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Common Myths in the Economic Analysis of Law

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ARTICLES

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I. INTRODUCTION

The use of economic analysis in legal scholarship has become a major movement in the past two decades.[1] Previously, economics had played a significant role only in the analysis of a few commercially oriented areas of law such as antitrust and taxation.[2] But now a flood of legal scholarship has applied eco-

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1. *See, e.g.*, R. POSNER, ECONOMIC ANALYSIS OF LAW xix & nn.1-4 (3d ed. 1986) and sources cited therein; Cramton, *Introduction: The Place of Economics in Legal Education*, 33 J. LEGAL EDUC. 183 (1983); sources cited *infra* notes 2-3. *See generally The Place of Economics in Legal Education*, 33 J. LEGAL EDUC. 183 (1983) (symposium on law and economics). The growth of law and economics has also generated much scholarship critical of economic analysis of law. *See, e.g.*, Cohen, *Posnerian Jurisprudence and Economic Analysis of Law: The View from the Bench*, 133 U. PA. L. REV. 1117, 1161 n.250 (1985) and sources cited therein; Reuter, Book Review, 70 CALIF. L. REV. 850 (1982) (reviewing R. POSNER, THE ECONOMICS OF JUSTICE 1981); sources cited *infra* notes 7, 16. For an excellent discussion by economists on issues of economics and equity pertinent to optimal decision making by the federal government in our economy, see generally 1 THE ANALYSIS AND EVALUATION OF PUBLIC EXPENDITURES: THE PPB SYSTEM, A COMPENDIUM OF PAPERS SUBMITTED TO THE SUBCOMMITTEE ON ECONOMY IN GOVERNMENT OF THE JOINT ECONOMIC COMMITTEE, 91st Cong. 1st sess. (1969) [hereinafter ANALYSIS & EVALUATION].

If the academic literature on economic analysis of law is any indication, the principles of economic analysis can be readily grasped by a reasonably able lawyer without professional training in economics. For example, prominent law and economics advocates without advanced economic degrees include Judges Posner and Easterbrook of the United States Court of Appeals for the Seventh Circuit, Professors Priest and Schwartz of the Yale Law School, and Dean Manne of George Mason University School of Law. Sometimes professional and nonprofessional economists will be at odds over each other's ability to apply economics correctly. *Compare* Posner, *Economic Justice and the Economist*, 33 PUB. INTEREST 109, 118-19 (1973) (arguing that Dean Thurow's prescription of the just distribution of income and wealth is beyond Thurow's competence as an economist) *with* Thurow, *A Reply*, 33 PUB. INTEREST 120, 120, 126 (1973) (concluding that "Posner's economics of a wage subsidy is so bad that . . . it would flunk an Economics I examination at any college in the country," *id.* at 126).

But clearly, a diligent, educated, and intelligent lawyer without a doctorate in economics or without advanced formal instruction in economics should be able to apply economics skillfully to the analysis of law. This is fortunate, for otherwise, the economic analysis of law might effectively be restricted to professional economists who could speak knowledgeably of, for example, the analysis of general equilibrium, the assumption of convexity, the theory of second best, multi-person non-zero sum games, the impact of impossibility theorems, and Say's Law. K. ARROW & F. HAHN, GENERAL COMPETITIVE ANALYSIS (1971) (general equilibrium); Arrow, *The Organization of Economic Activity: Issues Pertinent to the Choice of Market versus Nonmarket Allocation*, in ANALYSIS & EVALUATION, *supra*, at 49 & n.3 (convexity); W. HILDENBRAND & A. KIRMAN, INTRODUCTION TO EQUILIBRIUM ANALYSIS 45 (1976) (convexity); *infra* note 97 (theory of second best); sources cited *infra* note 123 (game theory); D. MUELLER, PUBLIC CHOICE (1979) (impossibility theorems); T. SOWELL, SAY'S LAW (1972). If an exacting knowledge of economics were essential to an understanding of our laws, the profession of law would be usurped by economists.

2. *See, e.g.*, Bowman, *Tying Arrangements and the Leverage Problem*, 67 YALE L.J. 19 (1957) (antitrust); Eckstein & Krutilla, *The Cost of Federal Money, Hells Canyon, and Economic Efficiency*, 11 NAT'L TAX J. 1 (1958) (tax); Ordover & Willig, *An Eco-*

nomic analysis across a broad range of noncommercial[3] legal areas such as adjudication, civil rights, criminal law, and labor law.[4] Simultaneously, law and economics scholarship has aggres-

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nomic Definition of Predation: Pricing and Product Innovation, 91 YALE L. J. 8 (1981) (antitrust); Note, *Inflation and the Federal Income Tax*, 82 YALE L.J. 716 (1973) (tax). *See generally* R. POSNER, *supra* note 1, at 19-20 (giving a short history of modern economic analysis of law); Hansmann, *The Current State of Law-and-Economics Scholarship*, 33 J. LEGAL EDUC. 217, 220-26 (1983).

3. *See* R. POSNER, *supra* note 1, at 19. In this article, "noncommercial" is used to describe legal areas where financial and pecuniary concerns have traditionally been assumed to be secondary in importance or even absent.

4. *See, e.g.*, Michelman, *Constitutions, Statutes, and the Theory of Efficient Adjudication*, 9 J. LEGAL STUD. 431 (1980) (adjudication); Donohue, *Is Title VII Efficient?*, 134 U. PA. L. REV. 1411 (1986) (civil rights); R. POSNER, *supra* note 1, at 201-227 (criminal law); Campbell, *Labor Law and Economics*, 38 STAN. L. REV. 991 (1986) (labor law); Wachter & Cohen, *The Law and Economics of Collective Bargaining: An Introduction and Application to the Problems of Subcontracting, Partial Closure, and Relocation*, 136 U. PA. L. REV. 1349 (1988) (labor law).

Scholars have written articles applying economic analysis to many other noncommercial areas of law. *See, e.g.*, Cooter & Rubin, *Orders and Incentives as Regulatory Methods: The Expedited Funds Availability Act of 1987*, 35 UCLA L. REV. 1115, 1157-86 (1988) (consumer checking deposits); Gilson & Mnookin, *Coming of Age in a Corporate Law firm: The Economics of Associate Career Patterns*, 41 STAN. L. REV. 567 (1989) (the "up-or-out system" in corporate law firms by which associates either become partners or are terminated); Johnston, *Bayesian Fact-Finding and Efficiency: Toward an Economic Theory of Liability Under Uncertainty*, 61 S. CAL. L. REV. 137 (1987) (the effect of civil liability rules when they are incorrectly applied); McConnell & Posner, *An Economic Approach to Issues of Religious Freedom*, 56 U. CHI. L. REV. 1 (1989) (government regulation of religious institutions); Priest & Klein, *The Selection of Disputes for Litigation*, 13 J. LEGAL STUD. 1 (1984) (the relationship between disputes that are litigated and those that are settled); Schwartz & Wilde, *Imperfect Information in Markets for Contract Terms: The Examples of Warranties and Security Interests*, 69 VA. L. REV. 1387 (1983) (consumer warranties); Schwartz, *Proposals for Products Liability Reform: A Theoretical Synthesis*, 97 YALE L. REV. 353 (1988) (products liability); *Symposium on the Law and Economics of Bargaining*, 75 VA. L. REV. 155 (1989); Note, *Retroactive Compensation and the Illusion of Economic Efficiency: An Analysis of the* First English *Decision*, 35 UCLA L. REV. 1267 (1988) (compensation for takings by land use regulations).

In addition to articles, a number of books have emphasized the economic analysis of law. *See, e.g.*, R. POSNER, *supra* note 1 (book applying economic analysis to noncommercial and commercial legal areas); *accord* R. COOTER & T. ULEN, LAW AND ECONOMICS (1988); C. GOETZ, CASES AND MATERIALS ON LAW AND ECONOMICS (1984); E. MACKAAY, THE ECONOMICS OF INFORMATION AND LAW (1980); N. MERCURO & T. RYAN, LAW, ECONOMICS, AND PUBLIC POLICY (1984); A. POLINSKY, AN INTRODUCTION TO LAW AND ECONOMICS 7 & n. 4 (2d ed. 1989); THE ECONOMICS OF LEGAL RELATIONSHIPS (H. Manne ed. 1975); THE ECONOMIC APPROACH TO LAW (P. Burrows & C. Veljanovski eds. 1981); J.R. PENNOCK & J. CHAPMAN, ETHICS, ECONOMICS, AND THE LAW (1982); R. POSNER, THE ECONOMICS OF JUSTICE (1981) (applying economics to an analysis of justice, privacy, and discrimination); J. COLEMAN, MARKETS, MORALS AND THE LAW (1988) (essays applying law, economics, and political science to philosophy); LAW AND ECONOMICS (N. Mercuro ed. 1989) (essays on economics and non-commercial legal areas); 4 RESEARCH IN LAW AND ECONOMICS (1982) (evolutionary models in economics and law) [hereinafter LAW AND ECONOMICS]. *See gen-*

sively expanded its coverage of commercial legal areas, such as securities law and the Uniform Commercial Code, that traditionally have not been subject to economic analysis.[5] Finally, the use of economic analysis in legal scholarship has become so *de rigueur*[6] that even those who refuse to view economics as the Holy Grail of knowledge are compelled to use economics in their scholarship.[7]

Since economics is a social science with all the value judg-

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erally C. GOETZ, *supra*, at 505-44 and sources cited therein (listing articles and books on economic analysis of law); A. POLINSKY, *supra*, at 139-48 and sources cited therein (same); Cooter, *Law and the Imperialism of Economics: An Introduction to the Economic Analysis of Law and a Review of the Major Books*, 29 UCLA L. REV. 1258 (1982).

5. *See, e.g.*, H. MANNE, INSIDER TRADING AND THE STOCK MARKET (1966) (securities law); Priest, *Breach and Remedy for the Tender of Nonconforming Goods Under the Uniform Commercial Code: An Economic Approach*, 91 HARV. L. REV. 960 (1978); *see also* Epstein, *Rent Control and the Theory of Efficient Regulation*, 54 BROOKLYN L. REV. 741 (1988); Merges, *Commercial Success and Patent Standards: Economic Perspectives on Innovation*, 76 CALIF. L. REV. 805 (1988); Schwartz, *Security Interests and Bankruptcy Priorities: A Review of Current Theories*, 10 J. LEGAL STUD. 1 (1981); Sykes, *Countervailing Duty Law: An Economic Perspective*, 89 COLUM. L. REV. 199 (1989); White, *Personal Bankruptcy Under the 1978 Bankruptcy Code: An Economic Analysis*, 63 IND. L. J. 1 (1987).

Contract law has been popular with many writers. *See, e.g.*, Burton, *Breach of Contract and the Common Law Duty to Perform in Good Faith*, 94 HARV. L. REV. 369 (1980) (using the concept of opportunity costs to establish a theory of bad faith breach); Farber, *Contract Law and Modern Economic Theory*, 78 NW. U.L. REV. 303 (1983) (examining links between contract law and models of the economy); Goetz & Scott, *Measuring Sellers' Damages: The Lost-Profits Puzzle*, 31 STAN. L. REV. 323 (1979) (applying marginal analysis of costs and revenues to determine whether lost profits ever occur); Jackson, *"Anticipatory Repudiation" and the Temporal Element of Contract Law: An Economic Inquiry into Contract Damages in Cases of Prospective Nonperformance*, 31 STAN. L. REV. 69 (1978) (using efficiency as the standard by which to judge legal rules dealing with the anticipatory repudiation of contracts). *See generally* THE ECONOMICS OF CONTRACT LAW (A. Kronman & R. Posner eds. 1979) (containing articles that apply economic principles to contract law). For books and articles addressing the economic analysis of various non-commercial areas, see sources cited *supra* note 4.

6. *See, e.g.*, R. POSNER, *supra* note 1, at xix-xx; R. COOTER & T. ULEN, *supra* note 4, at Preface 1-2; Fiss, *The Death of the Law*, 72 CORNELL L. REV. 1, 2 (1986).

7. *See, e.g.*, Harrison, *Egoism, Altruism, and Market Illusions: The Limits of Law and Economics*, 33 UCLA L. REV. 1309 (1986); Kennedy, *Cost-Benefit Analysis of Entitlement Problems: A Critique*, 33 STAN. L. REV. 387 (1981); Kripke, *Law and Economics: Measuring the Economic Efficiency of Commercial Law in a Vacuum of Fact*, 133 U. PA. L. REV. 929 (1985); Kornhauser, *The Rhetoric of the Anti-Progressive Income Tax Movement: A Typical Male Reaction*, 86 MICH. L. REV. 465, 481-90 (1987); Leff, *Economic Analysis of Law: Some Realism About Nominalism*, 60 VA. L. REV. 451 (1974); Olsen, *The Family and the Market: A Study of Ideology and Legal Reform*, 96 HARV. L. REV. 1497 (1983); Radin, *Market-Inalienability*, 100 HARV. L. REV. 1849 (1987); Singer, *The Reliance Interest in Property*, 40 STAN. L. REV. 611, 644-52 (1988); Note, *Efficiency and a Rule of "Free Contract": A Critique of Two Models of Law and Economics*, 97 HARV. L. REV. 978 (1984).

ments characteristic of the social sciences, it is not surprising to find that scholars applying economics have different views on the proper role of economics in legal analysis.[8] Perhaps the most prominent and influential movement in law and economics is that associated with the "Chicago School" of economics and Judge Richard Posner of the Seventh Circuit Court of Appeals.[9] The "Chicago School" of economics is commonly identified as the conservative branch of law and economics.[10]

This characterization of "conservative," however, is somewhat misleading in that the conservative branch of law and economics is quite liberal about applying economics to every aspect of law.[11] Members of this branch take their economics very seriously. They not only assert that economic analysis provides unique insights into the law but also trumpet economic analysis as a methodology superior[12] to other social sciences in explaining

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8. *See, e.g.*, Ackerman, *Law, Economics, and the Problem of Legal Culture*, 1986 DUKE L.J. 929, 929-30 (describing two schools of law and economics, one holding that law is best analyzed from an economic perspective and the other believing that economic analysis "ought to play a pervasive, but not an all-important, role in legal discourse," *id.* at 930); Fiss, *supra* note 6, at 6-8 (finding two schools of law and economics, one believing that market failures rarely occur while the second detecting numerous market failures); Kennedy, *supra* note 7, at 387 & n.1 (recognizing three approaches to law and economics); Rose-Ackerman, *Progressive Law and Economics—And the New Administrative Law*, 98 YALE L.J. 341, 342 (1988) (identifying three dominant strands of law and economics and suggesting that they all favor market mechanisms over government intervention).

Although the most zealous supporters of economic analysis of law (especially when the economics takes the form of efficiency analysis) are probably politically conservative, political liberals also embrace the analytic power of law and economics. *Compare, e.g.*, Cohen, *supra* note 1, at 1117-18 (characterizing Judge Posner, a forceful advocate of law and economics, as a political conservative) *and* Ackerman, *supra*, at 929, 934-35 (describing strong advocates of law and economics as conservatives) *with* Kennedy, *supra* note 7, at 387-89, 444-45 (observing that political liberals also rely on economics to support their arguments) *and* Rose-Ackerman, *supra*, at 341-43 (urging a liberal reformist movement in law and economics). *See generally* R. POSNER, *supra* note 1, at 24-25 (recognizing that law and economics has been characterized as having a conservative political bias).

