ECONOMIC ANALYSIS AND DISTRIBUTIVE JUSTICE

David Burress and William J. Rich

ABSTRACT

We propose an approach to Paretian jurisprudence which is intermediate in its distributive consequences between the perfectly risk-neutral, consumer surplus-maximizing approach of Richard Posner and the perfectly risk-averse, leximin approach of John Rawls. Instead of consumer surplus, we focus on the marginal costs of increased labor; the dollar-weighted formula of Posner is replaced by an hour-weighted alternative. This alternative replaces the traditional assumption of economic analysis that dollars have equal value for everyone in a society. While drawing on literature from public finance, public choice, and cost-benefit theory, this paper develops an ethical argument based on a labor theory of value and several arguments from simplicity. We also describe a majoritarian or median voter argument; a social contract argument; and an efficiency argument which construes judicial support of a constitutional efficiency measure as a cooperative strategy in a multi-sided political process. We then present brief applications to negligence and liability; to "unconscionable" contracts; and to warranties of habitability. These arguments have possible applications in other cases of normative economic analysis in which the government is unable to reach an ideal income distribution by means of taxes and transfers alone.
I. INTRODUCTION

"Economic analysis" approaches problems of jurisprudence by substituting market prices for alternative evaluations of rules and policies. The approach has been both praised and condemned for its descriptive and prescriptive qualities.1 Because of its descriptive content (prices in the marketplace describe what is, not what should be), economic analysis is claimed to be free of the moralistic distortions which underlie other theoretical approaches. However, the putative descriptive accuracy of an economic analysis does not justify its prescriptive use.2 For that purpose, prior normative judgments are needed.

Many critics have disputed these normative judgments. They have questioned the value of "wealth maximization" (see Dworkin 1980, p. 191); they have objected to a callous disregard for "losers" in the marketplace (see, e.g., Leff 1979); and they have argued that an entrenchment of inequality is accepted as a given by many economic analyses. Despite these criticisms, the influence of economic analysis of law is increasing.3 Scholars, judges and legislators asked to make judgments about the law are understandably attracted to the appeals of "neutrality" and "efficiency." This attraction can be analyzed from an economic standpoint. When decision makers are faced with two analytical approaches, one derived partly from a scientific analysis which offers mathematical clarity, the other based entirely on normative judgments and yielding more ambiguous conclusions, they will tend to prefer the former.4 A cost-benefit analysis helps to explain the popularity of the economic approach.

The challenge for critics of economic analysis, therefore, is to provide an alternative which is comparably attractive to scholars and decision makers. In this essay, we are seeking a revised framework which offers the conceptual clarity of the traditional economic analysis while addressing the contentious issue of distributive justice.

The framework we develop accepts the general goal of "Pareto efficiency"5 while providing a different quantitative criterion for efficiency than that used in the traditional analysis. The traditional analysis to which we refer focuses on optimizing wealth or, more properly defined, consumer surplus. This goal is only approximately Paretoian. Our alternative measures efficiency in terms of individual effort or labor. It can, therefore, be discussed in "positive" terms concerned with "whether a certain activity is (or is not) efficient" (Cheung 1980, p. 3). As an alternative to "wealth maximization," it rests on equivalent claims of neutrality. Therefore, our analysis highlights the normative character of any decision to test efficiency in a particular manner.

Our discussion is rooted in the literature of public economics and in the values of democracy and of equality before the law. A main point of our essay is that traditional economic analysis of law employs a cramped reading of welfare economics. Following its leading exponent, Richard Posner (1975, 1979a, 1980a, 1980b,
1982, 1983, 1986, 1987b, 1990), it has accepted a cost-benefit framework which has been rejected by most recent theoretical work on cost-benefit economics.

This essay does not propose a complete or comprehensive theory of law. Like Posner, we restrict our attention to questions of judicial decision making, taking any legislation as given. We do not look deeply into the conflicting claims of rule-based, deontological approaches ("rights") and goal-based, utilitarian approaches ("efficiency"). We do not challenge Posner's normative belief that judges should decide on ex ante rules which lead to efficient outcomes on average ("rule-utilitarian" jurisprudence) rather than deciding ex post efficient outcomes in individual cases ("goal-utilitarian" jurisprudence). Nor do we explore the relationship between efficiency and other normative principles of jurisprudence, such as legislative intent and judicial coherence.

What we do seek is some practical improvement over existing Paretoian and approximately Paretoian theories of jurisprudence. In particular, we argue that our analysis offers a democratic compromise between the relatively pro-rich and pro-poor positions which have been staked out respectively by Posner and Rawls (1971) and that it offers a reasonable approximation to the political preferences of substantial majorities in most democratic countries. Moreover, in some cases our approach may improve the descriptive and explanatory power of economic analysis with regard to existing judicial decisions.

Section II is a critical review of Posner's foundational theory from the point of view of welfare economics. Our review is intended not to provide definitive statements of the arguments against the traditional theory but rather to make our position clear in relation to both the traditional theory and its critics. For many critics, the Achilles heel of the traditional criterion for efficiency is the normative assumption that a dollar given to each individual has an equal shadow price (or "social value"). We point out, however, that our theory does share major underpinnings with the traditional theory and does justify a major role for the traditional dollar-weighting under many circumstances.

Section III provides a specific alternative criterion for efficiency, based on a variant labor theory of value which we trace to Adam Smith. We refer to this alternative measure as "hour-weighting" because it is based on an assumption that hours of labor may be used as a normative yardstick of efficiency within a society. We provide some specific arguments for this approach.

This section also relates hour-weighting to the constant risk-aversion weighting system used in some recent texts on cost-benefit analysis; we describe a rigorous philosophical basis for choosing a specific and unique value for the critical risk aversion parameter. The constant risk aversion framework supports a clear comparison of hour-weighting with the alternatives advanced by Posner and Rawls. As explained further in Section III, Posner assumes that individuals within a society are willing to risk everything they have in order to maximize wealth; Rawls assumes that individuals would not accept any risk of reduced wealth for the least
advantaged regardless of the benefits to others which may result. The alternative we propose falls between these relatively extreme attitudes toward risk aversion.

Section IV provides more general arguments for efficiency criteria which approximate hour-weighting. We relate approximate hour-weighting efficiency criteria to fundamental democratic values using public choice models; we argue that hour-weighting would be preferred over both dollar-weighting and Rawlsian weighting. We argue that this political preference follows both from a Rawlsian “original position” (or at a “constitutional convention” in the model of James Buchanan) and also from a median voter framework. Finally, we sketch an efficiency argument which construes judicial support of a constitutional efficiency criterion as a cooperative strategy in a multi-sided political conflict.

Section V contrasts our theory with Posner’s and Rawls’ approach to specific issues. This section presents brief and partial applications to negligence and liability; to “unconscionable” contracts; and to warranties of habitability. In each case, our theory leads to policies that are intermediate between the other two theories with respect to the distribution of welfare. While we primarily intend our theory to be applied normatively, this section points out some instances where it is more successful in describing existing case law than are its competitors.

Section VI concludes by reviewing some of the policy questions raised by our theory.

II. THE NORMATIVE INADEQUACY OF “ONE DOLLAR—ONE VOTE”

A. The Pointlessness of Pure Paretianism

Judge Posner reminds us that Pareto superiority is a toothless guide to government action (Posner 1983). A similar remark applies to Pareto optimality, but for opposite reasons.

The principle of Pareto superiority advises policymakers to seek Pareto improvements over the status quo, but usually none are available to policymakers. For if, on the contrary, there did exist an opportunity for changing the status quo in a way that literally made no individual worse off, then those who could be made better off would have an incentive to bring the change about, while no one would have an incentive to oppose it. Consequently, the beneficiaries would be likely to implement the change as soon as they learned about it. Therefore, whenever the status quo constitutes a complete economic and political equilibrium, then all known opportunities for making strict, actual Pareto improvements have already been exploited.

The principle of Pareto optimality advises policymakers to seek outcomes which are Pareto-optimal (whether or not they are Pareto improvements over the status quo), but here the problem is that too many optima are available (Veljan-
There are quite literally an unlimited number of possible Pareto optima available in any economy. For example, if lump-sum taxes and transfers are possible, then by taking an arbitrary number of dollars from one person and giving it to a second person, policymakers can transform any Pareto optimum into a different Pareto optimum.

Under no plausible normative account are all of the available Pareto optima equally desirable. For example, if there exists anywhere in the world a single sadistic misanthrope so extreme as to enjoy a positive marginal utility from the death of each human save himself, then the eventual end of the entire human race is one Pareto optimum. And even if all Pareto optima were equally desirable, any resource-consuming conflict between judges and other policymakers over the choice of one versus another Pareto optimum would be inefficient. Therefore, the threshold problem for a Paretian jurisprudence is to narrow the choice of optima. That is, one must first answer the question: exactly which Pareto optimum should judges support?

B. Quantitative Efficiency Criteria

One way to answer this question is to select a quantitative efficiency criterion. One normative goal of judges, then, would to choose rules which maximize the given efficiency criterion.

A particular efficiency criterion could be either exactly or only approximately Paretian. One criterion in particular that is only approximately Paretian is the Kaldor-Hicks or “potential Pareto improvement” criterion. This criterion justifies any change from the status quo such that the winners could potentially compensate the losers for their loss and still come out ahead. Posner argues that the Kaldor-Hicks criterion is accepted by economists even though it sometimes conflicts with Pareto efficiency (Posner 1983, pp. 91-92).

In our view, this view is doubly inaccurate. First, few modern welfare theorists still defend the Kaldor-Hicks criterion (see, e.g., Drèze and Stern 1987, pp. 956-957). Second, even its strongest advocates recommend it only as an approximate guide to policy, useful when strictly Pareto-relevant information is unavailable (e.g., Mishan 1982b, p. 35). Faced, for example, with a concrete case in which judges had knowledge that rules justified on a Kaldor-Hicks criterion would make every one worse off than rules justified on some other criterion, then even its advocates would agree to ignore Kaldor-Hicks. In other words, Pareto optimality, while not an adequate welfare criterion in itself, is a widely accepted meta-criterion for welfare criteria in general.

Posner, however, relies on the Kaldor-Hicks criterion to justify an approximate method of measuring efficiency. His approach uses a partial equilibrium rather than an general equilibrium analysis of costs and benefits. Posner describes his normative theory as “wealth maximization,” but he clearly defines “wealth” as an aggregate of consumer surplus (Posner 1983, p. 60). For consistency with the
welfare economics and cost-benefit literature, in this essay we will use the more specific terms “consumer surplus” or “dollar-weighting” where Posner would use the more general “wealth.” The consumer surplus approach is highly controversial; below, we review some of the normative issues at stake.

C. Objections to All Efficiency Criteria

The most sweeping objection to Posner’s theory observes (in our view, correctly) that consumer surplus (like all other quantitative efficiency criteria) implies some definite interpersonal welfare comparisons. It is then argued that all such comparisons are ethically inadmissible, and perhaps also empirically impracticable. This objection has been put forth most persuasively by the philosopher Robert Nozick (1974).25

Nozick argues that property rights must be taken seriously, because they are rooted in natural law; and, if they are taken seriously, then in most cases there is no room left for judges to formulate rules which optimize any criterion for efficiency. Property rights are asserted as trumps that determine the outcome of legal analysis. Nozick relies extensively on Pareto efficiency as a normative value; however, he uses efficiency as a pre-existing and partial explanation for property rights, rather than as a conscious or unconscious objective of judicial rule-making.26

There is substantial force in Nozick’s general argument that a pre-existing structure of property rights must be accepted before one can speak of an endowment, carry on a market economy, or justify or even analyze any particular Pareto optimum (see Posner 1983, pp. 64-65; Heyne 1988 and citations therein).27 It is noteworthy that Rawls’ egalitarian argument, Nozick’s libertarian argument, and Posner’s pro-status-quo argument can all be equally rooted in axiomatic approaches to the initial endowments of property rights. However, Rawls posits a common and collective ownership for non-human resources, and Nozick posits an individual and personal ownership for human resources, while Posner posits the endowment under an unexamined status quo as legitimate.28

In our view, as in Posner’s, traditional property rights alone are an insufficient basis for public policymaking. Because technology and society change over time, the common law must make continual adjustments in property rights and other rules; to make these adjustments, jurists need an independent and consequentialist concept of efficiency. Consequently, we reject Nozick’s extreme transvaluation of property rights. In particular, we believe that many or most people would prefer to share in a higher standard of living, even when that requires some limitations on, or changes in, property rights.29

We also doubt that interpersonal welfare comparisons are empirically impracticable; in particular, Posner’s theory30 (and, arguably, also Rawlsian theory) does provide an empirically practicable counterexample. We seek to propose another. Many public finance economists have argued that the making of interpersonal welfare comparisons is an inescapable activity for any government which collects
Economic Analysis and Distributive Justice

A narrower set of arguments against Posner's position attacks consumer surplus in particular rather than quantitative efficiency criteria in general. Consumer surplus assigns the same shadow price (social value) to a marginal dollar of real income whether the recipient is rich or poor; this assignment arguably contradicts the predominant values of the community.

Most forcefully put, the "dollar is a dollar" assumption is "demonstrably false" (see Veljanovski 1984, p. 21). A more restrained view is that dollar-weighting does not correspond to the political values supported by most voters or to the social values supported by most ethicists and philosophers. Therefore, because a dollar benefit is not "worth" as much to the rich person as it is to a poor one, a theory that builds upon the "equal value" of a dollar will systematically favor the rich over the poor.

