional conflict.

It has been observed that market actors would not object to a 90\% transaction tax rate as much as they would to a fluctuating rate.\textsuperscript{318} How much more exceptionlessly must it be true that securities and derivative traders will not generally abhor regulation nearly so much as they will abhor regulatory uncertainty. Virtually any set of rules—and a definite rule formulator and enforcer—might be tolerated and worked with so long as it can be expected to remain essentially invariant upon the landscape for some time into the future.\textsuperscript{320} Unfortunately, such has not been the case with respect to hedging regulation in the United States; until it is,


\textsuperscript{315} See Jackson, supra note 312, at 3235-47 (discussing application of SEC/Commodity Futures Trading Commission (“CFTC”) regulation to retail swaps”; Romano, supra note 244, at 21-31, 43-45, 55-64 (discussing the SEC regulatory regime, the CFTC regulatory regime, and swaps under the CFTC regulatory regime).

\textsuperscript{316} Again, see Jackson, supra note 312, at 3235-47; Romano, supra note 244, at 21-31, 43-45, 55-64.

\textsuperscript{317} ALLEN & GALE, supra note 157, at 36.

\textsuperscript{318} Interview with Martin Shubik, Seymour H. Knox Professor of Mathematical Institutional Economics, Yale School of Management, in New Haven, Conn.

\textsuperscript{319} Probably all honest parties would concede regulations to be necessary in some form or other in order for any market to function properly rather than degenerate into general expropriation and/or civil strife.

\textsuperscript{320} Interview with Professor Shubik, supra note 318.
“hedging democracy” is all the more likely to remain in nucleo. Such is all the more true where there is essentially no regulator with authority at all, as on the international scene.

6.3.4. **International Cooperation?**

Because what we are envisaging is an optimization or maximal expansion, of the income risk pool, ideally a “globalization” of risk-management commensurate with the globalization of risk itself, it will be necessary for optimal hedging markets of the sort here considered to get off of the ground to facilitate the enforcement of contracts between nationals of different jurisdictions. If one takes a short position in their country’s GNP and another is long in the same, it will be necessary for both to periodically settle as that index fluctuates. Yet what is to prevent either, should the measure consistently rise over some lengthy duration, from simply reneging on their commitment to make payments? Will the state or nation enforce those rights? Will/can the state or nation do so one might refuse? Which jurisdiction’s law of contract, or commercial code, governs our transaction? In what forum is our dispute settled or disposed and enforced?

The problem here goes beyond the laws of contract and commerce alone, of course. What is to happen should I simply go bankrupt and be altogether unable to discharge my obligations to you? Under what bankruptcy code (federal, state, or local) should our altered relation be worked out? How about the matters of fraud, deceit and market manipulation—if there is uncertainty even within a jurisdiction (such that of the United States) as to

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321 Similar concerns are raised by Cochrane as another possible reason for the non-existence thus far of time-consistent health insurance contracts. See COCHRANE, supra note 254, at 469-70.

322 There is of course international contract enforcement of a sort, and arbitration, as discussed further infra, but this machinery remains very costly to operate, uncertain in its result, and underdeveloped. See generally MICHAEL REISMAN, INTERNATIONAL COMMERCIAL ARBITRATION: CASES AND MATERIALS (3d ed. 2001).

323 Id.

324 See JACOB S. ZIEGEL, CURRENT DEVELOPMENTS IN INTERNATIONAL AND COMPARATIVE CORPORATE INSOLVENCY LAW (1994) (presenting the philosophical debate regarding changes in bankruptcy under topics of voidable transactions, director and officer liability, international solvency, and international perspectives on business bankruptcy law); Arrow, Limited Knowledge, supra note 181, at 8 (“The ability to make enforceable contracts is a necessary but not sufficient condition for a market. However, there is no way to ensure complete enforceability. An individual may make a contract which he cannot in fact fulfill.”).
which regulatory authority is properly charged with the maintenance of market order, how much greater must be the uncertainty when we are talking about a variety of national markets or one supranational market subject to no single authority?

All of these problems can be overstated, of course. Not only do trust and reputational pride and intermediation buttressed by new communications do much to grease the wheels of international trade even in the absence of an all-purpose supranational authority, but treaty arrangements,\textsuperscript{325} the formation of "epistemic communities" among oft-convening regulators from various jurisdictions,\textsuperscript{326} and consequent "regulatory convergence"\textsuperscript{327} all do a great deal to harmonize trading norms among citizens of many different states. But the facts would seem to remain both that there remain many gaps and that in the absence of something more solid, skittish market participants are likely to remain cautious about new-fangled international hedging transactions even if they are not entirely averse to trade in goods.