9. *See, e.g.*, Ackerman, *supra* note 8, at 929, 934 & n.9; Fiss, *supra* note 6, at 2-7; Rose-Ackerman, *supra* note 8, at 342 & n.4; Shapiro, *Richard Posner's Praxis*, 48 OHIO ST. L.J. 999, 999, 1046 (1987). *See generally* Kelman, *Consumption Theory, Production Theory, and Ideology in the Coase Theorem*, 52 S. CAL. L. REV. 669, 673-78 (1979) (discussing the research and ideology of the "Chicago Schools" of law and of economics).

10. This label of "conservative" undoubtedly stems from the perceived conservative political views of members of this branch. *See, e.g.*, Malloy, *Invisible Hand or Sleight of Hand? Adam Smith, Richard Posner and the Philosophy of Law and Economics*, 36 U. KAN. L. REV. 209, 247-48 (1988) (giving examples of conservative positions that Judge Posner holds); *see also supra* note 8.

11. *See supra* notes 3-5 and accompanying text; Tribe, *Constitutional Calculus: Equal Justice or Economic Efficiency?*, 98 HARV. L. REV. 592, 618-19 (1985).

12. *See, e.g.*, R. POSNER, *supra* note 1, at 24; R. COOTER & T. ULEN, *supra* note 4, at

how society determines its laws and how these laws in turn affect society.[13] Furthermore, they believe that economics can answer fundamental legal questions such as what laws society should have.[14]

Previously, only scholars of this branch had advocated the widespread and intensive use of economics in the analysis of law. Now, however, judges may also be joining the conservative crusade, not necessarily by conversion but increasingly by infiltration. A number of prominent law and economics adherents, primarily of the conservative branch, have been appointed to

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8-9; Kitch, *The Intellectual Foundations of "Law and Economics,"* 33 J. LEGAL EDUC. 184, 184, 196 (1983). Judge Posner writes as follows:

> The economic theory of law is the most promising positive theory of law extant. While anthropologists, sociologists, psychologists, political scientists, and other social scientists besides economists also make positive analyses of the legal system, their work is thus far insufficiently rich in theoretical or empirical content to afford serious competition to the economists.

R. POSNER, *supra* note 1, at 24. Judge Easterbrook, another leading proponent of the conservative branch of law and economics, has written approvingly of the use of economics to decide constitutional cases. Easterbrook, *The Supreme Court 1983 Term—Foreword: The Court and the Economic System*, 98 HARV. L. REV. 4, 4-5, 58-60 & n.157 (1984).

There are a number of professional economists who share the belief that economics is superior to the other social sciences. *See, e.g.*, R. COOTER & T. ULEN, *supra*, note 4, at 8. *See generally* ECONOMIC IMPERIALISM: THE ECONOMIC METHOD APPLIED OUTSIDE THE FIELD OF ECONOMICS (G. Radnitzky & P. Bernholz eds. 1987) (articles showing how economic analysis has gained widespread application in other disciplines).

Robert Kuttner relates an amusing story:

> The mathematical language and the deductive method tend to give economists a certitude that theirs—and theirs alone—is a "hard" social science. At the December, 1983, annual gathering of the [American Economic Association], George Stigler, a Nobel laureate and a leader of the Chicago school, began a lecture by remarking that a colleague in political science had inquired why there were no Nobel Prizes awarded in the other social sciences. "I told him," Stigler said, "that they already had a Nobel Prize in literature." In the same vein another economist says archly, "Political scientists think the plural of anecdote is data."

Kuttner, *The Poverty of Economics*, THE ATLANTIC MONTHLY, Feb. 1985, at 74, 79. Other economists are more diplomatic. *See* G. BECKER, THE ECONOMIC APPROACH TO HUMAN BEHAVIOR 5, 14 (1976). And still others are quite appreciative of the other social sciences. *See* Simon, *Rationality in Psychology and Economics*, in RATIONAL CHOICE 25, 39-40 (R. Hogarth & M. Reder eds. 1987) (arguing that economic research can learn much from sociology and psychology).

13. *See, e.g.*, R. POSNER, *supra* note 1, at 3-4, 19-26; R. COOTER & T. ULEN, *supra* note 4, at 8-13; Easterbrook, *Criminal Procedure as a Market System*, 12 J. LEGAL STUD. 289, 289-91, 330-31 (1983); *cf.* Fiss, *supra* note 6, at 7-8 (commenting on law and economics scholarship).

14. *See, e.g.*, R. POSNER, *supra* note 1, *passim*; H. MANNE, *supra* note 5, *passim*; Priest, *A Theory of the Consumer Product Warranty*, 90 YALE L.J. 1297, *passim* (1981).

various federal appellate courts, and thus may incorporate their economic views into the promulgation of future laws.[15]

Yet, as other commentators have cautioned, the intellectually intoxicating fragrance of law and economics masks a dark side with the potential for great misuse.[16] While some conservative law and economics proponents appear to acknowledge the potential for misuse,[17] their passionate embrace of economics may make them myopic to frequent misuse of economics in current law and economics scholarship.[18] Economic analysis of the law as *practiced*, rather than as preached[19] by the conservative

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15. Several of the leading conservative practitioners of law and economics have been appointed to the federal courts of appeals: Richard Posner, Frank Easterbrook, Ralph Winter, Stephen Breyer, Douglas Ginsburg, Bernard Siegan, Antonin Scalia (now on the United States Supreme Court) and Robert Bork (who later resigned). *See, e.g.*, R. COOTER & T. ULEN, *supra* note 4, Preface at 1-2; Fiss, *supra* note 6, at 2; Dwyer & Helm, *Law and Economics: A New Order in the Court?*, BUS. WEEK, Nov. 16, 1987, at 93; Labaton, *Economics and Ginsburg*, N.Y. TIMES, Nov. 2, 1987, at D2, col. 1; Ranii, *The Next Nominee?*, NAT'L L.J., Nov. 26, 1984, at 1, col. 2. *See generally Economist on the Bench*, 50 LAW & CONTEMP. PROBS., no. 4, 1-286 (Autumn 1987) (symposium on the use of economic analysis by judges).

Although law and economics has had a tremendous and widespread impact among academics and in the classroom, its immediate impact on judicial opinions, even those written by law and economics jurists, seems to be limited. *See* Cohen, *supra* note 1, at 1131-32; Note, *Economic Analysis in the Courts: Limits and Constraints*, 64 IND. L.J. 769, 791, 800-01 (1989).

16. *See, e.g.*, Fiss, *supra* note 6, at 2-8; Kelman, *Misunderstanding Social Life: A Critique of the Core Premises of "Law and Economics,"* 33 J. LEGAL EDUC. 274 (1983); Michelman, *Norms and Normativity in the Economic Theory of Law*, 62 MINN. L. REV. 1015, 1028 (1978); Millstein, *Economics: Use and Misuse—A Response to Professor Areeda*, 52 ANTITRUST L.J. 539 (1983); Polinsky, *Economic Analysis as a Potentially Defective Product: A Buyer's Guide to Posner's Economic Analysis of Law*, 87 HARV. L. REV. 1655 (1974); Tribe, *supra* note 11, at 592, 620-21; White, *Economics and Law: Two Cultures in Tension*, 54 TENN. L. REV. 161 (1987).

17. *See* Posner, *Some Uses and Abuses of Economics in Law*, 46 U. CHI. L. REV. 281 (1979); Easterbrook, *Method, Result, and Authority: A Reply*, 98 HARV. L. REV. 622, 622-25 (1985).

18. *See, e.g.*, *infra* notes 206-237 and accompanying text.

19. The actual practice or implementation of economics by law and economics scholars must be distinguished from their pronouncements of the theoretical limitations of economics in legal analysis. *Compare* Cohen, *supra* note 1, at 1117-18, 1161 (contending that Judge Posner writes as though economic analysis leads inevitably to his conclusions) *with* R. POSNER, *supra* note 1, at 13-15 (stating that the concept of efficiency is limited by the distribution of wealth and by the ability to mimic properly a market). Critics usually attack the value-laden conclusions of law and economics (the practice) while law and economics scholars ordinarily reply that they are misunderstood (the preaching). *Compare, e.g.*, Tribe, *supra* note 11, at 592-93, 597-98, 620-21 (arguing that Judge Easterbrook is incorrect in believing that "[t]he Constitution [is] cabined in [a] calculus of costs and benefits," *id.* at 592) *and* Malloy, *supra* note 10, at 212, 240-54 (criticizing Judge Posner for, among other things, "not clearly identifying his [law and economics] theory's underlying values and the consequent bias they create," *id.* at 244) *with, e.g.*,

branch, often relies on myths to provide solutions to legal issues.[20]

Like the anecdotal used car salesman who talks about the exceptional qualities of a used car to a potential buyer while providing a contract containing disclaimers of warranties and limitations on remedies and consequential damages,[21] conservative law and economic proponents emphasize the power of economic analysis and quickly pass over its limitations. This, of course, is a wise sales tactic; probably fewer used cars "on the margin" would be sold if a salesman candidly discussed the effect of disclaimers and limitations.[22]

Though based in part on valid economic concepts, economic myths are incorrect beliefs about the power of economics to answer, through a relatively effortless and objective process,[23] questions concerning the nature of human beings and the wisdom of their laws. Although economic myths, as so defined, are not wedded to particular political beliefs,[24] the conservative

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Easterbrook, *supra* note 17, at 622-623 (replying that his position has been misunderstood by Professor Tribe) *and* Posner, *The Ethics of Wealth Maximization: Reply to Malloy*, 36 U. KAN. L. REV. 261, 261 (1988) (responding that "[r]arely have my views been so badly misunderstood as by Professor Malloy").

20. *See infra* notes 25-30 and accompanying text. Although a myth is not necessarily an erroneous belief, a typical connotation is one of a common belief thought to be true but without any factual basis. *See* WEBSTER'S THIRD NEW INTERNATIONAL DICTIONARY OF THE ENGLISH LANGUAGE 1497 (unabr. 1971).

21. Today, the validity of such a contract could be attacked on multiple grounds. *See, e.g.*, RESTATEMENT (SECOND) OF CONTRACTS §§ 162, 164 (1979) (fraudulent or material misrepresentation); RESTATEMENT (SECOND) OF TORTS § 402A (1963, 1964) (strict tort liability); U.C.C. §§ 2-302(1), 2-719(3) (1987) (unconscionability); N.Y. BUS. LAW § 198-b (McKinney 1988) (New York's lemon law for the sale of used motor vehicles).

22. For example, fewer cars would be sold if the seller stated as follows:

> While I've told you that this car is in perfect condition, you—the buyer—must beware; I make no promises about what shape the car will be in after you take it off my lot, and if the engine blows up and you are severely injured, I will not compensate you for your injuries.

All other things being equal, the marginal effect of direct disclosure should be to reduce the number of used cars being sold. *See infra* note 28 (myth of marginal effects).

23. *See, e.g.*, Tribe, *supra* note 11, at 597-98, 620-21.

24. Most scholars in our society would agree that economics *per se* (positive economics as opposed to normative economics) is independent of political views. *See, e.g.*, P. SAMUELSON & W. NORDHAUS, ECONOMICS 6-7 (12th ed. 1985); J. HIRSHLEIFER, PRICE THEORY AND APPLICATIONS 12-13 (4th ed. 1988); *see also*, Donohue, *Law and Economics: The Road Not Taken*, 22 LAW & SOC'Y REV. 903, 922 (1988); Posner, *Comment on Donohue*, 22 LAW & SOC'Y REV. 927, 927 (1988); *supra* note 8 (different schools of law and economics); *infra* note 61 and accompanying text (positive economics). Of course, Marxist economists might argue that mainstream economics is biased in favor of the kind of mixed-market economy that America has. *See, e.g.*, P. SWEEZY, THE THEORY OF CAPITALIST DEVELOPMENT (1942); THE CAPITALIST SYSTEM (R. Edwards, M. Reich & T. Weisskopf eds.

branch of law and economics seems especially fond of the myth of markets,[25] the myth of quantifiable costs and benefits (cost-benefit analysis),[26] the myth of the rational person,[27] the myth of

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2d. ed. 1978).

25. *See, e.g.*, R. POSNER, *supra* note 1, at 9-10, 12-14; Easterbrook, *supra* note 13, at 289-98. This myth has had its disbelievers. *See, e.g.*, Cohen, *Posnerism, Pluralism, Pessimism*, 67 B.U.L. REV. 105, 135-55 (1987); Olsen, *supra* note 7, at 1508-09; Radin, *supra* note 7, at 1850-51; Singer, *The Reliance Interest in Property*, 40 STAN. L. REV. 611, 644-52 (1988); Bennett, *Cost-Benefit Analysis, the Market, and Political Legitimacy*, 23 U.S.F. L. REV. 23, 26-34, 51-54. *See generally infra* Part III (myth of markets).

26. *See, e.g.*, R. POSNER, *supra* note 1, at 3-15; G. BECKER, *supra* note 12, at 39; Easterbrook, *supra* note 13, at 289-98. The myth of cost-benefit analysis has been vigorously attacked as being too value-dependent. *See, e.g.*, Kennedy, *supra* note 7, at 387-89, 444-45; Tribe, *supra* note 11, at 594-96, 597-98; Bennett, *supra* note 25, at 37-46, 51-56. *See generally infra* Part IV (myth of quantifiable costs and benefits).

27. *See, e.g.*, R. POSNER, *supra* note 1, at 3-10 ("The task of economics . . . is to explore the implications of assuming that man is a rational maximizer of his ends in life, his satisfactions . . . his 'self-interest,' " *id.* at 3); Easterbrook, *supra* note 13, at 291; *cf.* Burrows & Veljanovski, *Introduction: the Economic Approach to Law*, in THE ECONOMIC APPROACH TO LAW, *supra* note 4, at 1, 3-4 (asserting the importance of a rational person in law and economics); R. COOTER & T. ULEN, *supra* note 4, at 11-12 (same); A. POLINSKY, *supra* note 4, at 10 (same). The usefulness of the concept of an extremely rational person has been challenged both by lawyers and economists. *See, e.g.*, Harrison, *supra* note 7 (criticism by a lawyer); Simon, *Rationality as Process and as Product of Thought*, 68 AM. ECON. REV. 1, 2-3 (special supp. 1978) (criticism by an economist). *See generally infra* notes 254-260 and accompanying text (presenting varying views of rationality).