Most subtly put, dollar-weighting simply mismeasures welfare. Since dollar-weighting is based on willingness to pay, it often places a higher welfare value on identical goods when provided to the rich than when provided to the poor. For example, on average the rich are likely to be willing to pay more for a given bundle of medical services than the poor would be willing to pay. But most people are likely to assume that equal medical treatments provided to equally sick people should be assigned an equal welfare value, independent of the personal incomes of the sick (Copp 1987, p. 78). In Section III, we draw on this fundamental insight by treating human labor or time expended as a primary good which should be assigned an equal welfare value across individuals.

These criticisms may not apply when the use of dollar-weighting is confined to descriptive purposes. In particular, Posner's theory that the common law attempts to maximize consumer surplus may help explain many features of that law. His descriptive theory of the law may be especially successful in explaining those features of the law that are a remnant from our undemocratic and feudal past. His theory may also help describe some persistent undemocratic tendencies which exist in our imperfect present. But when the same analysis is put forth as a practical and
normative guide for democratic decision-making, then serious questions about “fairness” and “justice” are appropriate.

E. Efficiency-Based Objections to Dollar-Weighting

An independent argument is that when judges use consumer surplus as an efficiency criterion, the consequences may be paradoxically Pareto-inefficient outcomes. This may happen either because of offsetting political reactions on the part of the legislative or executive branches of government or because of internal inconsistencies in the consumer surplus criterion itself.

All modern states attempt to clothe themselves in legitimacy by appealing to democratic principles, including the principle of consent by the governed. In some cases, governments may even attempt to practice these democratic principles. If so, then it is hard to see how the “one dollar—one vote” efficiency criterion embodied in the common law could comfortably coexist with the “one person—one vote” efficiency criterion embodied in the statutory laws enacted by representative legislatures. Instead, the struggle or game between governmental agents seeking conflicting optima is likely to lead to a Nash equilibrium which wastes resources.

This argument tends to support the principle of judicial restraint with respect to the public choice of an efficiency criterion. But if democracy is a game with many players, in which the legislators, median voter, rent seekers, minority groups, and perhaps the constitution all have conflicting interests, then a case might be made for judicial activism. We return to this point in Section IV.E below.

In addition, we note that the literature contains several interrelated arguments that consumer surplus in particular, as well as dollar-weighting in general, may lead to inconsistent or incoherent measures of welfare. Since these arguments are more of a technical than a normative nature, we do not address them in detail; however, in our view they have never been adequately addressed by the proponents of maximizing consumer surplus.

F. General Defenses for Dollar-Weighting

Posner and others have responded to these normative objections with at least seven independent (and arguably even inconsistent) defenses of the “dollar is a dollar” assumption.

Consent and Utility

First, Posner (1983, pp. 94-95) has mounted an affirmative defense for maximizing consumer surplus. He believes it is an attractive compromise between the values of consent and autonomy, on the one hand, and utility maximization, on the
Moreover, it gives what he considers to be due weight to the producers of wealth (Posner 1983, p. 83).

In particular, Posner provides us with a useful form of argument which justifies efficiency as a goal for human institutions by appealing to the implicit, ex ante consent that most individuals would be likely to grant for its use (1983, pp. 96-99). But Posner fails to take the necessary next step.

That is, Posner does not show that substantial numbers of citizens would give their political consent for judges to base rules on consumer surplus, in particular, if citizens knew that alternative efficiency criteria were available (see Dworkin 1985, pp. 278-89). Posner's concepts of "autonomy" and "consent" are related to the Pareto-improving trades and contracts reached by sovereign individuals, but he does not show that autonomous agents would want judges to use dollar-weighted efficiency criteria, in particular when construing the contracts they enter into.

Moreover, far from being a "compromise" between utilitarianism and consent, maximizing consumer surplus is intelligible only to the extent that it (approximately) maximizes some particular weighted aggregate of utility. (A similar statement holds for any Paretian or approximately Paretian efficiency criteria.)

In addition, we are not persuaded that judicial maximization of consumer surplus encourages more creation of wealth (in the sense of ordinary usage) than would maximization of some other efficiency criterion. In particular, if production of wealth is associated more with the active exertion of individual effort or labor than with the passive inheritance of ownership, then it would seem logical that the efficiency criterion used by judges should place relatively more weight on labor effort than on property ownership. Consumer surplus does not accomplish this.

**Interpersonal Neutrality**

Posner's second defense argues that no interpersonal welfare comparisons are intended by his theory, since it simply reports the outcomes of the market (1983, pp. 79). This view is not widely accepted in recent welfare economics literature.

**Simplified Analysis**

Posner's third defense claims that "a dollar is a dollar" leads to a simplified analysis which can be applied using a minimum of social resources (1983, p. 79). This argument seems inconclusive; the additional costs required for performing a non-dollar-weighted efficiency analysis are likely to be very small in comparison to the sums of money involved—for example, in taxes and transfer programs. More fundamentally, many economists believe that problems of the second-best preclude using the kind of simplified single-market analysis which this cost comparison assumes.
Nor is an alternative analysis impractical. Economists increasingly do analyze welfare issues using large general equilibrium models containing price distortions and other second best features. Rather than relying on approximate efficiency criteria such as consumer surplus, they employ explicit utility functions. Efficiency weights are a simple addition to these models.

In particular, using Meade’s (19562) formula, any mathematically tractable Paretoian efficiency judgment can be expressed using individual weights. The weights are usually based on each individual’s real income or consumption. Consequently, a wide range of Paretoian efficiency judgments, and not merely dollar-weighted judgments, can be expressed in terms which allow a formal cost-benefit analysis. A weighted efficiency criterion of this type—that is, one supported by explicit rather than implicit judgments about interpersonal comparisons—has been termed a “grand efficiency measure” (Weisbrod 1968).

Therefore, we can restate the threshold problem for any Paretoian analysis (whether exact or approximate) as one of reaching philosophical or political agreement on a given set of efficiency weights. That problem applies with equal force to Posner’s dollar-weighting as well as to any other weighting scheme.

*Equalization in the Long Run*

Posner’s fourth defense argues that questions of income distribution are not of any long-run importance, because natural processes will tend to equalize income distributions over time (1983, pp. 110-112). However, this theory is both controversial and contrary to some empirical evidence (see Williamson 1980, 1985, 1989; Brown 1988, ch. 14). This argument is also probably unappealing for a considerable majority of those persons who will, in the long run (as Keynes famously commented), be dead.

*Economic Relativism*

The fifth and sixth defenses of “a dollar is a dollar” have to do with the concept of “justice.” Posner argues that there are two “senses in which the word justice is used in reference to the legal system” (1975). He defines “distributive justice” as the “proper” degree of economic inequality, and he states that “economists cannot tell you what that degree is.” He then defines a second meaning of “justice” as “simply ‘efficiency.’”

Posner’s fifth argument, in effect, turns the tables on his critics and asks them to put forth a definite theory of the desired degree of equality. That is a valid demand, and we undertake this burden below. At the same time, we point out this argument is empty as a defense of “a dollar is a dollar” because it deconstructs a pro-status-quo jurisprudence quite as well as it deconstructs any other theory. In other words, Posner’s dollar-weighted theory in practice lends judicial support to the status-quo
distribution of resources, but Posner, by his own admission, has no normative basis to justify the existing distribution of resources.

Efficiency as Justice

Posner’s sixth argument equates justice with efficiency. In our view, this combines a mathematical tautology with a slippery non sequitur. Once a concept and a measurement of justice has been accepted, then it is mathematically true that "efficiency" could also be defined and measured, in such a way that increases in measured efficiency entail increases in measured justice. In that sense, Posner can tautologically equate "efficiency" with "justice" if he chooses to use words in that fashion.

However, in ordinary linguistic usage, one cannot tell whether an agent is acting efficiently until one first knows what the agent’s real goals are. Thus, "efficiency" in the social sense is logically subordinate to some assumed social goals, whether "justice" or some other. Posner has it backwards, subordinating an end (justice) to a measure of the effectiveness of the means (efficiency). The prior question is justice. Define justice, and an appropriate definition of efficiency will follow.

Moreover, most people hold views of "justice" which are entirely independent from, and sometimes in conflict with, Pareto efficiency. Posner fails to provide persuasive reasons for changing those views.

Separability of Efficiency and Equity

A seventh defense argues that the efficiency goal of government is separable from its equity goal. Knut Wicksell first expressed this idea by drawing a distinction between the “allocative” or efficiency-oriented and the “distributive” or equity-oriented activities of government (Wicksell 1967 [1896]). Therefore, Posner can logically argue for a definition of "efficiency" which is conditional on the given income distribution.

This approach assumes that government both can and will accomplish its desired degree of equity by means of taxation and transfer policies. If so, one need not be concerned about interpersonal welfare comparisons when one is performing legal analysis, because the legislature will set a fair balance using transfer payments. This argument is rooted in the second theorem of welfare economics, which implies that under certain conditions, including freedom from market distortions, any desired Pareto optimum can be supported by means of lump sum taxes and transfers within a competitive general equilibrium.

However, this argument has fallen on hard times. Most public finance economists have become convinced that real taxes and transfer payments as well as many other second-best problems necessarily entail substantial market distortions that invalidate practical applications of the second welfare theorem. Public goods present another impediment to separating allocation from distribution.
For example, the distribution of wealth may affect the optimal allocation of both public and private police services (see Eaton and White 1991). Consequently, even at best, less than the desired amount of equality can be achieved by means of taxes and transfers alone; indirect policies including judicial policies also must play a role in any effort to achieve an optimal level of equality.62

G. A Restricted Defense for Dollar-Weighting

At the same time, under restricted circumstances it may still be possible to separate efficiency from distributional questions. Thus, if it can be shown that a decision will not have a net final effect on rich or on poor, then there is no unique reason for evaluating its efficiency using an income-based weighting system; dollar-weighting will do quite as well. In a partial equilibrium analysis, if those on each side of a dispute are relatively equal in income—or if, regardless of how benefits are distributed by a judicial decision, the market will adjust so as to offset the decision and reach the same equilibrium point (for illustrative examples, see Posner 1983, pp. 102, 104)—then an income-weighted analysis of costs and benefits will add nothing.

Consequently, a general income-weighted analysis opens the door for specific uses of the dollar-weighted analysis which are free of any pro-rich bias. Thus, by separating those issues which have distributional significance from other issues or disputes, the dollar-weighted analysis can gain credibility.

The relevant question is whether a judicial decision will have a distributional effect. Two criteria should guide analysis of this question:

1. Is the social value of the dollar reasonably equal for those on different sides of a dispute? and if not:
2. Will the market adjust to the changed rule so as to offset its initial distributional impact?

If not, then an income-weighted analysis should be performed; otherwise, the dollar-weighted analysis may be equally appropriate.

Analyzing the initial impact of the decision on rich and poor separately should help to focus the inquiry. Thus, it would not be enough to find that dollar-weighted benefits are relatively small and costs are significant; if it can be shown that the benefits are received by a class of persons with very low measured welfare, then those benefits might outweigh substantial costs to the rest of society.

But if it appears, after examining the evidence, that a judicial decision will have a differential impact on rich and poor, then the determination of an efficient and just decision should reflect the differences in the social value of a dollar for those affected. But that requires the selection of a specific efficiency criterion. Thus, we return to our threshold question: exactly which Pareto optimum should judges support, and why? Next, we propose an alternative answer.
Economic Analysis and Distributive Justice

III. ARGUMENTS FOR AN EXACT HOUR-WEIGHTING OF COSTS AND BENEFITS

Both for prescribing policy and for defining justice, we start with the principle that people, not dollars, should have equal worth and equal weight. In this section, we show that this principle is consistent with a specific criterion for Pareto efficiency. Using such a criterion, legal analysis can combine the analytical clarity of the traditional economic analysis with a normative basis rooted in human equality.

The one respect in which people are most nearly equal is that each has been given primary control over her own time and her own effort. Therefore, we assert that individual time and effort (the personal value of labor) is a more democratic starting point than market prices for the judicial analysis of value. In particular, we assert that any two people sacrificing equal amounts of time should warrant equal consideration under the law.

A. "Primary Goods" and "Willingness to Pay" Welfare Metrics

Our assertion is guided in part by Rawls' intuition that welfare should be measured in terms of primary goods. To translate Rawls' claim into utilitarian language, we assert that equal quantities of primary goods should be assigned an equal social value for each person who receives them.

This approach contrasts sharply with the dollar-weighted theory, in which goods have marginal social values determined by the marginal willingness to pay of individuals. The contrast is much more stark in the case of primary goods than in the case of market goods.

Market goods, in particular, generally obey the law of one price; consequently, their valuation in terms of marginal willingness to pay is approximately equal across individuals. But primary goods do not obey the law of one price; their valuation in terms of marginal willingness to pay is conditioned by income and differs drastically across individuals.

We will take leisure time as our main example of a primary good. Under ordinary market conditions, the marginal value of leisure time equals the wage rate. But the wage rate differs drastically across individuals. Consequently, the dollar-weighted theory places different marginal social values on the same primary good (leisure time) when given to persons who differ only in their real income. In particular, an hour of leisure is deemed socially more valuable when awarded to a rich person than to a poor one. This judgement is contrary to any egalitarian conception of welfare.63

Rawls described a number of different primary goods; our theory, however, focuses on the free use of one's own human time for one's own purposes ("leisure time") as a uniquely important primary good.64 We do not deny the existence of other primary goods, but we abstract away from them; our goal here is to propose
not a complete or final ethical theory of efficiency but merely a practical improvement over the dollar-weighted approach.

We do, however, point out that human time, in its unfree form as wage labor, is in narrow market terms the pre-eminent economic resource. Labor’s marginal product is the direct source of a large majority by value of the world’s annual market product. Moreover, embodied in the form of capital, labor is an indirect source of much of the rest.