6.3.5. Is the Matter Then Hopeless?

The prospects for just income risk hedging through "macro markets" might, then, in light of all of the foregoing, look rather dim. If mutually reinforcing collective action and inertial challenges face both the demand and supply sides of these prospective markets, and are rendered yet more acute by both national and international jurisdictional and coordinational uncertainties, what chance, really, is there that this theoretically promising and potentially just, efficient, ex ante form of systemic income risk sharing


\textsuperscript{326} Such as, for example, the International Organization of Securities Commissioners ("IOSCO"), a forum for cooperation among securities regulators. See BARRY EICHENGREEN, TOWARD A NEW INTERNATIONAL FINANCIAL ARCHITECTURE: A PRACTICAL POST-ASIA AGENDA 25-27 (1998). On epistemic regulatory communities more generally, see IDEAS AND FOREIGN POLICY: BELIEFS, INSTITUTIONS, AND POLITICAL CHANGE (Judith Goldstein & Robert O. Keohane eds., 1993); JOHN GERARD RUGGIE, WINNING THE PEACE: AMERICA AND WORLD ORDER IN THE NEW ERA (1996).

\textsuperscript{327} See, e.g., INTERNATIONAL REGULATORY COMPETITION AND COOPERATION: PERSPECTIVES ON ECONOMIC REGULATION IN EUROPE AND THE UNITED STATES (William Bratton et al. eds., 1996); REGULATORY COMPETITION AND ECONOMIC INTEGRATION: COMPARATIVE PERSPECTIVES (Daniel C. Esty & Daniel Geradin eds., 2001).
will ever get off of the ground?

As it happens, all of the listed challenges constitute classic candidates for concerted public address. The final Section of this Article, accordingly, proposes a number of possible governmental actions, and collective action falling short of full public action ("public spirited action") that might eliminate or substantially mitigate the obstacles and thereby facilitate the development of this promising form of just and efficient, market-based social insurance.

6.4. There is Hope: Means of Collective (Though Not Always Public) Address

Collective action problems and coordination failures of themselves constitute justifications for state action par excellence. What seems to be less frequently observed is that they also recommend public-spirited action by sub- or non-governmental collectivities comprising members who are not actuated solely by desire for private pecuniary gain—e.g., universities, nonprofit organizations (more generally), professors, lawyers, etc. It requires but little imagination to envisage means by which governments and such other, nongovernmental agents might begin to address the previously discussed challenges to market-formation.

To begin, government, or an entity such as the National Bureau of Economic Research ("NBER"), or a university-established institute or "think tank" staffed by academics and/or past or present (disinterested) financial market professionals, might at least preliminarily construct suitable macroindices and prototypical index-tied hedging instruments. This could simultaneously address the objectivity problem inevitably afflicting any coarse-grained scalar metric meant to aggregate a stunning complexity of product and service prices, and the incentive problem afflicting any purely profit-seeking prospective data-collector, index-fashioner or instrument-inventor unable to realize the rents generated by her activities or innovations. Accordingly, it seems to be worth at least


329 The constructing authority would have to be insulated from the undue influence of lobbying parties, as per the insights of the public choice literature. See Hyman, supra note 98, at 163-205. See generally Jerry L. Mashaw, Greed, Chaos and Governance: Using Public Choice to Improve Public Law (1997); Dennis Mueller, Public Choice II (1989); Perspectives on Public Choice: A Handbook
considering government's or other public-spirited organizations' direct accumulation and/or interpretation of the requisite data and construction and design of the requisite indices and instruments—as well as partial or piecemeal incentives proffered by governments, or by other public-minded agents (maybe George Soros!), to others.

Such might be effected through, say, a "Macro-Indices Advisory Board" operating under the tutelage of the Federal Reserve or a consortium of various nations' central banking and/or securities-regulatory authorities. It might also involve academic and practitioner members of the broader financial and legal communities. It is not unreasonable to expect that a private provider, discerning future possibilities once things were underway, would usefully participate. A related point here is that international and government agencies already produce, process, and retain a host of statistics on all manner of economic data for individual departmental purposes—data which, were it simply to be made public, might itself facilitate the development of suitable indices and instruments. Some such data—e.g., the World Bank's System of Na-

(Dennis C. Mueller, ed., 1997); Cass R. Sunstein, After the Rights Revolution (1990). But there seems no more reason to be pessimistic about prospects here than in those spheres where public authorities already construct indices, such as the CPI.