A rational person maximizes his welfare or utility. *See* R. POSNER, *supra*, at 3-6, 11-12; R. COOTER & T. ULEN, *supra*, at 16-17; Burrows & Veljanovski, *supra*, at 1, 15-16. "We do not know what [the rational economic man] wants. But we do know that, whatever it is, he will maximise ruthlessly to get it." M. HOLLIS & E. NELL, RATIONAL ECONOMIC MAN 54 (1975). The rational economic man exhibits no irrational behavior, "resulting for instance from an inconsistent ordering of preferences." *Id.* at 53. But if it is uncertain what a rational person wants, how can an observer tell when such a person maximizes his welfare? Because greater welfare or utility is found in a more preferred outcome (a stronger preference), the statement that a person is behaving the way he prefers is essentially the same as saying that he is maximizing his utility. In most circumstances, this definition would be circular because individuals almost always behave in the way they prefer. *See, e.g.*, Leff, *supra* note 7, at 457-59; Kelman, *Choice and Utility*, 1979 WIS. L. REV. 769, 771-78. *But see* Burrows & Veljanovski, *supra*, at 1, 15-16. For example, even when a person gives up his purse to a robber in response to "your money or your life," he prefers to surrender his purse than to lose his life. Thus, by simply doing what he is doing, a person can be viewed as rationally maximizing his utility. *See infra* notes 281-307 and accompanying text (discussing the maximization of individual and social welfare or utility).

marginal effects,[28] the myth of a common law evolving toward efficiency,[29] and the myth of efficiency.[30]

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28. *See, e.g.*, Easterbrook, *supra* note 12, at 12-14, 33-42; Goetz & Scott, *supra* note 5 (applying marginal analysis to the lost-volume seller in contracts governed by the Uniform Commercial Code); R. POSNER, *supra* note 1, at 8-10; Priest, *supra* note 14, at 1346-47 (stating that "manufacturers compete, not over the entire set of consumers, but over the set of marginal consumers," *id.* at 1347). Others, however, would find marginal analysis to be a highly value-influenced process. *See, e.g.*, Tribe, *supra* note 11, at 597; Shapiro, *supra* note 9, at 1011-12. In any event, the use of marginal analysis in abstraction leads to unexpected results. For example, consider the marginal effect of progressive tax rates on the incentive to work:

> [E]mpirical studies are necessary, since it is not possible to determine theoretically the degree to which high progressive taxes might affect work effort. High taxes lower after-tax wage rates, leading theoretically to less work and more leisure; but they also lower after-tax incomes, leading theoretically to more work and less leisure. Much to the surprise of the initial investigators (several were employed by the Harvard Business School), the studies indicated that high taxes either did not affect work effort or might even increase work effort among executives and professionals. This result has been found in every succeeding study. People work as hard or harder to restore their previous incomes or to obtain their income goals.

Thurow, *Toward a Definition of Economic Justice*, 31 PUB. INTEREST 56, 76 (1973). Unfortunately, economic analysis of law is enormously fond of abstractions, with little liking for reality. *See infra* notes 104-133 and accompanying text.

29. *See, e.g.*, Terrebonne, *A Strictly Evolutionary Model of Common Law*, 10 J. LEGAL STUD. 397 (1981); Priest, *The Common Law Process and the Selection of Efficient Rules*, 6 J. LEGAL. STUD. 65 (1977); Rubin, *Why is the Common Law Efficient?*, 6 J. LEGAL STUD. 51 (1977); R. POSNER, *Economic Analysis of Law* 439-41 (2d ed. 1977). *See generally* LAW AND ECONOMICS, *supra* note 4 (discussing economic models of the evolution of laws). This myth has had its share of skeptics. *See, e.g.*, Note, *The Inefficient Common Law*, 92 YALE L. J. 862 (1983); Ackerman, *supra* note 8, at 934-36 & n.12; *infra* notes 108-126 and accompanying text.

Assuming the existence of an evolution toward efficient laws through the common law, the rate of evolution may still be disappointing. *Cf.* Priest, *supra*, at 81 (noting that the rate at which efficient outcomes will be achieved depends on a number of factors). The rate of evolution may be rather slow, or it may even be negative, that is, the evolution may be away from efficient laws. If the United States Supreme Court can be viewed as a court making "common law," there are arguably numerously instances in which the evolution toward efficient laws took a giant step backwards because the overall welfare of society was reduced by the court's decisions. *See, e.g.*, Korematsu v. United States, 323 U.S. 214 (1944); Plessy v. Ferguson, 163 U.S. 537 (1896); Scott v. Sandford, 60 U.S. (19 How.) 393 (1856). *See generally* J. JOSEPH, BLACK MONDAYS (1987) (giving a sampler of deplorable Supreme Court decisions); *infra* note 30 (Myth of Efficiency).

Of course, even the characterization of evolution toward or away from efficient laws is a value judgment. If an evolution toward efficient laws is defined to be a movement toward a better society, depending on one's point of view, certain Supreme Court decisions promote or impair efficiency. *Compare* Fein, *Error in the Court*, 75 A.B.A. J., April 1989, at 56 (a conservative's selection of erroneous Supreme Court decisions) *with* Dorsen & Shapiro, *Preserving Liberties: A Reply to Bruce Fein*, 75 A.B.A. J., April 1989, at 62 (two liberals disagreeing with Fein's selections).

Evolution, as used loosely among non-evolutionists, carries the connotation of progress, an improvement or better outcome. The myth of a common law evolving toward

Undoubtedly, part of their temptation is that these myths

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efficiency is an example of progress because efficiency is thought to be highly desirable. The implication of an improvement, however, is absent from "evolution" in its Darwinian sense. From a Darwinian perspective, evolution or

> [n]atural selection is a theory of *local* adaptation to changing environments. It proposes no perfecting principle, no guarantee of general improvement; in short, no reason for general approbation in a political climate favoring innate progress in nature.
>
> Darwin's independent criterion of fitness is, indeed, "improved design," but not "improved" in the cosmic sense that contemporary Britain favored. To Darwin, improved meant only "better design for an immediate, local environment." Local environments change constantly: they get colder or hotter, wetter or drier, more grassy or more forested. Evolution by natural selection is no more than a tracking of these changing environments by differential preservation of organisms better designed to live in them: hair on a mammoth is not progressive in any cosmic sense . . . . And Darwin delighted in showing that local adaptation often produced "degeneration" in design—anatomical simplification in parasites, for example.

S. GOULD, EVER SINCE DARWIN: REFLECTIONS IN NATURAL HISTORY 45 (1977) (emphasis in original); *see* Seita, *Uncertainty and Contract Law*, 46 U. PITT. L. REV. 75, 95 n.43 (1984). *See generally* C. DARWIN, ON THE ORIGIN OF SPECIES (1964) (a facsimile of the first edition) (proposing the theory of natural selection); CONCEPTUAL ISSUES IN EVOLUTIONARY BIOLOGY (E. Sober ed. 1984) (presenting essays on evolutionary theory).

30. *See, e.g.*, R. POSNER, *supra* note 1, at 11-15, 21-22, 229-33; Easterbrook, *supra* note 13, at 289-91, 330-31; Priest, *supra* note 5, at 960-61, 1000-01. *See generally* Coleman, *Efficiency, Exchange, and Auction: Philosophic Aspects of the Economic Approach to Law*, 68 CALIF. L. REV. 221 (1980) (discussing the different definitions of efficiency used in law and economics literature).

Traditionally, mainstream economists have defined efficiency in a particular way: "Allocative efficiency [or efficiency] occurs when there is no possible reorganization of production that would make everyone better off—the poor, the rich, the wheat and shoe producers, etc. Under conditions of efficiency, therefore, one person's utility can be increased only by lowering someone else's utility." P. SAMUELSON & W. NORDHAUS, *supra* note 24, at 483. This definition of efficiency is generally known as pareto efficiency or pareto optimality. *See id.* n. 1; E. Mansfield, MICROECONOMICS 468 (6th ed. 1988); R. MUSGRAVE & P. MUSGRAVE, PUBLIC FINANCE IN THEORY AND PRACTICE 55 (4th ed. 1984); J. HIRSHLEIFER, *supra* note 24, at 462; THE MIT DICTIONARY OF MODERN ECONOMICS 319-320 (3d ed. 1986) [hereinafter DICTIONARY OF ECONOMICS]; *cf.* Arrow, *The Organization of Economic Activity: Issues Pertinent to the Choice of Market versus Nonmarket Allocation*, in ANALYSIS & EVALUATION, *supra* note 1, at 47, 47-51 (analyzing conditions under which the private competitive market system will lead to an efficient allocation of resources). This tends to be somewhat impractical for justifying public policies in that virtually any hypothetical situation can be viewed as a pareto optimal position since a change from it is bound to hurt someone. At any rate, economists do not appear to be obsessed with the notion of efficiency, as law and economic proponents are.

Law and economics proponents define efficiency in more practical ways. Judge Posner, for example, defines economic efficiency as the exploitation of resources that maximizes value, where value is human satisfaction as measured by the aggregate willingness of consumers to pay for goods and services. *See* R. POSNER, *supra* note 1, at 12. Judge Posner's definition has generated much controversy. *See, e.g.*, *Symposium on Efficiency as a Legal Concern*, 8 HOFSTRA L. REV. 485 (1980); *A Response to the Efficiency Symposium*, 8 HOFSTRA L. REV. 811 (1980). Posner believes that efficiency requires the maximization of value as measured in dollar amounts by the process of exchange through

are "engineered, whether intentionally or not, to serve a specific agenda,"[31] that is, to promote politically conservative views.[32]

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existing or hypothetical markets. *See* R. POSNER, *supra* note 1, at 11-13; R. POSNER, *supra* note 4, at 60-62. This makes efficient a choice that has the most dollars actually or hypothetically voting in favor of it.

Taken literally, Judge Posner's definition of efficiency might be difficult to apply in many cases. Fortunately, this definition has a more workable alternative form in which a change from one situation to another is "efficient" if it is possible afterwards for those who gain from the change to be better off even after they fully compensate the losers. *See* R. POSNER., *supra* note 1, at 12-14. This definition of efficiency is based on the Kaldor-Hicks compensation principle which is used in welfare economics and which does not require that the losers, in fact, be compensated. *See* Kaldor, *Welfare Propositions of Economics and Interpersonal Comparisons of Utility*, 49 ECON. J. 549, 550 (1939); Hicks, *The Foundations of Welfare Economics*, 49 ECON. J. 696, 711 (1939).

Other law and economics proponents also accept the Kaldor-Hicks compensation principle. While Professor Polinsky recognizes that the technical definition of efficiency is that of pareto efficiency, he finds a useful intuitive definition to be "the relationship between the aggregate benefits of a situation and the aggregate costs of the situation." A. Polinsky, *supra* note 4, at 7 & n.4. This intuitive definition is based on the Kaldor-Hicks compensation principle. And some would include in the cost-benefit analysis hard-to-quantify items such as moral principles. *See* Calabresi & Melamed, *Property Rules, Liability Rules, and Inalienability: One View of the Cathedral*, 85 HARV. L. REV. 1089, 1106-08 (1972).

Efficiency in terms of total costs and benefits for all of society is obviously ripe with value judgments since an efficiency analyst must quantify social costs and benefits. *See infra* Part IV (myth of quantifiable costs and benefits). Other value judgments would involve the desirability of the status quo (that is, the distribution of wealth) when "efficient" outcomes take place and the accuracy of hypothetical "efficient" outcomes. *See, e.g.*, Shapiro, *supra* note 9, at 1004-08. Even Judge Posner theoretically acknowledges the validity of the latter two arguments. *See* R. POSNER, *supra*, note 1, at 13-15. *But see supra* note 19 (noting the difference between Judge Posner's acknowledgements and his practical applications).

The primary problem with the myth of efficiency is that it is a useful device to justify virtually any outcome and thus is hardly a reasonably objective standard. Regarding articles purporting to show an efficient common law, Professor Hansmann has observed as follows: "Such demonstrations of the efficiency of common-law doctrine have much the same quality as psychoanalytic interpretations of neurosis: you can always tell a story; but then, given the large number of unobserveable or unmeasureable variables involved, somebody else can always tell a different story." Hansmann, *supra* note 2, at 234; *see* Reuter, *supra* note 1, at 857-60.

31. Tribe, *supra* note 11, at 597. Professor Tribe also writes that

> one of the most persistent myths of policy analysis [is] that the analytical techniques *in themselves* lack significant substantive bias or controversial content—that the techniques are neutral in regard to matters of value precisely because such matters may simply be inserted in the analysis. . . . The intellectual and social heritage of [cost-benefit and marginal analyses], as well as their natural tendency, lies in the classical eighteenth and nineteenth century economics of unfettered contract, consumer sovereignty, social Darwinism, and perfect markets—the classical economics that the Supreme Court in fact exalted as federal constitutional law from the 1890s to 1937. This brings those ideas within a paradigm of actions guided by a preexisting set of personal preferences—a paradigm inclined toward the exaltation of possessive individual-

And while political liberals are less prone to use economics to justify their positions,[33] they nonetheless embrace some of the same economic myths, such as the myths of efficiency and of quantifiable costs and benefits,[34] and are enamored with other myths like market failure.[35]

In Part II, this article discusses some reasons for the limited usefulness of economics and economic myths in legal analysis.[36] In Parts III and IV, this article examines two economic myths that are popular with the conservative wing of law and economics, the myths of markets and cost-benefit analysis. These myths, like their sibling myths, purport to provide clear answers to important legal issues.

This article concludes that these two myths downplay the overwhelming importance of human judgment and societal values in legal issues; they are used too theoretically, and too often as a substitute for careful analysis of real-world conditions; and they provide only preliminary, rather than ultimate, and possible rather than definitive, solutions to legal problems. As a consequence, two economic concepts that should have been used to generate insightful questions have instead developed into vehicles which can be used to promote the values of the analyst who

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> ism, "efficient" resource allocation, and maximum productivity, as against respect for distributive justice, procedural fairness, and the irreducible and sometimes inalienable values associated with personal rights and public goods.
>
> *Id.* (footnotes omitted, emphasis in original).

32. *See, e.g.*, Cohen, *supra* note 1, at 1117-1118, 1150-52 & n. 192 (concluding that Judge Posner, the intellectual force behind the conservative branch of law and economics, uses economic analysis in a selective and incomplete way in order to support his conservative political ideology). *See generally infra* notes 206-237 and accompanying text.

33. *See, e.g.*, R. POSNER, *supra* note 1, at 24-25; Ackerman, *supra* note 8, at 929, 934-35; Rose-Ackerman, *supra* note 8, at 341 & n.1.

34. *See, e.g.*, Kennedy, *supra* note 7, at 387-89 & n.1 and sources cited therein. Professor Kennedy criticizes the liberal school of law and economics because it views cost-benefit and efficiency analyses as value-free processes. *See id.* at 387-89, 400, 410-11, 444-45.

35. *See, e.g.*, Fiss, *supra* note 6, at 7; Kelman, *supra* note 27, at 769-772; Kennedy, *supra* note 7, at 390. *See generally* THE THEORY OF MARKET FAILURE (T. Cowen ed. 1988) (essays on market failure). "The mere existence of a market failure, however, does not necessarily mean that governmental action will achieve a superior result . . . [because] [t]here is no guarantee that the benefits achieved by the correction of a market failure will outweigh [the costs of government regulation]." Cohen, *supra* note 1, at 1121.