B. Adam Smith’s Normative Labor Theory of Value

Thus, our approach is related to the labor theory of value, which had a long history in classical and Marxian economics. The labor theory was implanted in that discourse by Adam Smith. Smith actually promulgated two different and analytically distinct labor theories of value. Smith’s first and more familiar theory suggested an empirical explanation for production and for the determination of relative market prices based on the ultimate labor inputs. That theory is unrelated to our argument.

Smith’s second and less familiar labor theory is a normative theory relating welfare-value to human time. The second theory has no important empirical implications, plays only a small role in The Wealth of Nations, and received limited subsequent attention. However, it is the starting point for our argument.

According to Smith’s second and less familiar theory, instead of “a dollar is a dollar,” one should assert that “an hour is an hour”:

Equal quantities of labor, at all times and places, may be said to be of equal value to the labourer. In his ordinary state of health, strength, and spirits; in the ordinary degree of his skill and dexterity, he must always lay down the same portion of his ease, his liberty, and his happiness. The price which he pays must always be the same, whatever may be the quantity of goods he receives in return for it. Of these, indeed, it may sometimes purchase a greater and sometimes a smaller quantity; but it is their value which varies, not that of the labor which purchases them. Labour alone, therefore, never varying in its own value, is alone the ultimate and real standard by which the value of all commodities can at all times and places be estimated and compared. It is their real price; money is their nominal price only (Smith 1976, Book I, p. 37).

In modern language, this passage proposes a cardinal metric for utility so as to compare standards of living or individual welfare across times, places, and persons. Thus, it articulates a rational basis for making interpersonal welfare comparisons. This passage also provides the earliest clear distinction between “real” and “nominal” values. (It also demonstrates the irreducibly normative content of any such distinction.) But rather than employing the “dollar is a dollar” or “cost of living” metrics used in modern price indices, Smith proposed an “hours of work” standard.

The choice of any cardinal utility metric is inherently normative (as well as descriptive). In particular, when one attempts to make a quantitative comparison of
levels of human happiness or welfare between persons (or even for the same person across different points in space-time), one discovers that relative happiness or well-being is not economically observable, even though indifference surfaces are observable. One solves this problem by means of a normative assumption or theory.

These normative theories ordinarily proceed in two steps. First, one matches up levels of indifference across space-time-person by assuming that the "same" bundle of inputs leads on average to the "same" level of personal welfare, independent of space-time-personal coordinates. Second, one chooses an objective, mechanical means for assigning reproducible, empirically based cardinal values ("welfare") to these ordinal levels of "happiness" (Sen 1979).

In Posner's consumer surplus theory, it has been shown that one (implicitly and approximately) assigns a dollar value to each indifference surface by measuring the expenditure function—that is, the income needed to sustain that level of indifference (given some fixed or status quo reference vector of market prices). In Smith's theory, one places a labor-hour value rather than a dollar value on indifference surfaces. However, by modern standards, Smith is somewhat vague on how this may be accomplished.

C. The "Hour is an Hour" Criterion for Efficiency

One of us has extended the project Smith began, using a combination of empirical and normative assumptions (Burress 1992b). The key empirical assumption is that the uncompensated price elasticity of labor supply must be zero for all persons with zero non-labor income (i.e., a "fixed labor supply"). This condition is reasonably consistent with U.S. empirical data. It also has a long tradition in economic modeling. In addition, our argument assumes that all persons put forth equal effort while at work.

The key normative condition places an equal marginal social value on human leisure time across all individuals who have zero non-labor income. For purposes of simplicity, the efficiency criterion is also assumed symmetric or "anonymous" and separable across individuals.

Under these assumptions, it can be demonstrated that efficiency is measured by the aggregated logarithms of individual consumption or real income. Moreover, the same rule can be extended with only a small degree of error to persons who do have non-zero amounts of non-labor income (Burress 1992b).

In other words, the total addition to hour-weighted efficiency (call it w) which results from giving total real income y to a person is given by:

\[ w = \log(y). \]  

Looking at small changes leads to a proportional weighting formula:

\[ dw = dy/y. \]
In applications, we assume that judges will be rule-utilitarian; that is, they will seek reasonably simple rules that will tend on average to maximize expected efficiency in the future. To simplify the discussion, we consider representative individuals—for example, persons with income equal to the average income expected in the future among persons affected by a judicial decision. Thus, suppose that a representative plaintiff woman has an annual income of $10,000 and a representative defendant man has an annual income of $100,000. If the net costs and benefits for each person resulting from the decision are small, then by the formula in Equation (2) they should be weighted proportionately to their original incomes. Thus, a benefit of $1 to the poorer woman would be socially equal to a $10 benefit for the richer man. A change in law would be justified if a net gain in weighted benefits resulted.

But if the resulting changes in real income are not small, then the formula in Equation (1) should be used—or, in other words, judges should maximize the expected sum of the logarithms of real personal incomes.

"Efficiency" takes on new meaning when evaluated according to this formula. The traditional measurement of economic analysis, maximization of consumer surplus, is replaced by a more direct measure of the satisfaction of human needs—namely, the minimization of the implied labor effort. Thus, the poorer woman described above would be potentially released from as much effective labor time by her $1 gain as the richer man by his $10 gain. We use the term "efficiency" to represent this concept, and we claim that our use of the term is at least as compelling as that found in the traditional dollar-weighted analysis.

After making the adjustment we have described, normative economic analysis can proceed in the usual manner. Thus, any change in the interpretation of law should be analyzed in terms of its expected economic costs and benefits, weighted according to the ultimate distributional effect.

Consequently, the analysis would carry with it all of the complications of direct and indirect effects, as well as the short-run and long-run effects, that complicate any economic analysis. Thus, if an income redistribution seemingly justified by its weighted impacts actually acted as a disincentive for those with higher incomes, leading to a decrease in weighted net benefits, then such a policy change would fail to meet this efficiency standard. Furthermore, any change that caused both the poor and the rich to be better off than they are currently would satisfy this test of efficiency, even though such a change might increase social inequality.

D. Constant Relative Risk-Averse Efficiency Criteria

As we have noted, many other weighting formulae are theoretically possible. In particular, under certain assumptions the three efficiency criteria (dollar-, hour-, and Rawlsian weighting) can be subsumed within a larger class of "Constant Relative Risk Averse" (CRRA) efficiency criteria. We adopt the term "CRRA" because it stresses their most essential property when they are viewed as a sum of
Von Neumann-Morgenstern utility functions (a property we use in the next section). CRRA weights are characterized by a single parameter, $\gamma$:

$$dw = dy/y^\gamma.$$  \hfill (3)

$$w = \log(y), \quad \gamma = 1; = y^{1-\gamma}(1-\gamma), \quad \gamma \neq 1.$$  \hfill (4)

$\gamma$ is sometimes referred to as the coefficient of relative risk aversion. The three efficiency criteria under consideration can then be characterized as follows:

- $\gamma = 0$: dollar-weighting
- $\gamma = 1$: hour-weighting
- $\gamma \to \infty$: Rawlsian weighting (as a limiting case).

Note, in addition, that any other real value of $\gamma$ also leads to a well-defined Paretian efficiency criterion. It is well-known that these criteria are increasingly pro-egalitarian as $\gamma$ increases.

Some readers may object that the CRRA class is itself too restrictive. However, there are powerful reasons of both convenience and realism for assuming CRRA criteria. These efficiency criteria are analytically simple. They have been widely studied in welfare economics texts. Moreover, among all relatively simple criteria, only CRRA efficiency criteria have the property that the resulting judicial decisions are invariant under proportional growth in the real income distribution (Burruss 1992c).

Moreover, in many normative models, the efficiency criterion can be viewed as representing an aggregate of the empirical objective functions of individuals under conditions of risk. A strong case can be made that CRRA functions empirically represent real human choices under risk better than other functions. CRRA objective functions have been widely studied in empirical economic models of choice under uncertainty and intertemporal optimization. CRRA objective functions are the only ones consistent with the observation that (the dollar value of) risk-avoiding behavior is approximately proportionate to income. Only CRRA functions can support conventional saving models in which saving is proportional to income, thus explaining the observation that the gross rate of saving is crudely constant in the long run (see Yaari 1964).

E. Arguments Against Redistributive Efficiency Criteria

Some authors have put forth general arguments against criteria that can support redistributions of income. Thus, Arnold Harberger, a welfare economist of an older vintage, once made an extended argument against using CRRA and similar weighting schemes in the analysis of taxation and public works (Harberger 1978). Harberger gave a series of hypothetical examples showing that CRRA
weights with $\gamma >> 0$ could lead to extremes of income leveling and in some cases could even justify simple waste. He concluded that these weights are contrary to accepted value judgements. (For some counter-examples, see Section V below.) Without responding in detail, we do note that most of Harberger’s examples assumed that large taxes and transfers have insignificant distorting effects on labor and saving. We doubt the realism of that assumption; if we are correct, then Pare­
tian efficiency places limits on redistribution. Other of his examples depend on the rhetorical force which comes from equating “efficiency” specifically with the dollar-weighted welfare measure—a trope which fails to persuade us. His suggestion that weights should be limited by the costs of efficient income transfers by other routes, however, could have substantial merit in some circumstances that we will not explore here.\textsuperscript{77} In any case, none of Harberger’s examples were directly concerned with the rationale for judicial decisions.

On the other hand, Posner’s arguments—reviewed in Section II—are clearly concerned with judicial decisions. Posner has never argued against redistribution per se,\textsuperscript{78} but his body of arguments does consistently imply an antagonism to politically based redistribution.\textsuperscript{79} In response to Posner’s and Harberger’s implied arguments, we assert that our theory cannot be sharply distinguished from the dollar-weighted theory on redistributive grounds. Like Posner, we do not ask judges to redistribute wealth per se; we do ask them to establish rules. Like Posner, we propose that the rules be chosen so as to maximize the expected aggregate of resources available for generating utility. We differ from Posner only with respect to the specific target aggregate (human-time-equivalents as opposed to real consumption). We are aware of no fully specified and general economic models that qualitatively distinguish the redistributive properties of Posner’s proposed criterion from our own. In particular, both theories are redistributive in some possible cases and not redistributive in others.\textsuperscript{80}

For example, under either theory, any confiscatory rules promulgated by judges would be self-defeating for the same reasons that confiscatory taxes and transfers are self-defeating: such rules destroy any incentive to create taxable income or wealth. Moreover, the practical role of judges is the relatively narrow one of setting rules to interpret existing constitutions, laws, rules, and contracts in specific contested cases. These interpretative rules are somewhat tentative, because they can always be overturned by means of new constitutions, legislation, administrative rules, and contracts. The more radical is the judicial redistribution, the greater are the forces for a nonjudicial reversal.

In addition, to the extent that information costs and decision costs are substantial, some degree of respect for precedence follows from any Pare­
tian judicial criterion. And this implies that the production of new judicial law will typically concentrate on the filling in of what was previously not defined. New rules of this type do indeed allocate resources, but they do not reallocate resources, in the sense that the allocation in question was previously undefined. In cases where judges
clarify previously undefined rules, our proposal is no more and no less redistributive than Posner’s proposal.

F. Arguments from Simplicity for an Exact Hour-Weighting

In a subsequent section, we argue that efficiency criteria based on \( \gamma = 1 \) (hour-weighting) correspond more nearly to common political opinion than those based on \( \gamma = 0 \) (dollar-weighting) or \( \gamma = \infty \) (Rawlsian weighting). But why not consider other intermediate values of \( \gamma \)? The “stylized political facts” we discuss below are not sufficiently precise or consistent so as to pick out any one preferred value from a range of values in a neighborhood of \( \gamma = 1 \). However, we focus on the hour-weighting case based on several considerations of simplicity and familiarity.

The Labor Theory of Value

Only the hour-weighting case can be derived from the labor theory of value described above.

Simplified Description

The hour-weighted case is the most easily described of the intermediate cases \((0 < \gamma < \infty)\). In light of the hour-weighting formula in Equation (1), the gain in welfare resulting from a small increment in real income is proportionate to the ratio of the increment to the income. This simple rule accords well with universality, one of the constraints on principles of justice proposed by Rawls:

> each can understand these principles and use them in his deliberations. This imposes an upper bound of sorts on how complex they can be (Rawls 1971, p. 132).

In a similar vein, Posner argues that law should be “rational” and “public” (1983, p. 75).

Simplified Theories of Bargaining

The hour-weighting formula is equivalent to the simplest version of the Nash Social Welfare function often used in axiomatic bargaining theories. In other words, hour-weighting describes a natural outcome of a consensual bargaining process.

Simplified Empirical Estimation

The hour-weighted case is the most easily used among risk-averse CRRA weighting schemes. Hour-weighting employs logarithmic objective functions;
these are widely used in economic modeling precisely because they often produce analytically simpler results than any other concave objective functions. For example, the logarithmic case can simplify the transition from a person-centered analysis to the family-centered analysis which many analysts prefer.82

Conservatism

If ethical or practical arguments lead to a range of admissable efficiency criteria rather than to one unique criterion, then it would seem desirable to select among them that criterion which most nearly conserves the existing body of academic research and analysis. Thus, the hour-weighted case is in a sense the most conservative member among a range of admissable cases supported by empirical arguments. In particular, we argue below that \( \gamma = 1 \) is an approximate lower bound for observed measurements of risk aversion; therefore, the logarithmic case is the closest we can come to the traditionally risk-neutral, dollar-weighted measure, consistently with actually observed attitudes toward risk.