Soros seems to be quite exercised by the dangers posed by the present global financial system. See, e.g., George Soros, George Soros on Globalization (2002); George Soros, Open Society: Reforming Global Capitalism (2000); George Soros, The Crisis of Global Capitalism: Open Society Endangered (1998). Perhaps, then, he or others like him would be similarly engaged by the prospect of exploiting some of that system's own features (its information, trading and hedging technologies) in order to better insulate those who are most harmed by its volatile fluctuations.

One thinks to the human genome project in this connection. The program at first was run by the government, until two private firms, seeing the potential being revealed by the government research, entered the field. See, e.g., Mark Henderson, Destiny is in Our Grasp, Say Scientists, The Times (London), Feb. 9, 2001, at 1.

tional Accounts, and the International Monetary Fund’s ("IMF") now electronically gathered and published national income data—already is public but apparently not yet ripe for the uses here contemplated. Likewise, national income and product accounts, as well as panel data on household incomes, published by most governments of OECD member countries, face similar challenges.

Like the data just mentioned, new technologies—many of them importantly constitutive of the new economy itself—are now rapidly coming into being, technologies that enhance opportunities for new, and more rapid, more efficient, trading. There is no reason, in principle, why such trading cannot include the trading—and, consequently, the pricing—of previously untraded risks, with all of the justice and efficiency benefits that this would entail. For example, electronic communications networks ("ECNs"), including Bloomberg, Instanet, and the New York Stock Exchange’s "Superdot" system, are lowering trading costs and thereby both opening the door to trade in new contracts and extending the range of efficient marketability. Relatedly, new methods for trading baskets of assets—e.g., Standard and Poor Depository Receipts and their progeny "Exchange-Traded Funds" ("ETFs") are emerging, meaning that trade in macro-correlated derivative instruments like those here envisaged will be growing easier to carry off. Insights rooted in the advances being made by auction theory and market microstructure theory are paving the way to development of new and


337 Owing, again, to the centrality of information to efficiency- and justice-accounting. See discussion supra Sections 2.3 and 4.1.

338 See also John C. Coffee, Jr., Brave New World: The Impact(s) of the Internet on Modern Securities Regulation, 52 BUS. LAW. 1195, 1198 (1997) ("Reduce [information-acquisition] costs, and the boundaries of the efficient market expand."). On these effects generally, see Demsetz, supra note 267; O’HARA, supra note 237; Gilson & Kraakman, supra note 267.
more efficient means of matching buyers and sellers, as well as means of streamlining trading via communications and information technologies. J.P. Morgan and Deutsche Bank have recently adopted a new trading system based upon these insights in order to enable institutional clients to trade in an array of economic macro-indices.

An alternative means by which governments in particular might address collective action inertia on the supply side is by affording expanded patent protection to newly formulated, invented, or instituted indices, instruments, trading technologies, or markets. This is, of course, the classic means of encouraging publicly beneficial innovation, the theory being that a limited monopoly will generate sufficient rents to incent otherwise dissipated investment in new products. Of course, a certain degree of fine-tuning would be necessary in this case: competition policy always represents a tradeoff between innovation protection on the one hand, overexploitation and innovation-stifling on the other.

To address inertia on the demand side of these prospective markets, government might conduct public information campaigns, and perhaps even sponsor or partially subsidize broad-based financial counseling, to educate citizens in the benefits of diversification in new instruments and markets. This would seem to constitute a public good of the first order, given the surprising degree of ignorance that characterizes a public whose incomes increasingly are at risk in face of the forces of "globalization." One

339 See generally O'HARA, supra note 237; John H. Kagel, Auctions: A Survey of Experimental Research, in EXPERIMENTAL ECONOMICS, supra note 102, at 501. A seminal article from which much of the more recent work derives is Lloyd Shapely & Martin Shubik, Trade Using One Commodity as a Means of Payment, 85 J. POL. ECON. 937 (1977). See generally DAVIS & MEYER, supra note 15; GATES, supra note 336; JOHN HAGEL, III & MARK SINGER, NET WORTH xii (1999) (noting that one of the Internet's greatest values is its capacity to connect people in a timely fashion); NEGROPONTE, supra note 336;.