36. Many commentators make the same observations about the limited usefulness of economic myths. *See, e.g.*, Kennedy, *supra* note 7, at 444-45; Michelman, *supra* note 16, at 1015-16, 1028, 1047-48; Schwartz, *Economics, Wealth Distribution, and Justice*, 1979 Wis. L. Rev. 799, 800-801, 811-13; Tribe, *supra* note 11, at 620-21.

applies economics to law.[37] In the end, the common myths of markets and cost-benefit analysis are "just-so" stories, products of armchair speculation and fanciful theorizing.[38]

II. Limitations of Economic Analysis of Law

The limitations of economic analysis of law arise in part from the limitations of economics itself and in part from the nature of the legal issues addressed by law and economics. For decades, some prominent economists have criticized their colleagues for ignoring the importance of value judgments in economics[39] and for utilizing highly abstract economic models with little connection to reality.[40] These traditional criticisms of economics are just as applicable to its subset, the economic analysis of law.

Although some law and economics advocates behave as though economic analysis is an objective process,[41] economic analysis of law is inherently subjective due to its dependence upon value judgments.[42] Value judgments (beliefs, views, ideas, or opinions) about what is "good" or "bad," are never statements of *facts*.[43] This essential reliance on value judgments ap-

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37. *See, e.g.*, Cohen, *supra* note 1, at 1117-1118, 1150-52 & n.192; Kennedy, *supra* note 7, at 387-89, 444-45; Reuter, *supra* note 1, at 861-65, 869; *infra* notes 108-126 and accompanying text.

38. *See* R. Kipling, Just So Stories for Little Children (1912) (a collection of entertaining fantasies used to answer children's questions).

39. *See infra* notes 57-64 and accompanying text.

40. *See infra* notes 65-77 and accompanying text.

41. *See, e.g., infra* notes 206-237 and accompanying text.

42. *See, e.g.*, Kennedy, *supra* note 7, at 444-45; Tribe, *supra* note 11, at 597-98, 620-21; *infra* notes 43-103 and accompanying text.

43. *See* 8 Encyclopedia of Philosophy 229-32 (1967). Other characterizations might be "appropriate" or "inappropriate," "correct" or "incorrect," "necessary" or "unnecessary," and "proper" or "improper." This article uses "value" in two senses: first, to mean personal beliefs, views, ideas, or opinions, and second, to indicate economic worth such as value in use or value in exchange. The first applies in any "value judgment" that requires a person to base her decision on personal beliefs whether or not these beliefs are her fundamental beliefs, beliefs widely shared and deeply felt by other members of society, or beliefs supported by evidence. *See* Dictionary of Economics, *supra* note 30, at 440-441; *see also* E. Mishan, Introduction to Normative Economics, 24-26 (1981) (stating that value judgments are the product of, among other things, intellectual fashions, life experience, imagination, emotion, and interest). *See generally* J. Ely, Democracy and Distrust 43-72 (1980) (discussing the problem the Supreme Court faces in "discovering" fundamental values); C. Fried, An Anatomy of Values 1-11 (1970) (analyzing values as "ends"); Readings in the Philosophy of the Social Sciences 79-138 (M. Brodbeck ed. 1968) (essays on values and the social sciences). The second refers to the usefulness of an item to a person (value in use) or to the price of the item (value in exchange). *See* Dictionary of Economics, *supra* note 30, at 439-40.

pears in many aspects of the analysis, not just when an analyst implicitly resolves the issue of equity or the distribution of wealth, including income, by accepting the validity of a given distribution of wealth.[44]

Also, the heavy reliance of law and economics on theoretical models with little connection to real-life facts means that the influence of personal biases is unavoidable.[45] And, even when empirical data exists, the interpretation of such data again results in reliance on human judgment.[46] These two characteristics, the dependence upon value judgments and the use of abstract theories, are powerful limitations on the utility of economics to law.

An additional limitation stems from the type of issues analyzed by law and economics. While economic analysis of law adopts the principles of economics, mainly those of microeconomics,[47] it attempts to resolve issues far removed from

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44. *See* Thurow, *supra* note 28, at 56-59 ("[N]o one can deny that value judgments play an important role in specifying economic equity," *id.* at 58); P. SAMUELSON & W. NORDHAUS, *supra* note 24, at 49; DICTIONARY OF ECONOMICS, *supra* note 30, at 130; R. POSNER, *supra* note 1, at 25; A. POLINSKY, *supra* note 4, at 7. *See generally infra* notes 364-375 and accompanying text (discussing wealth effects).

45. *See infra* notes 104-133 and accompanying text.

46. *See generally*, Priest, *supra* note 14 (interpreting consumer product warranties). *Compare* Kelman, *supra* note 9, at 678-95 (providing an empirical criticism of the Coase Theorem) *and* Kelman, *Spitzer and Hoffman on Coase: A Brief Rejoinder*, 53 S. CAL. L. REV. 1215 (1980) (defending criticism of Kelman's criticism of the Coase Theorem) *with* Spitzer & Hoffman, *A Reply to Consumption Theory, Production Theory, and Ideology in the Coase Theorem*, 53 S. CAL. L. REV. 1187, 1190-1213 (1980) (criticizing Kelman's empirical criticism of the Coase Theorem). Later, the teams of Kelman versus Hoffman and Spitzer disagree on the significance of "experimental" economics. *Compare* Hoffman & Spitzer, *Experimental Law and Economics: An Introduction*, 85 COLUM. L. REV. 991, 1011-12 (1985) (claiming that their experiments provide strong evidence for the Coase Theorem in that bargaining individuals will invariably seek to maximize joint profits) *with* Kelman, *Comment on Hoffman and Spitzer's Experimental Law and Economics*, 85 COLUM. L. REV. 1037, 1037-41 (1985) (disagreeing with Hoffman and Spitzer's conclusions).

47. Microeconomics "describe[s] those parts of economic analysis whose concern is the behaviour of individual units, in particular, consumers and firms, rather than with aggregates such as unemployment, the price level, national income, etc. which are the subject of macroeconomics." DICTIONARY OF ECONOMICS, *supra* note 30, at 273; *see* E. MANSFIELD, *supra* note 30, at 1-2; P. SAMUELSON & W. NORDHAUS, *supra* note 24, at 377-78. When scholars speak of economic analysis of law, they invariably refer to the application of microeconomics to law. *See, e.g.*, R. POSNER, *supra* note 1, at xx; R. COOTER & T. ULEN, *supra* note 4, at 15-16; N. MERCURO & T. RYAN, *supra* note 4, at 2-3; Cohen, *supra* note 1, at 1118-21; Kelman, *supra* note 16, at 275-76, 283-84.

At the same time, other economic concepts are also used to provide insight into legal concepts, processes, and institutions. *See, e.g.*, Birmingham, *Legal and Moral Duty in Game Theory: Common Law Contract and Chinese Analogies*, 18 BUFFALO L. REV. 99

the domain of traditional microeconomics which typically focuses on the behavior of consumers and firms, and the movement of ordinary goods and services in response to financial incentives. The further economics moves from issues where pecuniary gain is the dominant motivation and where costs and benefits can be quantified in dollar terms, the more difficult it is to achieve a truly objective analysis.[48]

A. Criticisms of Economics

Economists have generally described economics as the study of how people and society choose to allocate scarce resources.[49] By analyzing the allocation of scarce resources, economists have emerged with a number of basic economic principles or assumptions about the way in which such scarce resources are or should be allocated. Most of these principles are primarily used in microeconomic analysis and include the principles of diminishing marginal returns,[50] efficiency,[51] marginal analysis,[52] markets,[53] public goods,[54] rational behavior,[55] and utility maximiza-

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(1969)(applying game theory to contract law); Carroll, *Four Games and the Expectancy Theory*, 54 S. CAL. L. REV. 503 (1981) (same); Easterbrook, *Ways of Criticizing the Court*, 95 HARV. L. REV. 802 (1982) (applying Arrow's Impossibility Theorem to decisions of the Supreme Court); Seita, *supra* note 29 (applying risk analysis to contract law); Spitzer, *Multicriteria Choice Processes: An Application of Public Choice Theory to* Bakke, *the FCC, and the Courts*, 88 YALE L.J. 717 (1979) (applying Arrow's Impossibility Theorem to three legal issues).

48. The value judgments necessary for quantification and the difficulty of quantifying costs and benefits are explored below in Part IV (myth of quantifiable costs and benefits).

49. P. SAMUELSON & W. NORDHAUS, *supra* note 24, at 4; E. MANSFIELD, *supra* note 30, at 1-2; J. HIRSHLEIFER, *supra* note 24, at 2-4, 16-17.

50. *See, e.g.*, J. HIRSHLEIFER, *supra* note 24, at 181-84, 305-07, 317-19; E. MANSFIELD, *supra* note 30, at 164-67; P. SAMUELSON & W. NORDHAUS, *supra* note 24, at 32-36; G. STIGLER, THE THEORY OF PRICE 121-45 (3rd ed. 1966).

51. *See, e.g.*, J. HIRSHLEIFER, *supra* note 24, at 460-70; E. MANSFIELD, *supra* note 30, at 467-68; P. SAMUELSON & W. NORDHAUS, *supra* note 24, at 28-29, 482-86.

52. *See, e.g.*, J. HIRSHLEIFER, *supra* note 24, at 41-51; E. MANSFIELD, *supra* note 30, at 53-59, 131-36, 160-67, 209-11; P. SAMUELSON & W. NORDHAUS, *supra* note 24, at 462-65, 483-86; G. STIGLER, *supra* note 50, at 313-36.

53. *See, e.g.*, J. HIRSHLEIFER, *supra* note 24, at 403-08; E. MANSFIELD, *supra* note 30, at 19-31, 237-39; P. SAMUELSON & W. NORDHAUS, *supra* note 24, at 25-26, 41-46, 482-88, 679-80; G. STIGLER, *supra* note 50, at 176-94.

54. *See, e.g.*, R. MUSGRAVE & P. MUSGRAVE, *supra* note 30, at 47-81; J. HIRSHLEIFER, *supra* note 24, at 478-82, 505-11; E. MANSFIELD, *supra* note 30, at 497-526; P. SAMUELSON & W. NORDHAUS, *supra* note 24, at 48-49, 713-15.

55. *See, e.g.*, J. HIRSHLEIFER, *supra* note 24, at 7-12; E. MANSFIELD, *supra* note 30, at 55-59; G. STIGLER, *supra* note 50, at 3, 46-60.

tion.[56] Proponents of economic analysis of law utilize these basic economic principles to analyze legal issues. These principles, in themselves or through their corollaries, form the myths used by law and economics scholars to create solutions for legal problems.

1. *Value judgments in economics*

Even though these economic principles, and economic analysis itself, may appear to be objective in nature, leading economists have criticized the idea that economic analysis is value free. For example, Robert Heilbroner observes that "the work of the economist is laden with value judgments."[57] According to Heilbroner, economic analysis involves "the task of ascribing meaning to the data [collected by an economist and t]his meaning takes the form of efforts to 'explain,' postdictively or predictively, how and why the social organism displays the objective characteristics [the economist] has unearthed."[58]

Economists (and law and economics advocates[59]) distinguish between "positive" and "normative" economics. The former refers to descriptions or observations of reality that in theory can be verified, while the latter involves prescriptions or value judgments[60] of proper or correct policy decisions.[61] However, in economic scholarship the distinction between positive and normative is often difficult to maintain. Perhaps bare and sterile

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56. *See, e.g.*, J. HIRSHLEIFER, *supra* note 24, at 59-66; E. MANSFIELD, *supra* note 30, at 51-61; P. SAMUELSON & W. NORDHAUS, *supra* note 24, at 411-12, 678-79, 704-05; G. STIGLER, *supra* note 50, at 1-4, 46-60.

57. Heilbroner, *Economics as a "Value-Free" Science*, 40 SOC. RES. 129, 130 (1973).

58. *Id.* at 131.

59. *See, e.g.*, Posner, *supra* note 17, at 284-97.

60. *See supra* note 43 (discussing value judgments).

61. *See, e.g.*, M. FRIEDMAN, *The Methodology of Positive Economics*, in ESSAYS IN POSITIVE ECONOMICS 3, 3-7 (1953) (distinguishing between positive and normative economics); J. HISHLEIFER, *supra* note 24, at 12-13 (same); P. SAMUELSON & W. NORDHAUS, *supra* note 24, at 6-7 (same); DICTIONARY OF ECONOMICS, *supra* note 30, at 305, 332-33 (same). *See generally* Machlup, *Positive and Normative Economics: An Analysis of the Ideas*, in ECONOMIC MEANS AND SOCIAL ENDS 99 (R. Heilbroner ed. 1969) (giving an extensive analysis of the meanings of positive and normative economics). The distinction between the two has been recognized for well over 150 years. *See* M. BLAUG, THE METHODOLOGY OF ECONOMICS 127-31 (1980). With respect to normative economics, "no policy prescriptions can be made which do not ultimately entail value judgments, and . . . economists as such have no special qualifications which give them the right to impose their value judgments upon others." Worswick, *Is Progress in Economic Science Possible?*, 82 ECON. J. 73, 86 (1972).

observations of human activities and institutions are unpalatable to economists.

In addition, because assumptions of some kind are inevitably necessary to begin any analysis of human endeavor and because the human spirit has a propensity to judge, create, and improve, economists invariably make value judgments in their analyses. "To put it differently, if the economist wishes to move from economic statistics to economic analysis, he must go beyond 'observations' into 'assumptions' with regard to behavior, and it is at this juncture that value judgment enters the picture."[62]

For instance, Heilbroner discusses an example in which Paul Samuelson makes value judgments:

> [E]conomists do not remain content with a simple observation (presumably derived by empirical techniques) that there co-exist a rent ceiling and a large number of disgruntled apartment-seekers. Invariably they go on to *prescribe* social remedies for this situation, usually remedies that fall back on the workings of the market system. "Thus," writes Paul Samuelson, "France had practically no residential construction from 1914 to 1948 because of rent controls. If new construction had been subject to such controls after World War II, the vigorous boom in French residential building since 1950 would never have taken place . . . ." He concludes: "To protect the poor from being gouged by landlords, maximal rentals are often fixed by law. These fiats may do short-run good, but they also do long-run harm."
>
> It is not difficult to spot the value judgments latent in this example of economic analysis. There is a silent acquiescence in the propriety of the market as the mechanism for allocating apartments to would-be renters, rather than government allocations, or other means. There is also the assumption that the "long-run harm" cannot be overcome by non-market means, e.g., the provision of additional dwelling space by state construction. Now, Samuelson may have sound philosophical grounds for preferring the markets means of allocation to non-market means, and he may be correct in his contention that the market will ultimately provide more housing than will a program of government construction. But it is quite clear that neither his preference nor his policy judgment follow as "value-

62. Heilbroner, *supra* note 57, at 134.

> free" conclusions from the raw data of ceiling prices and disgruntled apartment-seekers.[63]

Other economists such as Kenneth Arrow, Gunnar Myrdal, and Lester Thurow also believe that value judgments are prominent in and permeate economic analysis.[64]

2. *Abstract theoretical models*

Another common criticism of economics is that it tends to rely heavily on abstract theoretical models which often have little empirical support,[65] contain speculative and unverifiable as-

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63. *Id.* at 132-33 (footnote omitted).