IV. DEMOCRATIC ARGUMENTS FOR AN APPROXIMATE HOUR-WEIGHTING

A. Arguments from Compromise

It is surprisingly difficult to make a rigorous argument for any specific normative values when starting only from democratic premises. In practice, a democracy does not exist as a bundle of values. Instead, it exists as a set of procedures for deciding between conflicting values. The majority of a people who practice a successful democracy probably must share some minimal values; these values might include self-restraint, mutual toleration, and a respect for established procedures. Yet, these procedural values do not lead to any one substantive efficiency criterion.

Again, these minimal democratic values are likely to erode if faced with a sufficiently extreme social inequality. Yet, that fact alone does not lead to any one particularly favored distribution of income. Each actual democracy is merely an experiment; it can in effect vote itself out of existence by failing to affirm a bundle of values which reproduces its own conditions for existence.

Thus, the labor theory of value proposed in the previous section leads to ethical or political judgements which may be consistent with democratic values, but cannot be rigorously derived from them. In a democracy, the only persuasive kinds of argument available for any particular normative judgement are procedural or majoritarian arguments. In this section, we review two majoritarian arguments.

In both arguments, we present our position as a democratic compromise between two influential Paretian theories, that of Posner (relatively pro-rich) and
We argue that our theory is likely to be adopted over the other two under a majority voting rule: first, by well-informed citizens in an actual democracy, and second, by delegates in Rawls' "original position behind the veil of ignorance," or at Buchanan's "constitutional convention."

Insofar as actual political strife differs greatly from ideal democratic practice, we also argue that our theory is of practical use in the midst of political conflict. In particular, it may aid judges in seeking relatively efficient outcomes even when other political decisions are inconsistent and Pareto-inefficient.

Our theory is a compromise which incorporates some elements of John Rawls' "theory of justice" (1971, p. 101) into an economic analysis similar to Posner's. The "difference principle" recognized by Rawls permitted increases in inequality when the welfare of the least advantaged would be improved as a result. For example, a decision that caused a substantial increase in the earnings of the rich would be "fair" if it also had a positive impact on the welfare of the poor, even though the benefit to the poor was not as great as that to the rich. Any change in policy that satisfied this "difference principle" would also be justified under the hour-weighting formula.

The hour-weighting formula, however, is more flexible than Rawls' difference principle. As in Posner's theory, some positive weight is always given to any gains enjoyed by the rich. Therefore, hour-weighting would permit some improvements in the welfare of the rich even at the expense of the poor. Thus, a policy change which resulted in a $10 improvement in the welfare of the rich man described above could be justified provided that the resulting decrease in the welfare of the poor woman was less than $1.

On the other hand, Posner's theory would justify $10.01 given to the rich even at a cost of $10.00 lost by the poor. Thus, Posner's theory is relatively more pro-rich than our own, whereas Rawls' theory is relatively more pro-poor.

### B. A Median Voter Argument

Let us consider what would happen if the choice of an efficiency criterion for judicial decision making were put to a referendum in an actual democracy. Assume that each voter knows the expected effects on his or her own welfare of adopting any given efficiency criterion, that voters are risk-neutral, and that each votes purely to promote his own material self-interest. Then, it seems quite plausible that the majority would adopt the moderate system of hour-weighting over either extreme.

Of course, the actual outcome would depend on the specific facts of the situation. Moreover, each voter might have a different preferred value for $\gamma$ which would depend partly on his or her own income and partly on the expected distribution of issues to be decided. However, under reasonable conditions the preferences of the median income voter would win out.
A specific model worked out by one of us supports these conclusions (Burress 1992e). In particular, if the value of winning a contested issue cannot exceed the income of an opponent, if the average value of winning an issue generally increases with the opponent's income, and if the choice is restricted to reasonably simple criteria (CRRA criteria, the key assumption), then there is a median voter equilibrium leading to a value of \( y \) strictly intermediate between the dollar-weighted case and the Rawlsian case. Moreover, in a three-way choice between dollar-weighting, Rawlsian weighting, and hour-weighting, hour-weighting (i.e., the logarithmic case) always dominates.

To summarize, then, under a realistic range of supporting assumptions, a majority of perfectly rational and selfish voters will prefer hour-weighting over either dollar-weighting or Rawlsian weighting.

C. A Theoretical Social Contract Argument

The median voter approach, however, may be unsatisfactory for handling distributional questions. The amount of information assumed known by each voter is rather extreme. Also, the model assumes that voters have no political or ethical preferences apart from selfish materialism, but it is very hard to understand how the institutions of a real democracy could be held together under those conditions. Moreover, the median voter would prefer an exactly optimal \( y \) rather than the approximately optimal hour-weighted case; however, the \( y \) that is most preferred by the median voter is sensitive to the detailed parameters of the economy and is likely to change over time, leading to an intertemporally unstable efficiency criterion.

Another problem much discussed in the public choice literature is that voting models of self-serving redistribution are typically very unstable, with constantly shifting coalitions that lead to no determinant outcome. Thus, direct democracy arguably cannot settle fundamental questions about the income distribution, except when there already exists some degree of ethical or political consensus. The median voter approach is unpersuasive in part because it is unrelated to any firm ethical or political basis for choosing an income distribution.

Several authors who have accepted this insight have attempted to derive interpersonal welfare judgments from a social contract argument. More specifically, they relate the desired efficiency criterion to the individual preferences of persons who attempt to reach agreement while in a state of great uncertainty about their own future prospects (e.g., behind Rawls' "veil of ignorance").

As it turns out, however, the median voter argument for an hour-weighting can be directly recast as a social contract argument for an hour-weighting. In particular, lawgivers under a state of great uncertainty about their own personal prospects but with full knowledge about the distribution of future prospects across all persons, are likely to choose hour-weighting over either dollar-weighting or Rawlsian weighting (Burress 1992c).
D. An Empirical Social Contract Argument

A similar conclusion can also be reached by an indirect route. Provided that the government could be bound to maximize a specific Pareto efficiency criterion, and provided also that individuals have rational ethical preferences as well as rational selfish preferences, John Harsanyi (1955) has shown that the social contract approach leads to a surprisingly general conclusion: the chosen efficiency criterion should equal a weighted sum of the ordinary (selfish) Von Neumann-Morgenstern utility functions of the individuals. 89

The three efficiency criteria we have been discussing can all be forced into this framework. That is, each CRRA efficiency criterion can be described, or at least closely approximated, as a sum of equally weighted Von Neumann-Morgenstern utility functions which could be interpreted as representing the preferences of identical individuals. However, the hour-weighted analysis uses utility functions which resemble actual, empirically estimated VNM utility functions much more closely than is the case either for a dollar-weighting or for a Rawlsian weighting.

In other words, one can criticize the three competing theories by examining the degree of risk aversion reflected in the implied objective functions held by individuals. In this vein, Posner follows Kenneth Arrow in criticizing Rawls' theory as being perfectly risk-averse (Arrow 1973; see also Harsanyi 1975). Posner discusses this point in The Economics of Justice (1983, p. 100). Consequently, Rawlsian theory is contrary to the values of most humans, who are willing to run a finite risk of losing part of what they have if the prospective payoff is sufficiently probable and attractive.

But Posner's own theory is subject to a similar criticism. The dollar-weighted approach is perfectly risk neutral; this is also contrary to ordinary human values. For example, most persons are unwilling to run a 50-50 risk of losing all and starving to death if the best payoff was a mere doubling of income, but risk-neutrality implies that they will.

In contrast, the hour-weighted formula expresses an intermediate degree of risk aversion. It accords well with ordinary attitudes toward risk. And, in fact, detailed empirical studies of risk aversion in the context of intertemporal choice are quite often consistent with logarithmic preferences (γ = 1). 90 The empirical studies are clearly inconsistent with either γ = 0 or γ = ∞. In that sense, hour-weighting expresses ordinary values about risk aversion more accurately than does its main competitors. To that extent, hour-weighting represents a more realistic social contract.

E. Arguments in the Presence of Democratic Inefficiency

The three alternative criteria for efficiency (dollar-, hour-, and Rawlsian weighting) were presented above as ideal theories. Each assumes that both legislative and judicial decision makers are disinterested and benevolent parties whose only goal is to accord a fair degree of respect for all citizens and to resolve disputes in a fair
and efficient manner. It would be a mistake to argue for adoption of any such formula without recognizing the limitations of this premise.

In particular, it seems unlikely that actual policies affecting taxation and income distribution which have been adopted by actual legislatures are especially efficient, as measured by any simple weighting formula. Therefore, the social contract approach is in one sense unrealistic: it assumes that legislators or judges or other government agents can be bound to respect one particular efficiency criterion.

Our social contract arguments may be unrealistic in a second sense: empirical evidence that such a contract actually exists may be rather thin. We point out, however, that members of a society might have a substantial consensus that both the traditional economic analysis and the existing government policies are excessively pro-rich, without being able to form a consensus around any one particular alternative. Rawlsian theory has been the main well-formulated alternative to a dollar-weighted analysis, but to many people, Rawlsian theory seems excessively pro-poor. The general CRRA theory supported in many cost-benefit analysis texts is a rather indefinite theory because no particular value of $\gamma$ has been recommended. Perhaps critics of existing efficiency theories have been prevented from reaching a consensus by the absence of any well-posed, well-defended, definite, and moderate alternative.

Buchanan and others have developed a more descriptive and empirical approach. Buchanan observes that public agents are themselves self-interested actors. Therefore, Buchanan distrusts the policy relevance of all efficiency criteria equally, on the grounds that no benevolent despots are available to implement them. His approach looks for ways to settle the question of distributive justice by means of constitutional mechanisms such as grants of property rights, while imposing constitutional constraints on the degree of discretionary redistributive action by government agents.

One might respond to this point on normative grounds; that is, a particular efficiency criterion such as hour-weighting might be "right" or might be required by the Constitution, even if it were not enforceable. A more descriptive response is that government policy is always likely to be incoherent in some degree because it reflects a continuing political struggle between competing views. The proposal of any one particular efficiency criterion necessarily supports one particular position in that ongoing struggle.

As Buchanan points out, a fundamental problem of reality in any "democratic" system is that legal, legislative, and regulative outcomes do tend to reflect rent-seeking behavior—that is, outcomes reflect the influence of existing and potential distributions of money and power. If one believes that the rich and the potentially rich, or any other group, have disproportionate influence in the political process, then logically one might recommend a pro-egalitarian efficiency criterion as an appropriate corrective to the judge who seeks rules of "justice."

Of course, this argument assumes that judges are motivated more by ideas such as "efficiency" than by personal economic pressures. By the nature of their life-
time appointments and their institutional roles, judges would seem to be better candidates than either politicians or executive branch employees for the role of "benevolent despot." As a recent review argues, "so far as common law tends toward efficiency, it must be driven by the ideas of judges, not by competitive pressure in the market for litigation," because pressures on judges tend to be bureaucratic rather than competitive (Cooter and Rubinfeld 1989).98

If the judges seek some kind of efficiency optimum as the outcome for the game that they referee, then they should not adopt a criterion for efficiency which forces a Nash equilibrium and wastes resources. Instead, they should adopt a criterion for efficiency which supports a cooperative coalition among other players in the game. We have argued that dollar-weighting does the former; we suggest that hour-weighting may accomplish the latter.

We do not propose a formal model of that multi-sided game. However, we point out that the players include the judges, the rent-seekers, the legislators, the President and other politicians, the regulatory agencies and other bureaucracies, and past and future as well as present-day voters at large, acting partly in their narrow self-interest and also partly according to their ethical beliefs.

It seems likely that, when acting as a class, neither rent-seekers, nor politicians, nor bureaucrats, nor voters acting on purely selfish interests could agree on any particular coherent criterion of efficiency.99 If so, then by a process of elimination, the efficiency criterion supported by judges should be based on the ethical beliefs of voters, that is, on a social contract. Hour-weighting is proposed as such a measure.

V. APPLICATIONS

In this section, we give brief examples comparing some normative implications of the three efficiency approaches for three questions of common law. In each of our cases, it will be apparent that factual (i.e., behavioral or statistical) information plays a role that is either comparable to, or greater in importance than, the choice of efficiency weights. However, a change in the definition of efficiency does seem likely to lead in some cases to changes in what policy rules are found to be "efficient."

A. Liability and Negligence

There is an extensive literature of economic analysis of liability and negligence under the dollar-weighted norm, showing that in concrete cases the empirical issues can be very complicated (cf. Landes and Posner 1987; Shavell 1987; Brown 1973; Wittman 1986; Landes 1982). At the most abstract level, the discussion is based on the following normative judgement: judges should create rules of liability and negligence so as to create incentives for ex ante con-
strained-best behavior on the part of potential plaintiffs and defendants. In a partial equilibrium analysis, "constrained-best behavior" could be defined as behavior that minimizes the expected total social cost to the two parties, including transaction costs. In a general equilibrium analysis, "constrained-best behavior" could be defined as behavior that minimizes the expected total social cost to all parties. In either context, "total social cost" may include the costs of damages, the costs of performing mitigation, the costs of learning about the risks and the possible means of mitigation, the costs of undertaking court processes or other negotiations to establish claims for damages, and the costs of uncertainty about outcomes.

At this high level of abstraction, all three theories share the same goal. Where the theories differ is in the detailed definition of social costs. The received theory defines costs in units of dollars of equivalent real income; our theory defines it in units of equivalent labor hours, or in units of changes in logarithms of equivalent real income; Rawlsian theory defines it in units of changes in the circumstances of the worst-off affected person.