342 See Arrow, Economic Welfare, supra note 341, at 615-22.

343 See Arrow, Economic Welfare, supra note 341.
can imagine public service announcements, websites, and even courses designed to raise the general level of financial literacy among the currently risk-bearing public. Government might directly produce and provide these goods, or offer inducements of one sort or another to, say, "streetcorner H & R Blocks" and investment companies.344

Particularly promising in this connection is the vast infrastructure of financial intermediaries—pension funds, mutual funds, and related institutions—which have proliferated over the course of the past two decades. Growing numbers of citizens in advanced economies have elected to participate more actively in their home and, indeed, to some degree in global—financial markets.345 Moreover, should the United States or other governments, like Chile and others, implement a system of nation-wide Social Security "private accounts," this infrastructure itself would offer a route through which governments could "jumpstart" the use of new instruments and markets.346

344 I discuss the many possible salutary uses of such institutions at greater length in Hockett, Assets & Stakes, supra note 162.

345 On this profound and developing trend, see generally Bernstein, supra note 264; Malkiel, supra note 264; Jeremy Siegel, Stocks for the Long Run (1998).

A related, and perhaps somewhat more ambitious, proposal would be to convert—or partly convert—the welfare administration itself into a sort of financial intermediary. The office or its relevant suboffice would actually design—or contract out for the design of—the requisite hedging instruments, and might provide a sort of “electronic trading floor” (largely what the stock markets are currently becoming) for them, enabling citizens to trade—and thus share according to their tastes and aversions—employment income risks with one another. This might not only provide such a market, but, through the standardization of contracts and procedures and consequent liquidification of pertinent instrument-types in a market initially too thin and inertia-impeded to do so unaided, spur an even broader private market in the fullness of time—just as what happened in the case of the secondary mortgage market and its eventual securitization through the workings of FHA, Fannie Mae, Ginnie Mae and Freddie Mac.

Moreover, given the loads of data noted earlier that appear to be locked away in government offices, such a development would appear likely to bring about the release, dissemination and use (first within the government itself and then quite possibly more broadly) of such data, a public good not yet fully in the public domain, for a highly salutary public purpose—namely, just and efficient income insurance for all.

Of course, neither the supply-side nor the demand-side public actions just considered are likely to bring much change in the absence of a proper market-regulatory backdrop. Government would have to redouble its efforts to prevent fraud, manipulation, insider dealing and the like in the new hedging markets just as (or better than) it currently does in existing securities and derivatives markets. Indeed, the need would be all the more pressing here owing to the well known short-term volatility to which derivatives markets are subject. It would also be more pressing in view of the fact that new technologies, consequent new trading methods and new markets proposed would of themselves render obsolete

347 See supra note 201 and accompanying text on the relevant history.
348 See COASE, ESSAYS, supra note 332.
many current regulatory methods, modes and requirements.\textsuperscript{350}

A prerequisite to effectiveness—and a necessary prerequisite to market confidence in its own right—will of course be the sorting out of jurisdictional uncertainties. At some point, the United States is simply going to have to decide, one way or the other, which regulatory authority bears jurisdiction over new macrohedging instruments and macromarkets.\textsuperscript{351} To the degree that other nations suffer from similar regulatory ambiguities, they too will have to iron them out. Quite probably, however, public decision to take the previous measures just contemplated will issue this decision in this public action as well.

Finally, and relatedly, the nations of the world will have to cooperate in forging a more or less unified global macro-hedging market-regulatory regime if such markets are to operate with optimal efficiency. The process might begin with a series of intergovernmental conferences—perhaps hosted by the International Monetary Fund, the World Bank, the Organization for Cooperation and Development ("OECD"), or G-10 group of industrialized states—addressing the problems of systemic global income risk and the prospects for macro-aggregate proxy-markets in which such risk can be hedged. The next step might be the instituting of a "Global Macro-Hedging Advisory Board" charged with facilitating the development of a suitable global macro-hedging market architecture. To some extent this could simply piggyback upon the broader efforts, already well underway, to construct a "New International Financial Architecture" ("NIFA").\textsuperscript{352} Finally, a unified set of clearing, settlement, general contract and bankruptcy rules, as well as of market-regulatory norms more generally (e.g., what shall constitute market "manipulation") will have to be worked out, or at least striven for, in order that these markets might function smoothly (without undue regard for jurisdiction) as possible. To name but two conspicuous cases of noteworthily successful regulatory "convergence," the Basel Committee in unifying capital ade-


\textsuperscript{351} See discussion supra note 312 (especially Jackson) (presenting an argument as to how these jurisdictional turf conflicts should be resolved.). I resist the temptation to defray here; that must await another article.