64. *See, e.g.*, K. ARROW, SOCIAL CHOICE AND INDIVIDUAL VALUES 4 (2d ed. 1963) (stating that value judgments are necessary in calculating whether social welfare has improved); L. THUROW, DANGEROUS CURRENTS: THE STATE OF ECONOMICS 24-27, 139 (1983) (giving examples of value judgments disguised as economic analyses); Thurow, *supra* note 28, at 56-61 (observing that all analysis of economic efficiency depends upon value judgments). Concerning the objectivity of efficiency analysis, Gunnar Myrdal has written that

> [i]t is, of course, possible to specify the values by which one judges the efficiency of an economic system. But this raises the alternative difficulty of showing that these values are scientific or objective. Yet, without value judgements the whole notion of a social conduct of economic affairs is meaningless.

G. MYRDAL, THE POLITICAL ELEMENT IN THE DEVELOPMENT OF ECONOMIC THEORY 154 (1953). *Cf.* Heller, *What's Right with Economics?*, 65 AM. ECON. REV. 1, 2-3, 7-8, 15 (1975) (discussing value judgments in economics). *See generally* B. WARD, WHAT'S WRONG WITH ECONOMICS? (1972) (arguing that economics is essentially a normative science parading in positivistic clothing).

Moreover, differing values in different societies may explain differences in outcomes. For example, in comparing economic and political "equality" in Japan, Sweden, and the United States, one study has concluded that

> [v]alues are, we believe, an important and somewhat neglected reason that these nations differ in the degree of inequality. Basic beliefs about social justice, passed on through processes of socialization that begin early in life and continue through the life cycle, play an important role in determining public and private decisions relating to inequality. We do not argue that such values are immutable; as our chapter on the history of inequality in the three nations made clear, values do not change easily but they do change. Nor do we argue that a society inevitably reaches consensus on such values; our data have shown some of the contours of value conflict over inequality among elite groups in each nation. Instead, we contend that values are not merely dependent or intervening variables but autonomous forces.
>
> . . . .
>
> Values about equality will not by themselves determine how much equality one will find in these three nations in the future. Market forces (domestic and international), political decisions, and evolving social structures all play a role. But values about equality help set the boundaries of the debate.

S. VERBA, S. KELMAN, G. ORREN, I. MIYAKE, J. WATANUKI, I. KABASHIMA, G. FERREE, ELITES AND THE IDEA OF EQUALITY 265, 276 (1987) [hereinafter S. VERBA].

65. If "empirical support" means that real-life data is used, such as statistics availa-

sumptions, and possess a fondness for mathematical complexity.[66] This criticism is related to the first criticism (economic

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ble through the Department of Commerce, *e.g.*, STATISTICAL ABSTRACT OF THE UNITED STATES 1989 (109th ed. 1989) [hereinafter 1989 STATISTICAL ABSTRACT], then many economic models, particularly macro-econometric models, have "empirical support." *See generally* T. AMEMIYA, ADVANCED ECONOMETRICS (1985) (discussing econometric models and various statistical tests at an advanced level); R. BACON, A FIRST COURSE IN ECONOMETRIC THEORY (1988) (discussing econometric models and various statistical tests at an introductory level); P. KENNEDY, A GUIDE TO ECONOMETRICS (1985). Unfortunately, using real data still leads to highly unreliable predictions because human behavior is too complicated to model accurately. In addition, real data is often used to fit a desired theory, and equations are valued for themselves. *See* M. BLAUG, *supra* note 61, at 256-57; L. THUROW, *supra* note 64, at 106-08.

In his presidential address to the British Royal Economic Society, Donald MacDougall spoke about the problems of econometrics (statistics used to test economic hypotheses and to estimate economic parameters, *see* DICTIONARY OF ECONOMICS, *supra* note 30, at 119):

> I emphasised a moment ago that econometric work is only part of the process of searching for causal relationships and of economic prediction. As an essential complement, and as a check, we need more direct enquiry into how economic man behaves, *qua* consumer, *qua* worker, *qua* trade unionist, *qua* manager, *qua* trader. This may involve novel approaches and will require much painstaking work and descriptive studies of a type that does not always get the credit it deserves in our profession. We need better, and more up-to-date, statistics. We need a historical sense and a detailed knowledge of recent history.
>
> In this context my predecessor rightly remarked that "different years have their personalities". This reminded me that a considerable time ago two highly intelligent and well-trained economists who were working with me produced some econometric results that were repugnant to my common-sense (which is incidentally another necessary complement to econometrics, and to economics anywhere, any time). When I asked whether they had taken account of the fact that in one of the years in their time series the Korean war had broken out they regarded this question as jejune and irrelevant. It was only when I had spotted several elementary arithmetical mistakes in their calculations that they were shaken; and after forty-eight hours of more or less continuous work revised results were produced that were much less repugnant to common sense.

MacDougall, *In Praise of Economics*, 84 ECON. J. 773, 781 (1974) (emphases in original). *See generally* L. THUROW, *supra* note 64, at 104-23 (detailing the limitations of econometrics).

On the other hand, if "empirical support" means that an economic model is incapable of manipulating real data to justify foregone conclusions, many economic models using real data lack "empirical support." In trying to find an equation to explain certain data,

> the "best" equation is going to depend heavily upon the prior beliefs of the analyst. If the analyst believes that interest rates do not affect the velocity of money, he finds a "best" equation that validates his particular prior belief. If the analyst believes that interest rates do affect the velocity of money, he finds a "best" equation that validates this prior belief. Given the possibility of finding "best" equations from both points of view, neither "best" equation is capable of persuading the other side that *its* "best" equation is wrong.

Id. at 107-08 (emphasis in original) (footnote omitted).

66. *See* Heller, *supra* note 64, at 1-3 and sources cited therein; MacDougall, *supra*

analysis is laden with value judgments) in that if a model has little connection to reality, a model builder necessarily injects her values into the model.[67] In his presidential address to the British Royal Economic Society in 1971, E. H. Phelps Brown talked about

> the smallness of the contribution that the most conspicuous developments of economics in the last quarter of a century have made to the solution of the most pressing problems of the times. The most conspicuous developments I take to have been . . . [for example,] the refinement of the logic of resource allocation and decision-taking . . . [and the] . . .
> econometric analyses of systems of economic forces.
>
> The most pressing problems I take to have been . . . [for example,] deciding the scope of the free market and government intervention . . . [and]
>
> . . . checking the adverse effects on the environment and the quality of life of industrialism, population growth and urbanism.[68]

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note 65, at 774-76 (discussing faulty basic assumptions and weak empirical foundations in economics); L. THUROW, *supra* note 64, at 19-20, 106-110 (noting that the nonexperimental nature of economics contributes to the inaccuracy of economic predictions); Kuttner, *supra* note 12, at 78-79 (describing how economics is too often all theory and no data); Hogarth & Reder, *Introduction: Perspectives from Economics and Psychology*, in RATIONAL CHOICE, *supra* note 12, at 1, 10-21 (comparing the generally nonexperimental nature of economics with the heavily experimental nature of psychology).

One commentator contends "that the central weakness of modern economics is . . . the reluctance to produce the theories that yield unambiguously refutable implications, followed by a general unwillingness to confront those implications with the facts." M. BLAUG, *supra* note 61, at 254. In other words, modern economics often fails to provide predictions which can be tested against the events that occur. *Id.* at 262-64. Another commentator argues that

> [n]eoclassical economics, though it seems to possess all the basic features of a science, is also based on an ideology, which in practice restricts the range of problems considered and the procedures applied to problem-solving, and has produced criteria of scientific performance based far more on the sophistication of the intellectual input than on the quality of the output.

B. WARD, *supra* note 64, at 239-40.

67. *See supra* text accompanying note 62.

68. Brown, *The Underdevelopment of Economics*, 82 ECON. J. 1, 1 (1972). With respect to "allocation efficiency,"

> [t]his theory normally postulates that entrepreneurs or managers make optimal decisions: confronted with the prices of inputs they combine them in unique combinations to produce a given output, to which the cost of production is also uniquely related. But anyone who has worked with empirical data from firms in an industry is frequently struck, not by the fact that all the firms produce their outputs at much the same costs, but by the extraordinarily wide range of costs and profits.

Worswick, *supra* note 61, at 78. *See generally* DICTIONARY OF ECONOMICS, *supra* note 30,

Phelps Brown attributed this "smallness" to the limited utility of this group of developments, that although its intellectual quality was high, its

> usefulness is not equal to its distinction: I believe that it is impaired from the first by being built upon assumptions about human behaviour that are plucked from the air. That it proceeds by abstraction, and builds models or follows paths of reasoning to reveal the outcome of assumptions, is in itself nothing against it, for doing this is a necessary part of the endeavour to understand any process, in human affairs no less than in physical. But what does impair it, scientifically and practically, is that the human propensities and reactions it purports to abstract are not in fact abstracted, that is to say drawn out from observations, but are simply assumed—assumed out of everyday knowledge, or introspection, or convention, or the faith that however unaccountably some people may behave on some occasions, in the long run and for social aggregates it is rational, maximising behaviour that prevails.[69]

Several months earlier across the Atlantic, in his presidential address to The American Economic Association, Wassily Leontief pointed to "a fundamental imbalance in the present state of [economics]. The weak and all too slowly growing empirical foundation clearly cannot support the proliferating superstructure of pure, or should I say, speculative economic theory."[70]

While a model with various assumptions may generate a number of interesting conclusions, Leontief warned that

> it is precisely the empirical validity of these *assumptions* on which the usefulness of the [model] depends.
>
> What is really needed, in most cases, is a very difficult and seldom very neat assessment and verification of these assumptions in terms of observed facts. Here mathematics cannot help

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at 13-14 (defining allocative efficiency as "[t]he production of the 'best' or OPTIMAL combination of outputs by means of the most efficient combination of inputs," *id.* at 13).

69. Brown, *supra* note 68, at 3. Similarly, in his presidential address to Section F of the British Association, N. Worswick stated that

> there is a need for more academics to generate fully fledged policy models which are not simply abstract accounts of how some problem might be solved in an ideal world, but which comes [sic] to grips with practical administrative details and take account of social attitudes which might well be "irrational" but nevertheless preclude particular types of solution.

Worswick, *supra* note 61, at 86.

70. Leontief, *Theoretical Assumptions and Nonobserved Facts*, 61 AM. ECON. REV. 1, 1 (1971).

> and because of this, the interest and enthusiasm of the model builder suddenly begins to flag: "If you do not like my set of assumptions, give me another and I will gladly make you another model; have your pick."[71]

Concerning the heavy use of mathematics, Leontief commented that "[m]uch is being made of the widespread, nearly mandatory use by modern economic theorists of mathematics. . . . [But u]ncritical enthusiasm for mathematical formulation tends often to conceal the ephemeral substantive content of the argument behind the formidable front of algebraic signs."[72]

In part, the preoccupation with mathematical equations might be attributed to the desire of economists to construct an economic "science" like the physical sciences. Many economists seem enamored with an economic "science"[73] whose objects of study can be mathematically described and, by implication, whose methodology produces results and predictions that are certain, precise, and, above all, objective. Thus the rhetoric of economics is filled with quantification and numbers.[74]

But the methodology of economics, while applying a "scientific method,"[75] is very dissimilar from the methodology of the physical sciences. The latter has the advantage of many relatively easily applied principles which can generate highly reproducible results. For example, the principle (or law) of inertia in physics is more certain, is more easily applied, and has more reproducible results than the principle of utility maximization in

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71. *Id.* at 2 (emphasis in original). *See generally* L. THUROW, *supra* note 64, at xviii-ix (commenting that the desire for certainty in economics leads to an infatuation with mathematics rather than an understanding of reality).

72. Leontief, *supra* note 70, at 1-2. *See generally* D. MCCLOSKEY, THE RHETORIC OF ECONOMICS 3-5 (1985) (showing how economic scholarship has come to rely heavily on complex and abstract mathematics); Kuttner, *supra* note 12, at 78 (same). Apparently, proficiency in mathematics is the most important criterion for success as an economist:

> A recent survey of American [economics] graduate students asked what mattered most for success in economics: 57% said that "excellence in mathematics" was "very important"; only 3% said the same of "having a thorough knowledge of the economy, while no less than 68% thought that was "unimportant".

New Economists, THE ECONOMIST, December 24, 1988, at 94.

73. M. BLAUG, *supra* note 61 (discussing the philosophy of "economic science"); I. STEWART, REASONING AND METHOD IN ECONOMICS (1979).

74. *See* D. MCCLOSKEY, *supra* note 72, at 138-41.

75. *See* M. FRIEDMAN, *The Methodology of Positive Economics*, in ESSAYS IN POSITIVE ECONOMICS, *supra* note 61, at 3, 3-43; E. MANSFIELD, *supra* note 30, at 13-16; J. HIRSHLEIFER, *supra* note 24, at 4-7. *See generally* T. KUHN, THE STRUCTURE OF SCIENTIFIC REVOLUTIONS 10-42 (2d ed. 1970) (discussing the nature of scientific reasoning).

economics.[76] Moreover, while physical scientists study mindless objects that are affected by external forces, economists must grapple with objects whose self-awareness results in unanticipated strategic and sometimes irrational responses to external forces.[77]

B. The Importance of Value Judgments in Economic Analysis of Law

Like economics, economic analysis of law requires value

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76. As one prominent economist has stated:

> We cannot hope to achieve the precision of those sciences which have enabled men to guide spaceships to the moon. But we can, despite our much more limited powers of prediction, and provided we recognise these limitations and take full account of them, do quite a lot to help those who have to take what are in many ways more difficult, and more important, decisions about ways of achieving a considerably more complex set of goals.

MacDougall, *supra* note 65, at 779. *See generally* L. THUROW, *supra* note 64, at 19-20 (discussing economics as a nonexperimental science); Machlup, *Are the Social Sciences Really Inferior?*, in THE NATURE AND SCOPE OF SOCIAL SCIENCE 168 (L. Krimerman ed. 1969) (showing how the social sciences are "inferior" to the natural sciences).

There are reasons why economic models are not as precise as those of the natural sciences:

> After all, the economic universe is not to be supposed as stable as the physical universe. The empirical relationships of the former are continuously changing in consequence of unforeseeable sweeps of fashion and public opinion, of new industrial techniques, of large-scale government intervention, and the actions of foreign powers, to say nothing of the perversities of the weather and the discoveries of new hazards or of deposits of treasure beneath the earth's surface or the oceans.

E. MISHAN, *supra* note 43, at xiv.

However elegant and sophisticated economic theories may be, their predictive ability and practical utility may be quite limited:

> Consider . . . that part of the neoclassical research program that comes closest in matching the rigor and elegance of quantum physics, the modern theory of consumer behavior based on the axioms of revealed preference, to which a long line of great economists have devoted their most intense efforts. There is little sign, as we have seen, that these prodigious labors have had much impact on the estimation of statistical demand curves. Even if this much is denied, it can hardly be argued that the quantity and quality of intellectual effort devoted to rationalizing the negative slope of the demand curve over the last ninety years has been in due proportion to its practical fruits in empirical work.