Consequently, much of the discussion will be substantially unchanged. Where the incomes of the parties are expected to be comparable on average and where the costs at issue are small in comparison to income, the recommended policy will be similar under all three theories. However, in cases where incomes are expected to be unequal, our theory will be more favorable to the poorer party than is the received theory but less favorable than is Rawlsian theory.

To give a greatly simplified example based on Judge Hand’s formula, suppose that there are no transactions costs, no offsetting market effects, no third party effects, individuals are risk-neutral, the plaintiff has no means of mitigation available, and neither party is insured. Then, as Judge Hand’s formula implies, the defendant’s incentive to mitigate should correspond to

\[
\text{expected net social cost} = PL - B,
\]

where \( P \) is the probability of an accident, \( L \) is the social cost of damage conditional on an accident, and \( B \) is the social cost of mitigation.

In all three theories, efficient incentives can be imposed through rules of negligence using this formula. That is, the defendant should pay if and only if \( PL-B > 0 \). However, the social values of \( L \) and \( B \) are differently measured in the three theories.

In the dollar-weighted theory:

\[
L = E(D); \quad \text{and} \quad B = M,
\]

where \( D \) is the plaintiff’s private (dollar) value of damages conditional on an accident, \( E \) is the (ex ante) expectation operator for the defendant, and \( M \) is the private (dollar) cost of mitigation (assumed known ex ante by the defendant).
In the hour-weighted theory:

\[ B = [\log(Y_d) - \log(Y_d-M)] \] 

and 

\[ L = E[\log(Y_p+D) - \log(Y_p)] \] 

(7)

where \( Y_d \) is the income of the defendant and \( Y_p \) is the income of the plaintiff.\(^{102}\)

In the Rawlsian theory:

\[ B = E[\min(Y_p,Y_d) - \min(Y_p,Y_d-M)] \] 

and 

\[ L = E[\min(Y_p,Y_d) - \min(Y_p-D,Y_d)] \] 

(8)

where all terms are defined above.\(^{103}\)

It is easy to demonstrate the following facts:

1. In all three theories, the defendant’s standard of care increases on average with the expected private damage \( E[D] \), increases with the probability of damage \( P \), and decreases on average with the private cost of mitigation \( M \).

2. In both our theory and Rawlsian theory (unlike the traditional theory), the defendant’s standard of care increases on average with the defendant’s income \( Y_d \) and decreases on average with the expected income of the plaintiff, \( E[Y_p] \).

3. In Rawlsian theory (unlike ours or traditional theory), the defendant’s standard of care is completely insensitive to moderate private costs of mitigation whenever the defendant’s income is much greater than the plaintiff’s expected income, and it is completely insensitive to moderate private damages whenever the plaintiff’s expected income is much greater than the defendant’s income.

While the second conclusion under our theory will clearly provoke controversy, we note that our theory can explain the empirical tendency of some U.S. juries to find against the party who has “deep pockets” (see Hammit, Carroll, and Relles 1985).\(^{104}\) The third conclusion under Rawlsian theory will be unappealing to anyone who believes that a positive marginal gain for the rich should be assigned some positive marginal social value (however small).

B. Warranty of Habitability

A number of efforts have been made to develop an economic analysis of the court decisions which imposed a “warranty of habitability” on housing landlords.\(^{105}\) Analysts have argued that, under long-run perfect competition with full information, the market adjustment to such a decision would lead to total costs which exceed benefits for both rich and poor (see, e.g., Meyers 1975). This result is likely to hold, even when using the hour-weighted or the Rawlsian measure of social cost. In particular, under constant long-run costs, all of the costs of the warranty will be shifted to the tenant. If warranties were not adopted voluntarily, then
it could be presumed that the costs to tenants would exceed the benefits to tenants; hence, imposing warranties makes the tenant worse off.

Other analysts, however, have considered failures of perfect competition that an externally imposed warranty might correct (see, e.g., Kennedy 1987; Ackerman 1971). In particular, the tenant incurs a high transaction cost at the time he changes his residence. If the tenant fails to notice defects in the housing unit at the time he moves in, or if defects develop subsequently, then the landlord has little incentive to make repairs unless the tenant is willing to move—that is, unless the damage to the tenant exceeds the cost of moving. Moreover, at the time the lease is first signed, the landlord often has superior information about possible defects (an information asymmetry); and she has little incentive to reveal that information to a potential tenant.

The tenant could reasonably make a needed repair himself, however, provided that his expected damages exceeded the out-of-pocket cost of repair. But if moving costs and repair costs each exceeded the damage (or if the tenant were unable to borrow funds), then no one would make the repairs. And yet, making the repairs might still be efficient—that is, damages avoided, plus landlord’s salvage value expected when the tenant moves for other reasons, might well exceed repair costs.

Of course, this entire issue could in principle be handled more effectively by an explicit warranty voluntarily included in the lease. But such a provision amounts to an insurance policy sold by the landlord to the tenant. Insurance markets are widely subject to serious market failures, often related to information asymmetry, information costs, and enforcement costs—all are factors that may be present here. If the relevant insurance market does fail to operate, then an imposed warranty of habitability could be welfare-improving. An externally imposed warranty may reduce enforcement costs (by providing public risk-sharing of enforcement costs as well as by providing a new mechanism of enforcement). Also, an imposed warranty may reduce information and negotiation costs (the tenant does not need to hire a contract lawyer before he signs a lease).

It remains true that in the long run, the market is likely to adjust to imposed warranties so as to shift most of the landlord’s expected costs of repair back to the tenant. But in this case, the tenant in effect pays a fair price for an insurance policy that guarantees essential repairs. By hypothesis, the tenant would have been unable to purchase such a policy in the unfettered market. As long as the tenant’s absolute risk aversion exceeds the landlord’s, then this forced sale of insurance is likely to make both parties better off.

There is an additional social cost of imposing this kind of insurance, however. In some cases, repairs will be made that are inefficient—namely, in cases where the tenant’s damages plus the landlord’s expected salvage value are less than the repair cost.

The contribution of either the hour-weighted theory or the Rawlsian theory to this discussion is relatively marginal. Both theories reduce the set of repairs
deemed inefficient and, hence, both theories expand the range of market failures in which imposed warranties are socially justified.

In particular, there is evidence that renters have lower income on average than housing-property owners. Moreover, the warranties of habitability are significant mainly for the lower end of the housing market (landlords in upscale housing are more likely to make the needed repairs). Consequently, in both our theory and in Rawlsian theory, any damages to the tenant must be assigned a higher weight on average than any costs of repair borne by the landlord. Assuming that net benefits to tenants exceed costs incurred through market adjustments, the test for the social efficiency of making a given repair will tilt much more often in favor of making the repair, under our theory, and will nearly always favor the repair under the Rawlsian theory.

But note that, at least by some accounts, it is possible that tenants will generally benefit from housing code enforcement or habitability requirements but that the burden of costs shifted by the marketplace will be heaviest for the very lowest income tenants (see Rabin 1984, p. 560). Posner (1986, p. 472) has speculated that “a covert purpose of housing codes [might] be to increase the supply of middle income housing at the expense of the poor.” Such speculation leads to the possibility that habitability rules may be unacceptable under either traditional theory or a Rawlsian approach, while still being favored under our alternative.

In this analysis in general, however, the concrete implications for the rule of habitability resulting from any choice of efficiency weights are rather slight. At the same time, hour-weighting does capture some of the sense of unfairness that many people feel (and some courts have felt) when a rich landlord refuses to make a necessary repair for a poor tenant. Dollar-weighting pays no homage to this sentiment. And (in our opinion) Rawlsian weighting pays too much homage: under it, even the most insignificant improvement in the liveability of rental housing can be justified, even when the cost of repair is quite large, provided that the cost is shifted to the landlord.

C. Unconscionable Contracts

Rules regarding “unconscionable” contracts have been criticized in a perfectly competitive framework for creating costs (raising the prices of the goods affected) while failing to meet their redistributive objectives (Epstein 1975). Thus, the of unusually high interest rates could be described as making available an option to the poor through market mechanisms which, if not allowed, would simply make it impossible for the same poverty group to purchase the items in question. This argument does not depend on any particular set of efficiency weights.

At the same time, however, if the high interest rates did not reflect a genuinely competitive market but rather took advantage of ignorance or local monopoly, then the argument for perfect competition would fail. The hidden punitive repossessions schemes or the door-to-door seller of worthless books illustrate
the problems with unscrupulous merchants who may take advantage of ignorance rather than functioning in a genuinely open market. While it is true that there are costs associated with controlling such schemes through rules prohibiting unconscionable contracts, and it is certainly true that such rules will only have a limited effectiveness, nevertheless there is reason to believe that the primary beneficiaries of such a rule are likely to be relatively poor. An analysis of the efficiency of such a rule should compare those benefits to the costs involved, taking into account the efficiency weights assigned to the agents involved.

The outcome will depend on factual information in each case. However, given that some market failure has occurred and given that, on average, suppliers’ incomes exceed demanders’ incomes, we believe that the presumptive outcomes are as follows:

1. In the traditional dollar-weighted theory, the rule of unconscionability will most often be disallowed, because benefits and costs to the parties are simply a transfer payment at best.
2. In our hour-weighted theory, the rule of unconscionability will generally be upheld, except when the social costs of intervention are rather high in comparison to the implied transfer payment.
3. In Rawlsian theory, the rule of unconscionability will always be upheld, even when the social costs of intervention are extremely high, except when a substantial part of those costs are borne by the demander.

Once again, we suggest that many citizens will find our moderate approach appealing. Judges are not impervious to this appeal: our approach can explain the observation that case law cited above has often failed to follow the traditional economic analysis.

In summary, in each of the three issues examined here, our theory leads to judgments that are often consistent with dollar-weighted theory and/or the Rawlsian theory. But wherever the theories diverge, our theory leads to judgments that, in our view, are more consistent than its competitors with the ethical judgments likely to be made by many ordinary citizens, jurors, and judges.

VI. CONCLUSION

An hour-weighted economic analysis will often preclude the use of dollar-weighted market prices as a guide to decision making. Consequently, many adherents of traditional dollar-weighting will not accept it. Our purpose in this paper was not finally to settle the question of what efficiency weights to use but rather to advance an unsettled controversy. By providing a clearcut alternative, we believe we have shown that prices in the market place need not be used for dollar-weighted evaluations of “fairness” or “justice.” We have also shown that prices provide neither a simple nor a unique basis for measuring “efficiency.”
We have noted that our proposed alternative itself is not unique, and it may not correspond exactly to the ethical arrangements reached by any one actual community. However, the technical feasibility of such a distributional analysis casts substantial doubt on the fairness of any legal analysis, which encourages an unnecessary degree of inequality.

Moreover, we believe that there are persuasive reasons for adopting the specific alternative we propose. In particular, we have shown that it has a basis in ethical theory, it passes tests of simplicity, it corresponds in a reasonably realistic fashion to individual attitudes toward risk, it is likely to have a comparative advantage in the democratic market place for votes, and it has some degree of descriptive validity.

In contrast, prices in an inequitable marketplace for goods merely reflect the existing distribution of resources. If a historical review of the common law does lend a degree of descriptive validity to a dollar-weighted marketplace analysis, that may only restate the obvious: judges who have achieved their status through existing rules tend to preserve them. Hour-weighted economic analysis provides judges with an independent standard by which they can build an ongoing correction to this bias.

Thus, hour-weighting is proposed as a way of thinking about judicial decision making in a dynamic society. Unlike theories justified only conditionally on the fairness of an existing income distribution, hour-weighting can be justified at any time in any democratic society. The bias it reflects is toward an equality of concern and respect, regardless of existing inequalities.

If we are correct in suggesting that hour-weighting is consistent with democratic principles and is likely to be compatible with an ideal legislator's view of fairness, then an additional argument would support its application. The question we raise is whether judicial decisions should mirror the balance of economic power established by the private market, or the balance of equity established by the legislature or the Constitution. The common law did the former; judges acting in the era of statutory law should attempt to do the latter.

A hour-weighting of costs and benefits would also help sort out and distinguish among the descriptive, predictive, and normative elements of any economic analysis. Separate identification of the measured distributional impacts clarifies the limits of economic analysis when money has unequal social value for those affected. In other words, by using an explicitly weighted measure of value, normative issues would be explicitly raised rather than concealed behind an unstated initial assumption that money has equal social value for each.

Therefore, the hour-weighted economic analysis of law is intended to correct the distortions of legal decisions which result from a tendentious assumption that wealth has an equal social shadow price for rich and for poor. It is founded instead on a belief that "justice" has a meaning that is distinct from the market outcome. And it adopts a moderate attitude toward risk-sharing and income equalization which contrasts favorably with the relatively extreme but opposing views of Posner and Rawls.
ACKNOWLEDGMENTS

The authors have received helpfully critical comments from Paul Heyne, Richard O. Zerbe, Jr., and an anonymous referee. Able research assistance was provided by Rachel Breazeale and Alyn Pennington. This research was supported by the State of Kansas. Any opinions expressed here are solely those of the authors.

NOTES

1. It may be more accurate to further separate economic analysis into positive (or predictive), normative ("prescriptive"), and descriptive approaches (see Veljanovski 1984, pp. 12, 13-15). The sharp line that we have drawn in this essay is between the normative and the descriptive. The "positive" approach is more problematic because, while ostensibly not tied to normative issues, the step from prediction to advocacy (from saying this will happen to arguing that it should happen) is as seductive for economic analysts as it is for anyone else.