\textsuperscript{352} On the New International Financial Architecture ("NIFA"), see Hockett, From Macro to Micro, supra note 6.
quacy standards among banks, and of International Organization of Securities Commissions ("IOSCO") in regularizing rules and enforcement action against market fraud and money-laundering, there would seem to be cause for optimism on this score. Ultimate success with the full NIFA will be cause for even greater optimism.

In sum then, for every collective action problem there appears to be at least one plausible prospective collective action solution. A public-spirited Isaac Newton should be pleased. Those envisaged in the immediately foregoing paragraphs are but sketches of the general shapes that some such solutions might take.

7. CONCLUSION: FURTHER THEORETICAL DEVELOPMENT AND EXPERIMENTATION, MORE DETAILED INSTITUTIONAL DESIGN

The new, global economy currently taking shape already has brought, and no doubt will continue to bring, many material advantages to the world's inhabitants. It also brings, however, considerable risk to most inhabitants' incomes; many of these risks are systemic in nature and are neither wrought nor adequately addressable by individuals' diligent foresight or productively virtuous actions alone.

Justice and prudence alike dictate that morally arbitrary, systemic global income risk be conceptually isolated from individually preventable risk, then catalogued and distributed over the widest possible pool of risk-bearers. Efficiency largely dictates essentially the same desideratum. Currently, private markets simply are inadequate to that task. The absence of suitable and publicly available data-sets, aggregate-indices, hedging instruments tied to fluctuations in the same, and markets in such instruments bring it about that efficient private hedging against individual income risk simply is not (yet) a practical possibility. Classic collective action and related inertial obstacles stand in the way to collection, publication, construction, invention and establishment of such data, in-

353 See, e.g., EICHENGREEN, supra note 326, at 24-25.
354 See id. at 25-27.
355 For more such success stories, as well as cautionary tales, see generally EATWELL & TAYLOR, supra note 7; EICHENGREEN, supra note 326, at 25-27; BARRY EICHENGREEN, INTERNATIONAL MONETARY ARRANGEMENTS FOR THE 21ST CENTURY (1994); RICHARD J. HERRING & ROBERT E. LITAN, FINANCIAL REGULATION IN THE GLOBAL ECONOMY (1995); PETER B. KENEN, THE INTERNATIONAL FINANCIAL ARCHITECTURE: WHAT'S NEW? WHAT'S MISSING? (2001); PETTIS, supra note 15.
dices, instruments and markets.

Classic collective action problems are readily and appropriately solved, however, through classic collective means, namely, public, quasi-public and/or public-spirited private provision of public goods, subsidy and/or rent-protection with a view to the same end, and regulation of that most bounteous of public blessings, the market in publicly desired goods, services and financial instruments themselves. This Article has proposed, schematically, a number of such public policies (or public-spirited activities on the part of non-governmental organizations) that can facilitate the development of public-benefiting hedging markets.

More work, nonetheless, both of the suggested and of a more preparatory nature (both theoretical and practical) can and should be undertaken. Some already are undertaking it, I plan to continue with it, and it is hoped that the present essay will have motivated yet more such effort. Financial engineering is not solely a matter for inordinately wealthy high-stakes gamblers looking for a thrill, or for business firms looking to reduce their exposures to financial risk; it can be harnessed to the purposes of justice, and indeed now offers itself as an instrument of far more perfect (and efficient) income-risk-justice than we have managed in the West (certainly in the United States) thus far. The remarkable possibilities being opened by the new financial economics, new information technologies, and consequent new financial practices are only beginning to be explored—even by the comparatively wealthy and sophisticated. There seems little reason why, at the very least, piecemeal experimentation along some of the lines here envisaged should not be tried, with further theoretical modeling and design work to be subsequently refined in light of the results.

The overriding message taken from this Article, I hope, will be one of both optimism and determination. Systemic income risk wrought through no fault or want of diligence on the part of its bearers is unjust, untenable, and, it seems, unnecessary. If we can but summon our collective attention and collective will to address the problem, we shall solve it. And all of us—the world itself—will be much the better for it.