M. BLAUG, *supra* note 61, at 255.

77. *See* L. THUROW, *supra* note 64, at 20; Heilbroner, *supra* note 57, at 133-34. The problem of dealing with sentient objects of study, aside from their cunning and obstinacy, is the difficulty of designing experiments to test these objects in a meaningful way. For example,"[m]any economists are prepared to accept the possibility that the preferences of individual consumers change significantly. The problem is that this openmindedness cannot be translated into research in an acceptable way. The study of consumption is one of the weaker areas of performance of contemporary economics." B. WARD, *supra* note 64, at 123.

judgments to function.[78] Because value judgments may vary greatly depending on the human being making them, economic analysis cannot be objective in the sense that the analyses by different individuals will usually generate similar solutions. Rather, different analysts often arrive at differing conclusions. A major characteristic of the law and economics approach is its reluctance to admit the preeminent role of value judgments in the application of economic concepts to law. This is evidenced by the use of economic myths to provide "answers" to legal problems. Unfortunately, economic myths obscure the value-laden nature of economic analysis; they provide relatively effortless and objective "answers" only at the price of injecting value judgments.

For example, saying that a "market"[79] takes care of the problem (or answers the question) of allocating particular "goods" such as adoptable babies[80] implicitly voices a value judgment about whether our society should condone that kind of market and the type of side effects[81] which that market would generate. Others may have a different value judgment and would reject a market in which human flesh is bought and sold, because it implicitly downgrades the integrity of human life to that of a mere commodity. Although the "priceless value of human life" may be a social fiction, it is an important fiction, one that reflects societal ideals about what ought to be.[82] Using the myth of markets to provide an easy answer simply mirrors the personal view of the analyst.

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78. *See, e.g.*, Cohen, *supra* note 1, at 1160-63; Kennedy, *supra* note 7, at 387-89, 444-45.

79. *See infra* Part III (myth of markets).

80. *See* Landes & Posner, *The Economics of the Baby Shortage*, 7 J. LEGAL STUD. 323 (1978); Posner, *The Regulation of the Market in Adoptions*, 67 B.U.L. REV. 59 (1987). *But see* Cohen, *supra* note 25 (disagreeing vigorously with Judge Posner's market views). Although Judge Posner does *not* advocate a totally free market in babies, he clearly believes that adoptions should be less regulated and thus closer to the ideal of a free market. *See* Posner, *supra*, at 59-60, 72. But to say that Judge Posner is not in favor of a totally free market hardly diminishes his fervor for market solutions. The issue is always whether one prefers more of a market solution than what already exists because a totally free market is an ideal that can never be achieved. *See infra* notes 168-169 and accompanying text.

81. Side effects that are not accounted for in the costs and benefits measured by a market are called externalities. For a discussion of externalities, *see infra* notes 175, 295, 327 and sources cited therein.

82. *See* G. CALABRESI & P. BOBBITT, TRAGIC CHOICES 17-28 (1978). *But see* Posner, *supra* note 80, at 70-72 (doubting the importance of symbolism against a freer market in adoptable babies).

Consider also the myth of efficiency, which masks personal beliefs at various stages.[83] Efficiency analysis concerns the optimal allocation of resources (e.g., land, labor, commodities, and capital) in society.[84] Value judgments are made in defining efficiency, in accepting the distribution of wealth, in determining the efficient solution, and in generalizing from the specific case to all of society. The last two of the foregoing exercises of human judgment typically involve arriving at the "efficient" solution for a single situation and declaring that the solution promotes the optimal allocation of resources for all of society.[85] But the promotion of value judgments is inevitable when scholars analyze individual situations and emerge with sweeping generalizations and policy recommendations. Although many may reasonably believe that society as a whole is made more efficient by solving a particular problem, there is nothing objective about that conclusion.

The emphasis on a myth like efficiency is itself a value judgment, however reasonable the emphasis might be in particular cases. When Judge Easterbrook and Professor Fischel argue that efficiency justifies corporate takeovers,[86] they express a value judgment about the motivation of corporate raiders and the outcome of corporate takeovers. Even assuming that successful takeovers result in more profitable companies,[87] the efficiency is myopic since it measures only the profitability of target companies before and after takeovers; the anterior and posterior profitability of the class of target companies may not reflect the efficiency of (or optimal allocation of resources in) society as a

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83. *See supra* note 30 (discussing the concept of efficiency).

84. Seita, *supra* note 29, at 86 & nn.20-21.

85. While

> efficiency analysis in theory considers effects upon society at large, it in practice usually focuses upon separate, isolated events. By demonstrating efficient changes for individual cases, scholars often assume they have shown efficient changes for all of society. Third-party effects are conveniently ignored, and no uncertainty shakes the belief that what is true in particular must also be true in general.

Id. at 100 (footnote omitted). For examples of this tendency, see A. POLINSKY, *supra* note 4, at 15-25; R. POSNER, *supra* note 29, §§ 3.1, 3.4, 4.1, 4.9, 5.2, 6.1, 6.3, 6.9, 6.12, 6.15.

86. *See, e.g.*, Easterbrook & Fischel, *The Proper Role of a Target's Management in Responding to a Tender Offer*, 94 HARV. L. REV. 1161, 1182-88 (1981). *See generally* R. POSNER, *supra* note 1, § 14.7 (discussing tender offers).

87. The desire on the part of a corporate raider to increase profits may not be the only or even the dominant motive in corporate takeovers. *See, e.g.*, H. LAMPERT, TILL DEATH DO US PART: BENDIX VS. MARTIN MARIETTA (1983).

whole.[88] While many commentators may well agree that corporate takeovers should occur, the how and when are subjects of considerable debate[89] and are subject to value judgments.

With a myth like efficiency, there is always the temptation to jump from "efficiency" for a specific case to "efficiency" for all of society; but this process of generalization is essentially a leap of faith. If an analyst neglects to emphasize that her value judgments make the leap possible, her solutions may be improperly viewed by an audience as being certain, accurate, and objective, when in fact value judgments unavoidably permeated the analysis.[90]

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88. *See, e.g.*, Easterbrook & Fischel, *supra* note 86, at 1182-88 (arguing, for example, that "tender offers increase social welfare by moving productive assets to higher-valued uses and to the hands of better managers," *id.* at 1182). *See also* Bebchuk, *The Case for Facilitating Competing Tender Offers*, 95 HARV. L. REV. 1028, 1046-50 (1981) (maximizing aggregate social welfare by looking at the effect of takeover rules).

89. *Compare, e.g.*, Easterbrook & Fischel, *supra* note 86 (arguing that the facilitation of competing bids in corporate takeovers is inefficient) *with, e.g.*, Bebchuk, *supra* note 88 (arguing that facilitating competing tender offers is efficient).

90. Judge Posner touts the ability of economic analysis to provide surprising conclusions such as the marginal effect of seatbelts in increasing deaths and injuries to pedestrians and automobile occupants. *See* Posner, *The Economic Approach to Law*, 53 TEX. L. REV. 757, 762 & n.24 (1975). He gives the example of an economist who argues that there are virtually completely "offsetting effects of nonregulatory demand for safety and driver response to [legally mandated safety devices on automobiles]." Peltzman, *The Effects of Automobile Safety Regulation*, 83 J. POL. ECON. 677, 677 (1975). *But see, e.g.*, Crandall & Graham, *Automobile Safety Regulation and Offsetting Behavior: Some New Empirical Estimates*, 74 AM. ECON. REV. 328, 330 (1984) (stating that offsetting behavior appears to be minor compared to the prophylactic effect of safety devices).

But the contribution of economics in analyzing seatbelts and other safety devices is not the conclusion that there may be negative marginal effects for, in theory or in imagination, every act or event has some kind of effect on other acts or events. The contribution of economics would be to point out where there might be substantial effects. The key question is not whether offsetting effects exist but rather how much offsetting behavior actually occurs, for offsetting behavior can be trivial or substantial. *See id.* at 328.

In his treatise on economic analysis, Judge Posner states that "[c]apital punishment is . . . supported (although equivocally) by considerations of marginal deterrence, which requires as big a spread as possible between the punishments for the least and the most serious crimes." R. POSNER, *supra* note 1, at 211. He mentions there is evidence that "the incremental deterrent effect of capital punishment compared with long prison terms . . . is substantial." *Id.* Nowhere is there mentioned the possible offsetting behavior of those murderers who might kill to receive the death penalty. But as one commentator has stated,

> [t]he behavior of the violence-prone minority simply may not correspond to our tidy general theories of human behavior, such as those embodied in the hypothesis that the death penalty deters murder. The evidence suggests that people prone to criminal violence may be as inclined to respond to an increased use of the death penalty by committing more homicides as they are to respond by committing fewer.

Forst, *Capital Punishment and Deterrence: Conflicting Evidence?*, 74 J. CRIM. L. &

Even a widely accepted idea like the "efficient capital market hypothesis"[91] may be efficient only for a limited purpose such as the "proper" pricing of stocks, and not for the optimal allocation of resources in society.[92] Although the evidence for the former seems substantial,[93] assumptions and faith arguably sup-

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CRIMINOLOGY 927, 940 (1983); *see infra* note 263 and accompanying text, and note 296.

One might believe, as Professor Amsterdam has argued, that those individuals who are predisposed to commit murder behave very differently from other members of society:

> You and I ask ourselves: we are not afraid to die? Of course! Would the threat of death, then, not intimidate us to forbear from a criminal act? Certainly! Therefore, capital punishment must be a deterrent. The trouble with this intuition is that the people who are doing the reasoning and the people who are doing the murdering are not the same people. You and I do not commit murder for a lot of reasons other than the death penalty. The death penalty might perhaps also deter us from murdering—but altogether needlessly, since we would not murder with it or without it. Those who are sufficiently dissocialized to murder are not responding to the world in the way that we are, and we simply cannot "intuit" their thinking processes from ours.

Amsterdam, *Capital Punishment*, 5 STAN. MAG. at 47 (1977).

In any event, using the concept of "a deterrent effect" provides no solution to the issue of capital punishment. The concept simply serves to illuminate a key question, one that value judgments and empirical research will answer. *See generally* Gross & Mauro, *Patterns of Death: An Analysis of Racial Disparities in Capital Sentencing and Homicide Victimization*, 37 STAN. L. REV. 27 (1984) (finding racial discrimination, based on the race of the victim, in the imposition of the death penalty in eight states since Furman v. Georgia, 408 U.S. 238 (1972)).

91. *See, e.g.*, Gilson & Kraakman, *The Mechanisms of Market Efficiency*, 70 VA. L. REV. 549, 549-50 & nn.1-6 and sources cited therein (1984) (commenting on the wide acceptance of the efficient capital market hypothesis in legal circles). *See generally* Fama, *Efficient Capital Markets: A Review of Theory and Empirical Work*, 25 J. FIN. 383 (1970) (discussing the efficient capital market hypothesis); W. SHARPE, INVESTMENTS 95-124 (1978) (same).

92. "Capital markets are described as 'efficient' when stock prices fully reflect all available information relevant to their values." Stout, *The Unimportance of Being Efficient: An Economic Analysis of Stock Market Pricing and Securities Regulation*, 87 MICH. L. REV. 613, 613 n.1 (1988). An efficient stock market is thought to be important for its allocational effect, that is, "accurate stock prices are desirable because stock prices influence the production, distribution, and consumption of goods and services in the economy. For this reason, stock market efficiency is regarded as essential to allocative efficiency in the distribution of investment capital and other scarce resources to their most productive uses." *Id.* at 616-17 (footnote omitted); *see, e.g.*, Fischel, *Efficient Capital Market Theory, the Market for Corporate Control, and the Regulation of Cash Tender Offers*, 57 TEX. L. REV. 1, 4-5 (1978).

Professor Stout has argued that this assumption of stock market efficiency being essential to allocative efficiency is incorrect: "Careful analysis indicates that the connection between prices in the public trading markets for stocks and the allocation of real resources is a weak one, and that stock markets may have far less allocative importance than has generally been assumed." Stout, *supra*, at 618 (footnote omitted).

93. *See* sources cited *supra* note 91.

port the latter.[94] And curing one economic problem among several existing ones may not necessarily lead to an overall improvement in society, even though most of us may readily believe that to be true based on our experience and education. Such a belief, however, is a value judgment.

For example, Professor Hovenkamp provides an illustration in which an improvement of competition in one market fails to make the economy as a whole more efficient when all markets are imperfect in the first place (a reasonable assumption since we live in an imperfect economic world[95]):

> Suppose, for example, that copper and aluminum can both be used to make a particular type of tubing. The competitive price of the copper tubing is $2.00 per foot and the competitive price of the aluminum tubing is $1.50 per foot. At those prices most buyers prefer the aluminum and will buy it. However, both tubing markets are monopolized. The monopoly price of the copper tubing is $3.00 per foot and of the aluminum tubing is $2.50 per foot. In this doubly monopolized market most customers who would buy aluminum in the competitive market continue to buy it.
>
> Suppose the government intervenes under the antitrust laws and destroys the copper monopoly but not the aluminum monopoly. The price of copper drops to $2.00, but the price of aluminum remains at $2.50. Now most of these customers switch to copper. The destruction of only the copper monopoly may actually be inefficient—that is, more inefficient substitutions are made after the monopoly is destroyed than when both products were monopolized. This is because the welfare effects of these two monopolies tended to cancel each other out. The overall welfare effects of monopoly cannot be known unless we have complete information about every market affected by the change from monopoly to competition, or vice-versa.[96]

This analysis, which is based on the "problem of second best,"[97] suggests that in an imperfect world with innumerable

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94. *See supra* note 92.

95. Real markets never satisfy all the conditions required for perfect competition. Monopolies, oligopolies, economies of scale, legal restrictions (such as patents, entry restrictions in utilities, quotas or tariffs on foreign goods), and other characteristics of the real world prevent perfect competition. *See, e.g.*, P. SAMUELSON & W. NORDHAUS, *supra* note 24, at 503-11. *See generally* notes 171-77 and accompanying text (discussing perfect competition).

96. H. HOVENKAMP, ECONOMICS AND FEDERAL ANTITRUST LAW 38 (1985).

97. *See id.* at 37-39. The problem of second best was first explicitly formulated in a comprehensive theory by Professors Lipsey and Lancaster. *See* Lipsey & Lancaster, *The*

interconnected markets we by necessity must *assume* that an economic improvement in one situation leads to an overall improvement for society. The problem of second best is troublesome because it can disqualify all economic analysis,[98] if we assume that economic analysis should provide reliable predictions. The problem of second best implies that economic theory cannot provide objectively certain conclusions. Economic analysis is still useful, however, if assumptions are made and value judgments are inserted.[99]

Finally, when economic myths like efficiency provide "satisfactory" answers for some legal problems, those problems are likely to involve value judgments for which there is wide social agreement. For example, because our society generally believes

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General Theory of Second Best, 24 REV. ECON. STUD. 11 (1956); *see also* Davis & Whinston, *Welfare Economics and the Theory of Second Best*, 32 REV. ECON. STUD. 1 (1965) (discussing some implications of the theory of second best); E. MISHAN, COST-BENEFIT ANALYSIS: AN INFORMAL INTRODUCTION 100-110 (3d ed. 1982) (same). In their article, Lipsey and Lancaster presented the "theory of second best":

> The general theorem of the second best states that if one of the Paretian optimum conditions cannot be fulfilled a second best optimum situation is achieved only by departing from all other optimum conditions. It is important to note that in general, nothing can be said about the direction or the magnitude of the secondary departures from optimum conditions made necessary by the original non-fulfillment of one condition. Consider, for example, a case in which the central authority levies a tax on the purchase of one commodity and returns the revenue to the purchasers in the form of a gift so that the sole effect of the tax is to distort relative prices. Then all that can be said in general is that given the existence and invariability of this tax, a second best optimum can be achieved by levying some system of taxes and subsidies on all other commodities. The required tax on some commodities may exceed the given tax, on other commodities it may be less than the given tax, while on still others a subsidy, rather than a tax, may be required.
>
> It follows from the above that there is no *a priori* way to judge as between various situations in which none of the Paretian optimum conditions are fulfilled. In particular, it is *not* true that situation in which all departures from the optimum conditions are of the same direction and magnitude is necessarily superior to one in which the deviations vary in direction and magnitude. For example, there is no reason to believe that a situation in which there is the same degree of monopoly in all industries will necessarily be in any sense superior to a situation in which the degree of monopoly varies as between industries.