2. This point goes back at least to David Hume (1941 [1739]). Thus, it must be emphasized that economic analysis is an inherently value-laden activity. In the words of a formative text in welfare economics:

   It may be suggested that welfare economics could be purged [of value terminology] by the strict use of a technical terminology, which, in ordinary speech, had no value implications. The answer is that it could be, but it would no longer be welfare economics. It would then consist of an uninterpreted system of logical deductions, which would not be about anything at all, let alone welfare (Little 1950, p. 82).

3. This is argued by Esterbrook (1984). However, R.C. Ellickson (1987) argues that its growth has peaked; see also a rejoinder by Posner (1987a).

4. While there might be arguments about whether economic analysis and moral theory meet this description, there is at least substantial evidence to support it. On the one hand, economists are not reluctant to admit that they tend to avoid questions about distribution (Veljanovski 1984, p. 23). On opposite sides of the spectrum, the attraction to nihilism on the part of both legal formalists and subjectivists does little to suggest ready alternatives (see Tushnet 1979, p. 1307).

5. Pareto efficiency, which is discussed below in more detail, measures results in terms of whether desired net benefits have been optimized. A "Pareto optimum" is reached when it is impossible to make any individual better off without making someone else worse off. The acceptance of Pareto efficiency as a goal is not without its difficulties, as Sen (1970, p. 152) pointed out. For other relatively sympathetic objections, see Rowley and Peacock (1975). For a thoroughgoing repudiation based on the Critical Legal Studies school, see Kennedy (1976).

   Our view, as developed in Section II, is that Pareto efficiency almost never provides a sufficient normative condition for deciding issues. At the same time, we view Pareto efficiency as a necessary (meta-)condition that should be imposed on more specific quantitative criteria of efficiency. Richard Posner accepts the former view and rejects the latter view.

6. In this essay, we draw heavily on chapters 3 and 4 of The Economics of Justice (1983), which provides the clearest defense we have seen for the normative foundations of economic analysis.

7. Thus: "Virtually all works on cost-benefit analysis would recommend that the distributional consequences of these prices changes be taken into account in policy evaluation, provided that the distribution of income is deemed relevant for policy" (Wildasin 1988, p. 801; the author follows this statement with five citations)

   Again, an authoritative survey of cost-benefit analysis argues for using explicit efficiency weights different from "a dollar is a dollar" and also states:
It is noteworthy that whilst some non-economists, e.g., Lord Roskill in chairing the inquiry into London’s proposed third airport, refused to accept weighting ..., it has come to be accepted by some of those economists who had been its strongest opponents—see, for example, Harberger (1978) and Nwaneri (1970) and Layard, Squire, and Harberger (1980) (Drèze and Stern 1987, p. 958).

Again, a recent elementary textbook author states:

It would be a rare economist who would argue that distributional considerations should not be taken into account, at least judgmentally, at the decision-making stage (Schofield 1987, p. 223).

But Posner argues for exactly that position. As a final example, the Reagan Administration’s executive order requiring all new government regulations to pass a cost-benefit test inspired a book-length methodological review which devoted a fifth of its length to “The Social Utility Framework for Benefits Assessment” (Cox 1986).

For a spirited defense of the more traditional form of cost-benefit analysis, see Mishan (1982a, p. 29). Mishan’s antipathy towards pro-egalitarian efficiency criteria may be based partly on his explicitly stated belief that real income is unrelated to human happiness; see his comments in “A Survey of Welfare Economics” in Surveys of Welfare Economics (prepared for the American Economic Association and the Royal Economic Association), as cited in Spengler (1980, p. 143)

8. Indeed, several authors have argued against unitary theories of jurisprudence, for example, Stewart (1983, p. 1537, see also citations therein). Posner (1990) has recently accepted the point that efficiency cannot provide a complete account of jurisprudence.

9. Our approach would logically be applicable to cost-benefit analysis as well as other forms of legislative and executive decision making. However, a special case can be made for applying these ideas to judicial decision making, both because of the central role of coherence in jurisprudence and also because of the historic task of the judiciary in protecting the rights of minorities against the “tyranny of the majority” (see Dworkin 1980, p. 130).

10. Following Posner, we adopt a rule-utilitarian rather than a goal-utilitarian framework. Below, we have also remarked on the reciprocal relationship between rights and efficiency.

11. However, we do assert that an elaboration of the framework we propose would be more consistent with generally accepted principles of legislative intent and judicial coherence than the traditional economic analysis.

12. In this paper, we use “Paretian” in the weak sense of supporting Pareto-efficient policies. In our view, no theorist discussed in this paper is Paretian in the strong sense of supporting only those policies which are Pareto-superior to the status quo. Posner tends to adopt the opposite usage, equating Pareto efficiency with Pareto improvements over the status quo. We refer to Posner’s theory as “approximately Paretian” for reasons discussed below.

13. We do not accept Posner’s argument that his position is “neutral” and, therefore, not relatively pro-rich. However, Paretian positions much more pro-rich than Posner’s are possible, at least in theory.

14. Rawls’s original statement was technically not Paretian because he neglected to state the necessary tie-breakers for making interpersonal comparisons among persons who are not the worst off. Moreover, Rawls made restrictive assumptions so that interpersonal comparisons could be conducted in terms of bundles of “primary goods,” thus simplifying interpersonal utility comparisons. When we speak of a “Rawlsian theory” in this essay, what we have in mind is a generalized “leximin” Paretian theory.

We characterize Rawls as relatively rather than absolutely “pro-poor” because more extremely egalitarian efficiency criteria are possible.
15. By the phrase "social value," we intend only to convey the idea of a relative value assumed (either implicitly or explicitly) by a planner, a policymaker, a public choice theorist, or a voter. We do not claim that "marginal utility" or "social welfare" can be measured empirically, except conditionally upon strong normative judgments. On the other hand, as we argue below, policymakers do and must make such judgments.

16. As explained further below, "dollar-weighting" refers to traditional measures of efficiency which share a goal of maximizing "wealth" or "consumer surplus."

17. We adopt the term "Constant Relative Risk Averse" or CRRA. Many other names have been used for these functions in the economics literature.


19. There may, however, exist "potential" strict Pareto improvements over an equilibrium, but transactions costs or other second-best impediments prevent us from actually reaching them. For a thorough critique, see Calabresi (1991).

20. The example is extreme, yet germane in light of the historical experience of the Holocaust. Posner (1983, pp. 82-83) makes a similar point in his discussion of sadistic "utility monsters."

21. The term "efficiency criterion" corresponds to Posner's more cumbersome phrases "criteria for economic efficiency" and "criterion for a gain in efficiency" (Posner 1983, p. 91, 92).

22. Posner's example proves much less than this, however. He shows that a change from monopoly to perfect competition is a Kaldor-Hicks improvement but not a Pareto improvement (the monopolist is hurt). But nevertheless, perfect competition is Pareto-efficient and monopoly is Pareto-inefficient—facts which Posner fails to point out. The economist's real case against monopoly depends on this subtler point, one which is hard to demonstrate rigorously using elementary techniques. Therefore, Posner has not shown that "most economists say Pareto but use Kaldor-Hicks." Instead, he has merely pointed out a weakness in the usual undergraduate pedagogy of economics.

23. Posner (1979b) has claimed that an efficient allocation of rights must maximize "wealth" in a global sense. However, Keenan (1981) pointed out that this is only true for small local changes in the allocation of rights. We do not view Posner's partial equilibrium approach as a major limitation of his efficiency criterion, since there does exist a general equilibrium analog for consumer's surplus, sometimes called the "money metric;" see note 41.

24. Posner includes producer surplus as well as consumer surplus in his definition—that is a convenience for analyzing both sides of a single market. Posner's use of the term "wealth" for this construct is an effective rhetorical device, but the term "wealth" has a different set of meanings for many economists and non-specialists. We follow recent authors who use the briefer "consumer surplus" rather than "consumers' surplus." For criticisms of Posner's definition of the term "wealth," see Johnson (1986).

25. A significant number of leading economists, some but not all associated with the Austrian school, have also objected to any use of aggregated efficiency criteria (see, e.g., Buchanan 1969, and citations therein. Another leading opponent of efficiency criteria in general, and consumer surplus in particular, is Samuelson (1965, pp. 91, 205-210).
26. Posner (1983, pp. 70-71, 90) has noted (without emphasizing) the incompatibility between Nozick's views and his own.

27. Similarly, Zerbe (1993) argues that a reflective benefit-cost analysis (which he contrasts with a mechanical "cost-benefit analysis") must be rooted in a system of morality consistent with choice in an initial position.

28. Moulin and Roemer (1989) find that an intermediate starting point between Nozick's and Rawls' would lead to strongly egalitarian endowments. Their result is similar to ours in Section III below.

29. In brief, the technical conditions required by Nozick's theory seem highly particular and rather implausible. That is, to make a convincing argument, Nozick should show that the mere enforcement of traditional property rights is a sufficient condition for reaching a Pareto optimum. Or, less restrictively, he should show it is possible to decentralize a welfare optimum. But any public economics text or advanced microeconomics text or game theory text provides numerous reasons why this is probably not the case. These reasons include problems raised by public goods and externalities, non-convexities and monopolies, the second-best and the free rider problem. Some of these problems are reviewed in Dreze and Stern (1987, pp. 920-953). Problems raised by the cost of information have entered the legal economic analysis literature more recently; for an elementary survey, see Mackaay (1982).

Moreover, in our view Nozick (1974, pp. 54-87) himself introduces a veiled efficiency criterion, amounting to a restricted version of consumer surplus, when he tries to justify taxation for the purposes of law and order and the common defense. That is, he is unable to avoid the fact that any system of taxation imposes an implicit set of interpersonal welfare comparisons.

For a philosophical argument that procedural justice, as exemplified by property rights, cannot be absolute, but must be reconciled or balanced against distributive justice, see Becker (1977). Conversely, for an economic argument that consequentialist goals such as efficiency must be tempered by autonomous rights such as property rights, see Sen (1987).

30. A point, however, which is disputed by Posner himself (1983, pp. 79, 107n).

31. For example: "Either the Pareto criterion allows us to rank [two states of the economy] or it does not... In the later case, in order to rank the two states, it is necessary to make interpersonal utility comparisons" (Laffont 1988, p. 153). For an exposition on welfare weights, see Sen 1977a, 1977b).

32. Buchanan and other "constitutional economists" have put forth a very different objection to efficiency criteria in general: these measures arguably have no point because self-interested judges, legislators, and bureaucrats cannot be bound to respect them. We address this issue below.

Yet another objection accepts the idea of efficiency criteria in theory, but argues that determining the correct welfare weights is technically impracticable (Copp 1987)

33. In a general sense, Posner's claim may be identified as "rule-utilitarian." Posner does make some specifically rule-utilitarian arguments (1983, pp. 87, 113). He also takes great pains to distinguish the consumer surplus approach from utilitarianism (pp. 48-87). His criterion for drawing this distinction is that the consumer surplus approach is limited by preexisting rights. For a persuasive elaboration of his point, see Zerbe (1991).

Welfare theorists have tended to define "utilitarianism" to include any normative theory which makes use of information which goes beyond ordinal preferences, so as to choose a metrical representation of preferences which is then used to guide policy choices. Under this definition, Posner's consumer surplus theory is approximately utilitarian. Posner's most direct counterargument (p. 91) notes that consumer surplus can increase while aggregate utility in some other metric is decreasing. While true, this fails to establish his claim that consumer surplus is itself not an approximate, aggregate utility metric, because differently weighted aggregates of utility may respond in opposite directions to a given income transfer.

34. We do not mean to suggest that Pareto efficiency is the only principle (or the dominant principle) to be addressed by such an assessment. Pareto efficiency might be integrated with a broader conception of justice which is based on a coherent pattern of principles as described by Ronald Dworkin.
To be acceptable in this manner, however, the criterion for efficiency would need to be consistent with "a sense of justice and with mutual and equal concern and respect" (Dworkin 1985, p. 286).

35. In this paper, we will ignore intertemporal questions, including issues related to savings; therefore, we use real money income and real consumption interchangeably.

36. Most philosophical individualists, and many methodological individualists as well, will deny that the "community" as such can possess values. But in any case, practical political arrangements do get made, and those arrangements are often expressed in terms of, and even implemented by means of, explicitly articulated public values. Our concern in this essay is one for consistency between publicly expressed values; we are here not fundamentally concerned with who actually holds those values. However, we believe that our arguments throughout can be rooted in methodological individualism.

37. Both Rawls (1971, pp. 251-257) and Dworkin (1979, p. 198) base their analysis on the principle of mutual and equal concern and respect which is derived from the philosophical work of Immanuel Kant. For a Kantian critique of Posner, see Dworkin (1985, pp. 275-289). For a utilitarian argument for an income-weighted efficiency criteria, see Griffen (1986).

38. The consumer surplus criterion is pro-rich in a relative sense, as compared to any pro-redistributive criterion. We argue it is empirically pro-rich in an absolute sense when applied to non-market goods. In particular, in many empirical cases, taking one unit of an arbitrary non-market good from a poor person and giving it to a rich person would increase consumer surplus. In other words, maximizing consumer surplus supports a pro-rich redistribution of non-market goods. This conclusion follows directly from a single highly intuitive (and testable) empirical claim: that in most cases, marginal willingness-to-pay for non-market goods increases on average with income. Note that the goods at issue include extremely important primary goods such as leisure time, voting rights, good health, personal safety, and local public goods. The distribution of each of these goods is deeply affected by the government's policy criteria. (For an argument that it can be pro-rich even for marketed goods, see note 41).

In addition, it seems fair to characterize Posner's arguments as pro-rich in an absolute sense when he states: "I do not think there is broad social duty to support people who cannot or will not support themselves. Some non-productive people might therefore starve in a system based on wealth maximization" (1981, p. 775). Posner goes on to argue that maximizing consumer surplus will make a society richer and reduce poverty; but he does not argue that maximization of consumer surplus will lead to less starvation than any other ethical theory of jurisprudence.