Lipsey & Lancaster, *supra*, at 12 (footnote omitted) (emphasis in original).

98. *See* H. HOVENKAMP, *supra* note 96, at 38-39.

99. In his treatise on economic analysis of law, Judge Posner discusses the problem of second best in one footnote and dismisses it by stating that "[t]he empirical significance of this type of problem . . . is dubious." R. POSNER, *supra* note 1, at 255 n.1. *See also* H. HOVENKAMP, *supra* note 96, at 38-39 & n.6 (concluding that the problem of second best is insignificant); Areeda, *Introduction to Antitrust Economics*, 52 ANTITRUST L. J. 523, 531 (1983) (same).

that a person should keep his word, using efficiency to justify compensation for damages resulting from breach of contract[100] causes little controversy or harm.[101] Compensation, the solution proffered by law and economics, is "correct" because it is a result acceptable across the spectrum of political[102] and legal[103] interests that shape a social response. But since most, if not all, of the interesting and important legal problems involve conflicting or differing social views about appropriate solutions, economic myths have limited utility for resolving these problems.

C. *The Abstract Theoretical Nature of Economic Analysis of Law*

Just as economics is criticized for its abstract theories which are remotely connected to reality, economic analysis of law is also criticized for its detachment from reality, for analysis in a "vacuum of fact."[104] This criticism is closely related to the first

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100. *See* Seita, *supra* note 29, at 84-86 & nn.17-21.

101. Even here, while the answer generated by economic analysis may find social approval, the answer may be arrived at by other rationales. *See, e.g.*, C. FRIED, CONTRACT AS PROMISE (1981) (arguing that contracts should be enforced as a matter of morality).

102. By "political" interests, this article refers to the executive and legislative branches of government and the forces that influence them.

103. By "legal" interests, this article refers to the judicial branch and quasi-judicial elements of government and the forces that influence them.

104. *See, e.g.*, Kripke, *supra* note 7; *cf.* Tullock, *Two Kinds of Legal Efficiency*, 8 HOFSTRA L. REV. 659, 668 (1980) (commenting on the tendency of proponents of law and economics to say "that because of transaction costs this particular [common law] rule is the most efficient [when in fact] [i]t may or may not be [since] the only way to tell is to engage in careful research"). In two previous articles, Dean Thomas Jackson and Professors Anthony Kronman and Alan Schwartz had applied economic (primarily efficiency) analysis to the issue of secured debt. *See* Jackson & Kronman, *Secured Financing and Priorities Among Creditors*, 88 YALE L.J. 1143 (1979); Schwartz, *Security Interests and Bankruptcy Priorities: A Review of Current Theories*, 10 J. LEGAL STUD. 1 (1981). In his article, Professor Kripke criticized these three scholars for their analysis "in a vacuum of fact":

> [Their] articles proceed in a world of academic reasoning reminiscent of the cloister and unfounded on any discussion of the factual world of commerce. They do not display an understanding of the role played by the system of secured financial credit in developing a distribution system for the great outpouring of goods that has occurred in the past century.
>
> . . . .
>
> The two articles under discussion are notable for their use entirely of examples with assumed facts made up to illustrate their theories and for the absence of any attempt to determine whether these factual assumptions are typical of real world events.

Kripke, *supra* at 931, 961. *But see* Jackson & Schwartz, *Vacuum of Fact or Vacuous Theory: A Reply to Professor Kripke*, 133 U. PA. L. REV. 987 (1985).

criticism concerning the preeminence of value judgments; reliance on abstract theories necessarily means that the theorist or model builder will inject her personal views of how human beings and institutions will act. Moreover, in the rare event that empirical data is used, because the data involves human activities, the interpretation of such data is value laden as well. Economic myths are attractive because they, in combination with abstract theories, will generate any conclusion an analyst wants and make legal analysis relatively routine.[105]

Even proponents of economic analysis recognize the abstract nature of economic analysis of law and the fundamental importance of assumptions. For example, Professor Hansmann has remarked that

> [t]he best way to keep theories from straying too far from reality is to undertake empirical tests of them. Unfortunately, this remains an area of weakness for law-and-economics scholarship. For example, after more than two decades of law-and-economics scholarship in the area of torts, there have appeared only a handful of empirical tests of the theories that have been so carefully developed and strongly debated. And in the more recently developed field of contract law, there is virtually nothing.
>
> Much of the theoretical work in torts and contracts is sensitive to the strong assumptions made in such work concerning the degree to which individuals are influenced by the incentives created by alternative sets of legal rules. . . . Yet we still have very little idea of the extent to which individual behavior is affected by tort rules.
>
> Similarly, we have very little idea of how sensitive contractual behavior is to the prevailing rules of contract law. . . .
>
> If we are not to become enchanted by a group of models whose primary attraction lies not in their semblance to reality but just in their formal elegance, then a great deal more effort at testing these models seems called for.[106]

Conclusions drawn from an abstract model depend exclu-

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105. While economics normally utilizes sophisticated mathematics to analyze diverse topics, the economic analysis of law generally favors a simpler qualitative approach in analyzing legal issues. *Compare* K. ARROW & F. HAHN, *supra* note 1 (economics) *and* A. SEN, CHOICE, WELFARE AND MEASUREMENT (1982) (economics) *with* C. GOETZ, *supra* note 4 (law and economics) *and* R. POSNER, *supra* note 1 (law and economics). This approach usually applies basic microeconomic principles in an intuitive and non-mathematical way to solve legal issues.

106. Hansmann, *supra* note 2, at 231-32 (footnotes omitted).

sively upon its assumptions.[107] Consider, for instance, the argument that Professor Priest made over a decade ago that "the common law process incorporates a strong tendency toward efficient outcomes."[108] In his article, Priest asserted "that efficient rules will be more likely to endure as controlling precedents regardless of the attitudes of individual judges toward efficiency, the ability of judges to distinguish efficient from inefficient outcomes, or the interest or uninterest of litigants in the allocative effects of the rules."[109] Professor Priest then constructed a mathematical model[110] which supported his theory of a common law evolving toward efficiency.[111] The crucial part of Professor Priest's analysis turned, however, on the assumptions he made, not on his mathematics which were rather straightforward.[112]

"[E]ssential to the theory"[113] was the assumption that a greater percentage of inefficient rules would be litigated than that of efficient rules.[114] Demonstrating the abstract nature of economic analysis of law, Priest offered no empirical evidence to support his assumption. But he justified his assumption on the basis that inefficient rules, by definition, were more costly to the set of parties covered by these rules[115] and that therefore "there is likely to be more litigation among those [disputes] arising under inefficient rules (because the stakes are higher or the number of disputes greater) than among those arising under efficient rules."[116]

Professor Priest made further assumptions as follows:

> Other characteristics besides the stakes that influence the litigation-settlement ratio—such as differences between the par-

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107. *See* Fiss, *supra* note 6, at 2-5.

108. Priest, *supra* note 29, at 81.

109. *Id.* at 65.

110. *See infra* note 119.

111. *See supra* note 29 (discussing the myth of a common law evolving toward efficiency). "Efficiency" itself is another economic myth. *See supra* note 30.

112. *See infra* note 119.

113. Priest, *supra* note 29, at 69.

114. *Id.* at 68-69, 72. Professor Priest states that "[t]he only assumption necessary for the hypothesis is that transaction costs in the real world are positive. It *follows* from this assumption that inefficient legal rules will impose greater costs than efficient rules on the parties subject to them." *Id.* at 65 (emphasis added).

115. *Id.* at 65, 67, 71-75.

116. *Id.* at 73. When stakes are greater, however, risk-averse individuals may reasonably believe that it is in their best interest to negotiate a settlement rather than to litigate by submitting a case to a jury. If risk-averse individuals are over represented among those harmed by inefficient rules, settlement may be more likely than litigation.

> ties' expectations of success, aversion to risk, litigation costs, settlement costs, and even characteristics ignored by the economic model of litigation such as differences in the "litigiousness" of the particular individuals or differences in the "litigation skill" of the respective attorneys—can be ignored because they are unlikely to differ systematically between disputes arising under inefficient and those arising under efficient rules.[117]

"If these empirical judgments [were] correct,"[118] Priest's conclusion of a common law evolving toward efficiency was clearly justified.[119]

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117. *Id.* at 67-68.

118. *Id.* at 68.

119. According to Professor Priest's model, the proportion of efficient rules in any period of time is given by the equation

$$X_t = X_{t-1}(1\text{-}b) + a(bX_{t-1} + cY_{t-1}) \qquad \text{[equation one]}$$

where X_t and Y_t represents the proportion of efficient and inefficient rules, respectively, in force at period t; "a", the proportion of efficient rules announced by the judiciary; "b", the rate of relitigation of efficient rules; and "c", the rate of relitigation of inefficient rules. The terms "a", "b", and "c" are assumed to remain constant through all periods. By definition,

$$X_t + Y_t = 1$$

and by Priest's assumption that inefficient rules are relitigated more often than efficient rules,

$$c > b$$

Id. at 70. An unspoken assumption is that $1 > a > 0$.

By substituting $(1 - X_t)$ for Y_t, equation one becomes

$$\begin{aligned} X_t &= X_{t-1}(1 - b + ab - ac) + ac \\ &= [X_{t-2}(1 - b + ab - ac) + ac](1 - b + ab - ac) + ac \\ &= X_{t-2}(1 - b + ab - ac)^2 + ac[(1 - b + ab - ac) + 1] \\ &= [X_{t-3}(1 - b + ab - ac) + ac](1 - b + ab - ac)^2 \\ &\quad + ac[(1 - b + ab - ac) + 1] \\ &= X_{t-3}(1 - b + ab - ac)^3 \\ &\quad + ac[(1 - b + ab - ac)^2 + (1 - b + ab - ac) + 1] \end{aligned}$$

or

$$X_t = X_0(1 - b + ab - ac)^t + ac[(1 - b + ab - ac)^{t-1} + (1 - b + ab - ac)^{t-2} \ldots + (1 - b + ab - ac) + 1]$$

where X_0 equals the proportion of efficient rules in the initial base period. *See id.* Professor Priest then rewrites the equation by letting

$$Z = (1 - b + ab - ac)$$

and substituting for Z in the equation to have

$$X_t = X_0Z^t + ac(Z^{t-1} + Z^{t-1} \ldots + Z + 1) \qquad \text{[equation two]}$$

Id.

He then states that $Z < 1$ since $0 < b$ [the actual text has a typographical error stating that $0 > b$, *id.*] and $(1 - b) < 1 + a(c - b)$. Thus, Professor Priest concludes that the limit of X_t, as t approached infinity, converged to an equilibrium value

$$X_t = ac/b - ab + ac \qquad \text{[equation three]}$$

Even assuming that Professor Priest's theory is correct, a

Id. However, everything after the dividing line "/" should more accurately be in parentheses to avoid any misinterpretation, as in equation five below.

Although Professor Priest does not show the intermediary step leading to the equilibrium value, standard techniques for arriving at the limit of an infinite series can be used to prove his result. For example, equation two is multiplied by the factor (1 - 1/Z) to arrive at

$$X_t - X_t/Z = X_0Z^t + ac\,(Z^{t-1} + Z^{t-2} + \ldots Z + 1) - [X_0Z^{t-1} + ac(Z^{t-2} + Z^{t-3} + \ldots 1 + 1/Z)]$$

or

$$X_t - X_t/Z = X_0Z^t - X_0Z^{t-1} + acZ^{t-1} - ac/Z$$

which reduces to

$$X_t - X_t/Z = - ac/Z \qquad \text{[equation four]}$$

since $Z < 1$, and the limits of Z^t and Z^{t-1} are zero as t approaches infinity. *See* G. THOMAS & R. FINNEY, CALCULUS AND ANALYTIC GEOMETRY §§ 16-3, 16-4 (1979) (discussing limits and infinite series).

Equation four can be manipulated to become

$$X_t(Z - 1)/Z = - ac/Z$$

or

$$X_t = - ac/(Z - 1) = ac/(1 - 1 + b - ab + ac) = ac/(b - ab + ac) \qquad \text{[equation five]}$$

which is the same as equation three but with clarifying parentheses. Professor Priest then provides data showing that as different values for a, b, and c are inserted into equation three, the equilibrium values for X_t will always be greater than "a", the proportion of efficient rules that the judiciary itself prefers. Priest, *supra* note 29, at 65, 71. Although Priest does not mathematically state why this would necessarily be true, it is easy enough to show by looking at equation seven below.

Professor Priest finally concludes from equation three that

> [a]s expected the proportion of efficient rules in equilibrium will increase with increases in the judicial bias toward efficiency and with increases in the relitigation rate of inefficient rules. It will decline with increases in the relitigation rate of efficient rules:

$$\frac{\partial X_t}{\partial a} \geq 0 \quad \frac{\partial X_t}{\partial c} \geq 0 \quad \frac{\partial X_t}{\partial b} \leq 0 \qquad \text{[equation six]}$$

Id. at 70 (brackets added). After differentiating equation three with respect to a, b, and c, the partial derivatives can be proven by inspection since, by assumption, $c > b$ and $1 > a > 0$. *See* G. THOMAS & R. FINNEY, *supra*, § 13-2 (showing the differentiation of a dependent variable when it is a function of several independent variables).

While the predictions of Professor Priest's theory are straightforward given his initial assumption that $c > b$, this assumption has no basis in fact. With the contrary assumption, that efficient rules are relitigated more often than inefficient rules, then

$$b > c$$

and equation five

$$X_t = ac/(b - ab + ac)$$

will have values that are always less than "a". That is, regardless of how much the judiciary may prefer efficient rules, the equilibrium share of efficient rules will always be less than the judicial preference for efficient rules. This would be a common law evolving toward *inefficiency*.

preliminary objection might be that because the rate at which the common law evolves toward efficiency depends on many factors,[120] a combination of them in the wrong direction could make the rate of evolution rather slow.[121] Efficiency delayed is the same as inefficiency.