39. For one alleged counterexample, see Wright (1985). Several of Posner's reviewers have noted that numerous normative conclusions drawn by Posner are contrary to the primitive facts of our common law; see, for example, McPherson's (1983) book review of The Economics of Justice, discussing the appendix of Posner's (1979b) Utilitarian, Economics, and Legal Theory. Rose-Ackerman (1992) provides additional examples and citations.

40. A "Nash equilibrium" is a stable situation in which each agent holds accurate anticipations of the responses of other agents. This argument is developed by D. Burress (1992a).

41. First: practical applications of consumer surplus depend on an unverified assumption that the efficiency values of induced changes in secondary markets cancel out. Or, in the words of Posner:

the third-party effects are merely "pecuniary" externalities, meaning that they result simply from a change in demand rather than from the consumption of some scarce resource (such as clean air, in the case of pollution, which is a technological externality), or, stated otherwise, ... they have no net effect on the wealth of society (Posner 1983, p. 90).

But in concrete general equilibrium models, this assumption is generally false (see, e.g., Little 1950).

Second: consumer surplus advocates argue that consumer surplus is an acceptable approximation to an exact criterion for Pareto efficiency (Willig 1976). However, others have argued that Willig's and
similar approximations are of rather narrow applicability (McKenzie 1983, pp. 116-21; Blackorby and Donaldson 1990).

These first two objections can be overcome by using the "money metric" (otherwise known as "equivalent income"), an exact welfare measure recommended by McKenzie. However, the money metric is a dollar-weighted measure and in other respects is subject to the same normative objections as consumer surplus.

Third: very far from being a neutral efficiency criterion, dollar-weighted measures could be used in some cases to justify a pro-rich income redistribution (see Scitovsky 1941, pp. 77-88). At a minimum, it may ratify the existing income distribution in a circular fashion (Schmalbeck 1983).

Fourth: there are a number of problems raised by the sensitivity of the policy conclusions to the existing price regime or the chosen reference prices (see, e.g., Scitovsky 1941, Chipman and Moore 1980; Laffont 1988, p. 162, McKenzie 1983). For a recent example showing that these problems are very significant in applied public finance, see Triest (1990). In a specific law and economics context, S. Margolis pointed out that the consumer surplus measure is ambiguous because, in a given fixed situation, it has a quantitative value which varies with the assumed prior allocation of rights; however, Margolis (1987) failed to cite the price sensitivity literature. Posner's (1983, p. 109) discussion of this problem as purely a wealth (income) effect is technically correct, but unhelpful, since these effects in general do exist.

The hour-weighted efficiency criterion we propose below escapes all except possibly the fourth of these criticisms. It escapes the fourth (is reference-price invariant) under at least the same conditions as do dollar-weighted measures. We do not know whether (a general equilibrium version of) our theory is reference-price invariant under more general conditions.

Another, less fundamental, objection points out correctly that some goods are unpriced because they are unavailable in the private market (see, e.g., Hovenkamp 1982). Income redistribution is a germane example of an unpriced good (private gifts are not a market solution to redistribution because of the free rider problem; see, e.g., Thurow 1971). However, this is a purely methodological problem rather than a conceptual problem. Indeed, there is a large literature that proposes ways of evaluating unpriced goods which are roughly consistent with consumer surplus; for citations, see any of the cost-benefit analysis texts cited in note 7.

42. Posner’s affirmative defense of consumer surplus as a normative utility-based maximand rests uncomfortably with his denial that consumer surplus represents an aggregation of individual utilities. (See note 41 for a discussion of the importance of Willig’s theorem to the rehabilitation of consumer surplus in formal cost-benefit analysis; it is clear from Willig’s note 16 that an individual’s consumer surplus is intended to be a measure of her indirect utility.) Also, Posner’s claim that economists cannot identify a "fair" income distribution, and his attacks on interpersonal utility comparisons, seem hard to reconcile with his advocacy for one particular efficiency criterion. Finally, his equation of “justice” with “efficiency” seems hard to reconcile with his (implicit) claim that the “equitable” or “just” distribution of income is empirically separable from the question of "efficient" government policies.

43. For a denial of both points, see Kronman (1980).

44. A very different criticism by Robin West (1985) asserts that individuals often consent to transactions because they desire to submit to authority, rather than out of a desire to maximize well-being or autonomy. To the extent that this is true, all existing empirical approaches based on Paretian efficiency are called into question (including both Posner’s and our own). In particular, economists could not infer an individual’s welfare rankings from her choices alone; supplementary information on perceptions of authority would be needed. While we accept the theoretical force of West’s argument, it will have little empirical bite unless and until there comes into existence a concrete research program with a general method for exploiting non-choice-based information about welfare.

45. Indeed, if the parties to the contract are risk-averse, insurance is not a free good, future incomes of the parties are uncertain, and the cost of contract enforcement is independent of the efficiency criterion employed by judges, then rational parties would prefer that judges use an efficiency
criterion which is income weighted as an implicit form of income insurance. The contracting parties are presumably free to offset any expected distributional consequences of this decision by means of side payments.

46. Posner (1983, pp. 60-66) argues that consumer surplus is normatively valid in part because (as several economists he cites have shown) it is not an exact utility aggregate. This argument seems perverse. If consumer surplus is not an (approximate) aggregate of utility, then it is not a coherent criterion for welfare at all.

47. As Veljanovski notes, "[Economic analysis] assumes that a £1 is a £1 to whomever it accrues. But this is as much an interpersonal comparison as one that weighs the gains and losses on the basis of some normative and/or ethical value judgment regarding the relatively 'worthiness' of individuals" (Veljanovski 1984, p. 21). Posner is not merely reporting on market outcomes; rather, he is proposing judicial actions which will influence market outcomes.

48. Moreover, one scholar has given examples indicating that the traditional economic analysis, far from being simple, direct, and inexpensive, may be excessively complex, difficult, and even indeterminate (Schmalbeck 1982). Similarly, Hovenkamp (1985, p. 27) complains that the principle of wealth maximization is "too spongy, because there is no way to determine which values the members of the American society hold and how much they are willing to pay for them" insofar as legislatures and courts are economic responses to missing markets in certain values. And Armitage (1985) argues that economic analysis can be employed in many different ways with outcomes which depend on underlying values held by the analyst.

49. In their seminal article, Lipsey and Lancaster (1956/1957) pointed out that taxes and other distortions in secondary markets invalidate all single-market optimality rules. For a comment on the importance of this to legal analysis, see Klevorick (1975). For a much more detailed review, see Markovits (1975). Markovits also addressed several other traditional defenses of dollar-weighting which Posner employed and which we discuss in the following.

50. In addition, the simplified and approximate analysis based on consumer surplus introduces errors which may in practice lead to incoherence and intertemporal inconsistency. The problem arises because the analysis is sensitive to the existing price regime; but prices change over time (see citations in note 41).

51. For a compendium on computational general equilibrium approaches, see Scarf and Shoven (1984).

52. Indeed, Blandlow (1974) has shown that when both second-best features and multiple persons are present in the economy, then both welfare weights and a complete general equilibrium model of the economy must be used in order to provide an exact criterion for efficiency.

53. Some authors may wish to distinguish an efficiency criterion from a welfare measure. For our purposes here, there is no practical difference. What we intend in either case is merely some method for well-ordering the partial ordering imposed by the Pareto principle, for the purpose of guiding policy recommendations or decisions. We reiterate our belief that any such well-ordering induces an implied set of interpersonal utility comparisons.

Thus, a "grand efficiency measure" is similar to a Samuelson-Bergson (Samuelson 1965) social welfare function.

54. The pro-status-quo bias implied by maximizing consumer surplus was first demonstrated in a "Note" by Scitovsky (1941).

55. This is parallel to Dworkin's (1980, p. 195) point that wealth is a means, not an end. Posner's (1980) rebuttal seems to miss the real point here.

56. For a careful discussion of the linguistic, philosophical, and economic meanings of the terms justice, efficiency, and equity, see Le Grand (1991, chs. 2 and 3). In his language, both Posner's theory and our own are concerned with defining a social optimum, and not specifically with justice, equity or efficiency.

57. Posner himself has not explicitly made this argument. However, his position seems logically incomplete without it or something similar. In particular, he needs some way to establish that the dis-
Economic Analysis and Distributive Justice

Distribution of income is still legitimate, even after it has been changed as a result of judicial actions which maximize "wealth."

58. It is significant, however, that Wicksell himself was a radical egalitarian who predicated his efficiency concept on the pre-existence of a just distribution of income. A more complex separation between allocation, distribution, and stabilization was introduced into American public finance by Musgrave in the 1950s. But Buchanan (1989, p. 291) states: "As Musgrave has always acknowledged, then and now, the three-part classification is a conceptual rather than an operational tool for analysis."

59. Baker (1975) argues that this approach is self-contradictory, because judicial rule-making leads to changes in the income distribution. However, if the legislature could and did independently maintain the given income distribution, then Baker's objection would fail. Accordingly, Posner's approach is not self-contradictory, provided that Posner (implicitly) assumes this type of separation between efficiency and equity.

60. For example, see the optimal taxation literature following Diamond and Mirrlees (1971). A textbook author (Tresch 1981, p. 9) states:

Economists have all too often assumed away distribational problems in order to analyze more comfortable allocation issues, knowing full well that dichotomizing allocational and distribational policies is not legitimate.

61. [because of public goods it is] clear that such an attempt to divorce allocation from distribational considerations is generally not justified (Comes and Sandler 1986, p. 95).

62. Of course, one might argue that a separation of distribution from allocation is politically practical even if it is not optimal, but Posner has not made that argument. A cost-benefit theorist who does argue for the separability of equity and efficiency in a second-best world is Ng (1984), though he uses partial equilibrium arguments only. But even if his arguments were approximately correct, they would equally well support the use of any alternative efficiency criteria.

63. In the context of labor supply studies, economists normally use "leisure time" to denote a residual category that includes most personal time but excludes wage and salary labor and equivalent labor by a business proprietor. We intend a more restrictive notion which also excludes unpaid household labor (based on the belief that household labor is scarcely more free than wage labor). However, the argument in the above paragraph should hold under either interpretation.

64. In his original work, Rawls did not specifically include human time as a primary good. Rather, he included "rights and liberties, opportunities and powers, income and wealth"—that is, means by which "men can be assured of greater success in carrying out their ... ends, whatever these ends may be" (Rawls 1971, p. 92). Musgrave (1974) argued that "leisure time" in the economist's sense of the free use of one's own time, is one such primary good. In response, Rawls acknowledged that "there may be good reasons for including [leisure] among the primary goods" (Rawls 1974, p. 653).

65. See the first sentence of the "Introduction and Plan of the Work": "The annual labor of every nation is the fund which originally supplies it with all the necessaries and conveniences of life" (Smith 1976, p. 1).

66. However, the Marxian theory of exploitation depends analytically on both labor theories of value: in empirical terms, all production is traced back to labor, and in normative terms, labor is assigned equal social value across individuals (Bottomore 1983, pp. 157-158).

67. This holds in the case of homogeneous preferences. With inhomogeneous preferences, one needs a more general approach for mapping between indifference surfaces.

68. Chipman and Moore (1980) discussed the approximation of consumer surplus to equivalent income.

69. At least for prime age males. For example: casual empiricism would suggest that a middle-class professional works more than 40 hours a week for her $50,000 a year, while a top corporate raider
works less than 100 hours for his $50 million. That implies a tiny uncompensated wage elasticity of less than +.003. There is much evidence that employed males in poverty work at least as long hours as the middle class; this implies a slightly negative elasticity. A survey of econometric studies found that the wage elasticity is less than .3 for prime age males and could be 0 (Bosworth 1984, ch.5; see also Killingsworth 1983, chs. 3 and 4; Heckman (1993).

This assumption can also be extended to prime age secondary workers if home production is treated as a form of labor.

70. Economists took the total labor supply as fixed in most contexts from the time of Adam Smith until the invention of labor economics as such in the 1930s (e.g., Robbins 1930). Keynesian models and Leontief input-output models usually take the labor supply as fixed. Even among models of the new-classical-market-clearing school, in situations where the labor supply response is unimportant to the argument at hand, labor supplies are usually assumed fixed as a benchmark. This choice is of course an expositional convenience, but not merely that: equally simple models could have been constructed using perfectly elastic or unitary elastic labor supplies.

71. At least in principle, the weighting formula could be adjusted to reflect effort as well as sacrifice over a lifetime in order to accommodate those who chose to defer gratification. A hour-weighting of costs and benefits would be based upon a calculation of total effort willingly expended. Furthermore, if it turned out that a poor individual was not willing to work as hard for his income as a rich person, then an additional adjustment in the weighting could be justified. At the same time, if it were shown that a typical poor person were working much harder for his dollars than a typical rich person, then each dollar earned by a poor person should be weighted even more heavily than under the formula we propose. This issue is in part empirical and in part normative; it should be tested and debated as such.

72. A weighting formula essentially similar to equation (2) was proposed on an ad hoc basis by Foster (1966).

73. Many other names have been used for these functions in the economics literature. The term “constant relative risk aversion” or CRRA was in use in the late 1960s by Merton (1971) and others in relation to individual utility.

This class of weighting functions has been proposed in a number of recent textbooks of cost-benefit analysis, especially in those intended for use in developing countries. They are used but not named in Squire and van der Tak (1975). They are sometimes referred to as “isoelastic” or “constant elasticity” functions, for example, in Squire and van der Tak (1984, pp. 34-39) and also in Pearce and Nash (1981, pp. 31-33). The resulting efficiency criterion has sometimes been called a “Generalized Bernoulli-Nash Social Welfare Function” (e.g., Boadway and Bruce 1984). The latter authors point out this measure can be transformed into a Constant Elasticity of substitution or CES measure by means of a monotone transformation which has no effect on the social indifference surfaces.

74. “Von Neumann-Morgenstern utility functions” are functions of consumption or wealth which compactly express an individual’s preferences with respect to risk-bearing. In particular, the individual’s utility when faced with two or more future wealth outcomes is given by the weighted sum of the Von Neumann-Morgenstern utilities of the different values of wealth. Each weight equals the individual’s best judgment about the probability that the given outcome will occur (Von Neumann and Morgenstern 1946, pp. 15-30).

75. As pointed out, for example, by Boadway and Bruce (1984, p. 142).

76. None of Harberger’s examples applied directly to the common law. Harberger addressed rather general weighting schemes that impose large differences on weights between rich and poor; the only specific functional form he mentioned is CRRA (p. S112). He also proposed several less radical methods for injecting distributional concerns into a welfare analysis.

77. The procedure has no merit in a fully specified model in the spirit of Draze and Stern (1987). Their setup assumes that both the channels of influence available to the planning agency, and also the reaction functions of all other government agencies, have been already been included in the model. Therefore, any re-weighting procedure would be both superfluous and erroneous. However, Harberger’s procedure could have merit in some less fully specified models.
78. In fact, he praises nonpolitical institutions of wealth-sharing in primitive societies, as a form of insurance (1983, pp. 152-163). He seems to imply that political methods of wealth sharing may be less praise-worthy because they (arguably) rest on violent coercion and on the possibly inefficient use of government labor as "thugs and henchmen" (1983, pp. 163-168).

79. In addition to Section II, see note 95.

80. A quite general argument can be constructed as follows: the general equilibrium analog of consumer surplus is equivalent income evaluated at a fixed vector of reference prices. If this is to be a consistent welfare criterion, the reference prices must be held constant over time. But actual market prices shift over time. As a result, it can be shown in models with realistic preferences (e.g., income effects or inhomogeneous preferences) that income redistribution can improve aggregate welfare. For further citations on the related problem of price sensitivity effects, and also on Scitovsky's example showing that consumer surplus is potentially redistributive, see note 41. For discussion of a related controversy, see note 23.

81. The Nash Social Welfare Function is a product of cardinal utilities. Assuming that cardinal utilities are represented in the dollar metric (as consumption) and taking logarithms (which does not change the efficiency well-ordering), we have the hour-weighted case (see also Kaneko and Nakamura 1979).

82. For example, suppose that family sizes are exogenous and that judges maximize the sum across families of \( N \log(y/c(N)) \), where \( N \) is the number of family members, \( y \) is the family real income, and \( c(N) \) is the cost of an average standard of living with \( N \) family members. That is, \( c(N) \) corrects for economies of scale and other effects from living together. Unfortunately, \( c(N) \) is extremely difficult to observe. But note that maximizing this is the same as maximizing \( N \log(y/N) \), because the difference is just a constant [namely, \( N \log(Nc(N)) \)]. Moreover, the second maximand is just our original theory, except that family members are now assigned the average family income.

83. That is, as in our example below Posner's theory is relatively preferred by self-interested rich people, and the Rawlsian theory by self-interested poor people. In our view, these two theories represent the extremes among views which are likely to obtain any significant support in a democracy. However, more extreme efficiency theories are certainly available. Thus, increasingly anti-egalitarian efficiency criteria can be obtained by using CRRA functions with increasingly negative values of \( \gamma \); these theories are Pareto but tend to support redistribution from the poor to the rich. Also, increasingly pro-egalitarian efficiency criteria can be obtained by adding to the Rawlsian minimax additional terms which place increasingly negative weights on differences between individuals' consumptions; policies based on these theories tend to reduce inequality, even to the point of making everyone worse off in absolute terms than they would be under the Rawlsian theory (hence, these theories are not Pareto).

84. In cases of persons at an extreme of misery—for example, where their life is at an immediate risk from starvation—some people will view this conclusion as excessively pro-rich. For this reason, some welfare theorists have proposed what might be described as "Hyperbolic Absolute Risk Averse" or HARA efficiency criteria, \( w = (y-s)^{1/(1-\gamma)} \), where \( y \) is real income and \( s \) is the average amount of real income needed to obtain a bare subsistence. (The earliest use of term "HARA" is apparently by Merton [1971].)

85. Posner accepts the principle that the consent of a majority may be a suitable ethical criterion for choosing an efficiency criterion (see 1983, p. 101).

86. The existence of altruistic concern for the poor, envy of the rich, or risk aversion, would only strengthen the tendency for the majority to prefer hour-weighting over dollar-weighting. At the same time, these factors would tend to reduce, but not (except in extreme cases) reverse, the tendency for the majority to prefer hour-weighting over Rawlsian weighting.

87. For a review of some empirical problems in the material self-interest model of democracy, see Margolis (1982, ch. 2).

88. The nonexistence of a stable allocation under egotistical majority voting is discussed, for example, in Arrow (1983, Vol. I, p. 87). We avoided this kind of instability in our median voter model by restricting to CRRA efficiency criteria.
Moreover, under usual "anonymity" or "symmetry" assumptions, the weights are equal across individuals (Harsanyi 1955). Unlike other utility functions, Von Neumann-Morgenstern functions are cardinaly measurable (up to an affine transformation) because they describe individual preferences for real income or consumption under observable variations in risk. Harsanyi also assumed that the ethical preferences obey the Pareto principle and have Von Neumann-Morgenstern properties. For an improved axiomatic basis, see Coulhon and Mongin (1989).

Unlike other utility functions, Von Neumann-Morgenstern functions are cardinally measurable (up to an affine transformation) because they describe individual preferences for real income or consumption under observable variations in risk. Harsanyi also assumed that the ethical preferences obey the Pareto principle and have Von Neumann-Morgenstern properties. For an improved axiomatic basis, see Coulhon and Mongin (1989).

Moreover, Young (1990) recently found that income tax schedules for the United States and other countries have often been roughly consistent with a theory of equal sacrifice using CRRA utility functions with $\gamma$ near 1.5 to 1.7. (The theory of equal sacrifice differs from our theory, insofar as it is not directly based on Paretian efficiency. However, the two theories could conceivably lead to similar tax schedules under special circumstances, for example, if it happened that the excess burdens of taxation increased with income according to a specific relationship with the right properties.) Moreover, Yunker (1989) used an 11-sector computational general equilibrium model to argue that the average effective rate of all taxes in the United States is broadly consistent with a social welfare optimum, with $\gamma = 0$ or $\gamma = 1$ about equally likely, and with both more likely than the Rawlsian case. Haveman (1989) recently argued that much or most of recent economic policy advice has been ignored; he explained this in part by claiming the advice itself is seriously misguided: it assumes incorrectly that previous policy was based on a coherent social welfare objective.

Some economists have objected that this approach suffers from the same defect as the benevolent despot approach: it naively ignores the problem that self-interested agents have in enforcing the constitution. In other words, quis custodiet ipsos custodes? (see Davidson 1984).

For arguments that individuals have a right against the state to obtain their basic needs, see Copp (1992).

For example, under some theories, the U.S. Constitution may support a minimum subsistence for the poor (Rich 1987; Reich 1990, 1991). For arguments on both sides, see the special issue on economic rights of Social Philosophy and Policy (1992). For evidence that the U.S. Supreme Court does sometimes provide a measure of special consideration for minorities which include the poor, see Casper (1976).

Posner, however, argues on starkly legal realist grounds that "an effort to redistribute wealth in one form or another from one group to another" is "the most characteristic product of a democratic (perhaps of any) political system" (1983, pp. 382-383). He concludes that "rejecting any general constitutional challenge to legislation ... as inefficient or inequitable" would be odd and unreasonable (p. 383). His recommendation for judicial passivity in constitutional decisions is almost paradoxically opposite to his support for normative efficiency in common law decisions.

An acceptance of this point is seeping into the public choice literature (Witt 1992). "Economists [and others] have increasingly come to recognize that the untrammeled interplay of interest-group politics is unlikely to promote objectives for distributive justice ... principled adjustments in the post-tax, post-transfer distribution of values is likely to be achieved only if the institutional rules severely restrict the profitability of investment in attempts to subvert the transfer process" (Buchanan 1989a, p. 66). And in particular, if it is assumed that the rich are more likely than the poor to be the "repeat players" in judicial disputes, then they may be systematically favored by the judicial system as a whole (see Galanter 1974). This may help explain why Posner's consumer surplus theory is a successful description of some features of the common law. The seminal paper on rent seeking in regulation is Stigler's "The Theory of Economic Regulation" (1971).
98. Posner tends to accept the intellectual independence of the judiciary (see Landes and Posner 1975; see also Posner 1983, p. 105). For a contrary argument that the legislature can motivate the collective judiciary through the power of the purse, see Anderson, Shughart, and Tollison (1989).

99. However, Posner claims that, on the contrary, that rent-seeking interest groups will tend to support a dollar-weighted measure (1983, p. 105). He provides no supporting model; modeling of this question is needed.

100. United States v. Carroll Towing Co., 159 F.2d 169, 173 (2d Cir. 1947). For a contemporary illustration in which Judge Posner uses a dollar-weighted formula to compare costs of mitigation of a motel owner and a rape victim guest, see Wassell v. Adams, 865 F.2d 849 (7th Cir. 1989).

101. In each of the three theories, \( L \) is the expected difference in social welfare between situations in which the accident does occur with damage, and does not occur. \( M \) is the expected difference in social welfare between situations in which mitigation is performed, and is not performed. However, social welfare is measured differently across theories.

102. Note that damages in excess of income can easily occur when injuries lead to a loss of quality of life. To derive the formula in that case, we must return to the original language of utility and expand the utility function to include an argument for a quality of life. If quality of life is separable from consumption and leisure, then damages can defined in units of consumption goods by the equation:

\[
\log(Y_p + D) = \log(Y_p) + V(q) - V(q^*)
\]

where \( V(.) \) is the utility from quality of life; \( q \) is quality of life before the accident; \( q^* \) is quality of life after the accident; and \( D \) is the real dollar payment required to hold the plaintiff harmless. We then define \( L \) as the expected utility loss:

\[
L = E\{V(q) - V(q^*)\} = E\{\log(Y_p + D) - \log(Y_p)\}
\]

The result then follows from Equation (4).

103. We are using a greatly simplified Rawlsian theory in which consumption goods are the only primary goods and no third parties exist whose level of utility could complicate the picture. Also, the assumed Rawlsian goal is to maximize expected social utility. A possible alternative interpretation of the Rawlsian goal would be to maximize the utility of the worse-off person in any possible state of nature, over all states of nature, independently of probabilities; in that case, the formula in Equation (4) would not apply.

104. Dicta by Judge Posner has speculated that a jury may be motivated by sympathy with the suffering of the plaintiff—a motivation that is valid in our framework but not in Posner's [Wassell v. Adams, 865 F.2d 849, at 856 (7th Cir. 1989)].

105. This assumption is especially significant if, as Kennedy (1987, p. 486) argues, landlords are prone to undermaintain or "milk" buildings in declining slum neighborhoods, eventually leaving abandoned buildings to be dealt with at public expense.

106. Rabin (1984, p. 57On) supports an imposed warranty in this case by arguing that there is an implied agreement in fact.


108. Without mentioning the analogy to insurance markets, Rabin (1984, pp. 583-584) argues on these grounds that "anti-insurance policies" in the form of exculpatory clauses or waivers of rights should not be upheld.

109. There exits presumptive evidence that the landlord on average has superior information, higher income, similar relative risk aversion, and consequently lower absolute risk aversion, as compared to the tenant. Therefore, in our view, any general absence of explicit warranties of habitability in
leases in a given housing market would constitute prima facie evidence that the implicit insurance market had failed.

However, one cause of the absence of explicit warranties could conceivably be the prior existence of judicially imposed warranties. A critical test for this hypothesis would be to remove the judicial warranties and see whether explicit private warranties then came into existence.

111. For example, the average household income of renters is approximately one-half the household income of average home owners (Hughes and Sternlieb 1987, p. 63).


113. Thus, if the same poor person could have obtained the same amount of credit at more favorable rates but failed to do so because unfavorable credit terms were hidden or the merchant falsely alleged that better terms were not available, then limiting that merchant should not genuinely limit options for the poor consumer.


116. As noted in Judge Skelly Wright's opinion in Williams: "Unconscionability has generally been recognized to include an absence of meaningful choice on the part of one of the parties together with contract terms which are unreasonably favorable to the other party" (350 F.2d at 449).

117. Virtually all reported cases in which courts have found unconscionability involved low-income and poorly educated consumers. The over-priced books Kugler v. Romain were "directed toward minority group consumers and consumers of limited education and economic means," (p. 643).

118. For an exploration of the sympathies of judges who stand behind the doctrine of unconscionability, see Wolcher (1990).

REFERENCES


60 DAVID BURRESS and WILLIAM J. RICH

Economic Analysis and Distributive Justice


Economic Analysis and Distributive Justice


LEGAL CASES

Steele v. Latimer, 521 F.2d 304 (Kan. 1974).
United States v. Carroll Towing Co., 159 F.2d 169, 173 (2d Cir. 1947).
Vasquez v. Superior Court, 484 P.2d 964, 968 (1971).
Wassell v. Adams, 865 F.2d 849 (7th Cir. 1989).