But the obvious problem with Priest's theory is his assumption that the relitigation rate of inefficient rules would be higher than that of efficient rules.[122] In the absence of empirical data, it is only Professor Priest's armchair theorizing or "just-so" story which provides the justification for his model. Another analyst might have a different theoretical view of reality, that is, a contrary view about relitigation rates.

For example, if judges are predisposed toward inefficient rules, those persons benefited by inefficient rules and harmed by efficient rules are likely to relitigate the efficient rules. These persons would have a very strong incentive to relitigate efficient rules, and by assumption, the odds would favor these individuals. Although inefficient rules would impose greater joint costs upon all the parties, such costs would be irrelevant to the party

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The relationship between X_t and "a" can be expressed as

$$X_t > a$$

or by substitution from equation five

$$ac/(b - ab + ac) > a \qquad \text{[equation seven]}$$

which is the equation to be proven. If equation seven is true, manipulations of it will not have a contradiction. So equation seven becomes

$$c/(b - ab + ac) > 1$$

or

$$c > (b - ab + ac) = b(1 - a) + ac$$

then

$$c(1 - a) > b(1 - a)$$

which can only be true if $c > b$ since $1 > a > 0$. However, when $b > c$, there is a contradiction, and the inequality

$$X_t < a$$

turns out to be the correct relationship. The partial derivatives in equation six above remain the same whether $c > b$ or $b > c$.

120. Priest, *supra* note 29, at 81.

121. Furthermore, efficiency is a label that can mask the extent to which there is an improvement in position. An improvement either of 10% or of 20% would be an efficient change, but presumably the latter would be preferred. *See* Seita, *supra* note 29, at 100 & n.54.

122. There are other academics who would agree with Priest that inefficient rules are litigated more frequently than efficient ones. *See, e.g.*, Terrebonne, *supra* note 29, at 403-404. But their conclusions are also based on "just-so" stories—abstract analysis with assumptions and no data. *See, e.g., id.* at 397-407.

benefited by inefficient rules; he would be concerned only with his individual gain not joint losses.[123]

After all, does the monopolist care about maximizing social welfare when he benefits more by monopoly pricing?[124] The self-interest of a rational person[125] would necessarily lead a person like a monopolist to pursue his own welfare. A rational person realizing the bias of the judiciary would channel his efforts and resources into a position to take advantage of the judiciary's foolishness. Nevertheless, one might agree with Priest's conclusion in the sense that common law rules are getting better with time.[126] But that is a value judgment and is not proved by objective fact.

Professor Priest's analysis is indicative of a common attitude among proponents of economic analysis of law. Like their economist counterparts,[127] law and economics advocates emphasize the importance of the predictive and explanatory power of the law and economics model over the realism of the model.[128] Whether the model bears any resemblance to reality or whether there is any real-life reference is unimportant, compared with the ability of the model to provide predictions and explanations.

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123. The desire for individual gain and the disinterest in joint losses are common human characteristics. This behavior can found in many theoretical economic models, including that of the prisoner's dilemma in game theory. *See, e.g.*, J. HIRSHLEIFER, *supra* note 24, at 283-86 (discussing game theory, strategic behavior, and the prisoners' dilemma); E. MANSFIELD, *supra* note 30, at 346-51 (same); DICTIONARY OF ECONOMICS, *supra* note 30, at 166 (same). *See generally* M. DAVIS, GAME THEORY: A NONTECHNICAL INTRODUCTION (rev. ed. 1983) (a nontechnical intrduction to game theory); R. LUCE & H. RAIFFA, GAMES AND DECISIONS (1957) (a readable though mathematical introduction to game theory); J. VON NEUMANN & O. MORGENSTERN, THEORY OF GAMES AND ECONOMIC BEHAVIOR (3d ed. 1953) (a complex mathematical discussion of game theory).

124. A monopolist has the ability to influence the market price of the goods or services it sells. *See* DICTIONARY OF ECONOMICS, *supra* note 30, at 286. In its pursuit of maximum profits, the monopolist reduces total social welfare and benefits while society as a whole, including the monopolist, suffers. *See, e.g.*, J. HIRSHLEIFER, *supra* note 24, at 233-37 (showing that a monopoly reduces consumer and producer surplus); E. MANSFIELD, *supra* note 30, at 297-99 (same); P. SAMUELSON & W. NORDHAUS, *supra* note 24, at 518-20 (same).

125. *See supra* note 27; *infra* notes 257-59. (discussing the myth of the rational person).

126. Indeed, one should hope that the common law is generally getting better with time, both from efficiency and equity standards. A better common law, all other things being equal, should result in a better society. The previous statements are, of course, full of value judgments.

127. *See* M. FRIEDMAN, *The Methodology of Positive Economics*, in ESSAYS IN POSITIVE ECONOMICS, *supra* note 61, at 3, 7-43 (defending the use of unrealistic assumptions in economic theory).

128. *See, e.g.*, R. POSNER, *supra* note 1, at 15-17; Fiss, *supra*, note 6, at 3.

Although they will give formal respect to the need for some realistic assumptions in a model,[129] proponents of economic analysis of law are more infatuated with abstract models than with reality. Some proponents "are notable for their use entirely of examples with assumed facts made up to illustrate their theories and for the absence of any attempt to determine whether these factual assumptions are typical of real world events."[130]

Perhaps this infatuation could be justified if abstract models provided predictions and explanations about the law that were generally superior to other perspectives or analytic approaches. But that superiority cannot be established; "superiority" has little meaning when abstract models are drenched with value judgments, for "value judgments in, value judgments out."[131] It is important that a model conforms reasonably well with the reality the model attempts to describe. Otherwise, the results of a model, although accurate today, may be erroneous in the future.[132] "[P]olicy recommendations based on economic theories must be tied to empirical studies and these studies [are not] easy."[133]

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129. *See, e.g.*, R. POSNER, *supra* note 1, at 15-17.

130. Kripke, *supra* note 7, at 961.

131. In mathematics and the natural sciences, there is a roughly analogous saying, "garbage in, garbage out." The superiority of economics over other social sciences, assuming "superiority" can be defined, is hardly a universal conclusion. *See, e.g.*, D. MUELLER, *supra* note 1, at 5 (stating that "the degree to which economic models of democracy offer superior explanatory power is still in doubt," *id.*); *cf. supra* notes 68-69 and accompanying text (discussing the limited usefulness of economics in solving important problems).

132. A model whose predictions are currently accurate but without any empirical basis may mean that the model's accuracy is merely the outcome of chance. In such a case, the model's future predictions are unlikely to be correct. We are all familiar with the example of election pundits pointing to certain towns that are bellwether districts, usually providing a majority vote for the winning candidate in a presidential election. While some towns may very well be true bellwethers, more are likely to be examples of correlation rather than clairvoyance. In a country the size of the United States, there are tens of thousands of towns. *See* 1989 STATISTICAL ABSTRACT, *supra* note 65, at 266, table no. 445 (listing nearly 36,000 municipal and township governments in 1987). By random chance alone, there are bound to be many towns with a record for predicting presidential winners, even as many as ten winners in a row. The probability of guessing the winners of ten presidential elections in a row would be one in 2^{10} or one in 1024. *See* C. HOLLOWAY, DECISION MAKING UNDER UNCERTAINTY: MODELS AND CHOICES 228-34 (1979) (discussing binomial distributions). There might be as many as 35 towns which would be bellwether towns by random chance alone. But with each new election, the number of such towns will decrease if there is simply a correlation between voting and winners rather than a prescience in voting for winners.

133. Kripke, *supra* note 7, at 984.

D. The Proper Role of Economics in the Law

There are few who would deny the utility of economics in law. Professor Areeda has pointed to some of the technical contributions that economists can make: gathering data about markets and business operations, organizing economic data intelligently, applying statistical techniques to data, and so on.[134] At the same time, he emphasizes that the general importance of economic analysis is to illuminate an issue that has been obscured by layperson intuition:

> I say "illuminate" rather than "resolve" because the ultimate legal resolution will almost inevitably turn on estimates and judgments about reality, which economists are divided on or which judges are equally qualified to decide. Furthermore, the legal issue may also turn on matters of statutory interpretation, characteristics of the legal system, or other matters of policy on which "economic science" has little to contribute.[135]

"But, unfortunately, Professor Areeda's calm advice is not all one hears today about how to use economics. Some economic theories are being propounded as beguiling concepts to avoid further thinking and looking at the facts."[136]

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134. Areeda, *supra* note 99, at 532.

135. *Id.* at 533. Professor Areeda then goes on to

> emphasize four obvious limitations of economics in the formulation of legal rules. First, simple deductions from perfect competition models must be received with caution, although not rejected, when perfect competition does not prevail; and it often does not. Second, the assumption that all actors always maximize profits and know what will maximize profits is not always justified. However, the policy implications of nonprofit maximization or ignorance are themeselves [sic] very complex. Third, the most "competitive" answer in the short-run unchanging world of standard microanalysis is not necessarily the best answer in the long-run dynamic world where strategic considerations abound and where entrepreneurship and innovation may be our greatest salvation. Fourth, the legal system inevitably operates in a world where the real facts are obscure and where only rough assessments are possible, and where relatively simple rules are necessary to guide private action and to permit courts to act with a modicum of consistency.

Id. at 533-34.

136. Millstein, *supra* note 16, at 539. Ira Millstein makes these final remarks about the proper role of economics:

> Economists are needed to organize facts and explain them, economic theory to illuminate an issue by helping us to explain a factual situation and understand the potential consequences of certain stimuli on human behavior. All are perfectly proper and immensely useful.
>
> But economic theory as the final arbiter of policy or as the resolver of the problem, regardless of the facts and the context: No. That would be a misuse of a useful tool. People are too complex, and competing considerations too im-

Economic myths are constantly used as magical tools of legal analysis without appropriate allowance for their limitations, especially their overwhelming reliance on human values. While the application of these myths may provide preliminary and tentative answers to legal issues, these "answers" are dependent upon personal beliefs. Value judgments inevitably provide the ultimate answers to important legal issues. These ultimate answers are "ultimate" and are "answers" only in the sense that our society arrives at a solution to a legal issue after political and legal processes have considered and weighed competing values.

The danger of misconstrued economic ideas can be great; as Lord Keynes pointed out long ago, economic ideas have powerful effects:

> [T]he ideas of economists and political philosophers, both when they are right and when they are wrong, are more powerful than is commonly understood. Indeed the world is ruled by little else. Practical men, who believe themselves to be quite exempt from any intellectual influences, are usually the slaves of some defunct economist. Madmen in authority, who hear voices in the air, are distilling their frenzy from some academic scribbler of a few years back.[137]

Ours is a complex world in which everything depends on everything else. This interdependence makes many analyses incapable of producing quick and easy solutions. Bandying words like "efficiency," "rational person," and "marginal analysis" will not resolve issues; these concepts begin the analysis. Invariably, personal beliefs fix the agenda of the analysis. In Parts III and IV, this article illustrates the value-laden nature of two economic myths, that of markets and that of quantifiable costs and benefits.

III. Myth of Markets

The myth of markets[138] contends that a wide range of things

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portant, to rest everything on theory, no matter how fervently supported. *Id.* at 550.

137. J. Keynes, The General Theory of Employment, Interest, and Money 383 (1964).

138. This myth is different from the economic concept of efficient capital markets in which the market price of securities is said to reflect all public and often private information about these securities. *See generally* Fama, *supra* note 91 (discussing the efficient capital markets hypothesis); W. Sharpe, *supra* note 91, at 95-124 (same). The effi-

can be conceptualized as "commodities" to be allocated by a market, even qualities such as justice, friendship, honesty, and moral tenets.[139] Items not normally considered market commodities by the general public are viewed under this myth as items potentially subject to a market, a place where they may be bought and sold.[140] Theoretically, anything and everything can

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cient capital markets hypothesis has been discussed in a number of legal articles. *See, e.g.*, Note, *The Efficient Capital Market Hypothesis, Economic Theory and the Regulation of the Securities Industry*, 29 STAN. L. REV. 1031 (1977); Note, *Broker Investment Recommendations and the Efficient Capital Market Hypothesis: A Proposed Cautionary Legend*, 29 STAN. L. REV. 1077 (1977); Weiss & White, *Of Econometrics and Indeterminacy: A Study of Investors' Reactions to "Changes" in Corporate Law*, 75 CALIF. L. REV. 551 (1987); FOX, *The Role of the Market Model in Corporate Law Analysis: A Comment on Weiss and White*, 76 CALIF. L. REV. 1015 (1988).

An efficient capital market is thought to be desirable because, for example, "stock market efficiency is regarded as essential to allocative efficiency in the distribution of investment capital and other scarce resources to their most productive uses." Stout, *The Unimportance of Being Efficient: An Economic Analysis of Stock Market Pricing and Securities Regulation*, 87 MICH. L. REV. 613, 617 (1988). *See generally id.* 640-44 & nn. 152-67 (providing the conventional explanation for the importance of efficient stock markets). The link, however, between efficient stock markets and the efficient allocation of resources has been vigorously challenged. *See id. See also* notes 91-94 and accompanying text.

139. *See* Radin, *supra* note 7, at 1855-65 & n.45 and sources cited therein. Nothing is exempt, not even clearly non-commercial things like babies, human organs, or the environment. *Id.* at 1856-57. *See also* G. BECKER, *supra* note 12, at 50-60 (criminal offenses); R. POSNER, *supra* note 1, at 139-40 (human babies). Entitlements, or legal rights, could also be market commodities. *See, e.g.*, Coase, *The Problem of Social Cost*, 3 J.L. & ECON. 1, 19 (1960). *See generally* D'Amato, *Is International Law Really "Law"?*, 79 Nw. U.L. Rev. 1293, 1304 (1985) (defining entitlements as "legally recognized rights"); BLACK'S LAW DICTIONARY 477 (5th ed. 1979) (defining an entitlement as a "[r]ight to benefits, income or property which may not be abridged without due process"). Even moral beliefs can be viewed as market commodities when these beliefs are viewed "as goods and assign[ed] a . . . dollar value." Radin, *supra* note 7, at 1865.

Usually, we think of market commodities as commonly encountered goods, services, or other items available for sale or hire in a clearly defined market. *See, e.g.*, P. SAMUELSON & W. NORDHAUS, *supra* note 24, at 714. *See generally* DICTIONARY OF ECONOMICS, *supra* note 30, at 263 (defining market as "any context in which the sale and purchase of goods and services takes place"). In such a market there are many buyers and sellers with large volumes of the commodity being sold. *See, e.g.*, D. SALVATORE, INTERNATIONAL ECONOMICS 326-28 (2d ed. 1987) (foreign exchange).

For an example of an unusual but commercially related commodity, some scholars contend that there could be a functioning market for *corporate control* but for the obstacles planted by the legislative and judicial branches of government. *See generally* R. POSNER, *supra* note 1, at 385-88 & nn.1-4 and sources cited therein (listing the obstacles to a market in corporate takeovers).

140. P. SAMUELSON & W. NORDHAUS, *supra* note 24, at 43 ("The word *market* taken literally means a place where goods are bought and sold," (emphasis in original)). The market as a vital force in human affairs is not restricted to economics alone; the market has also been an important concept in other social sciences. For a view of the market in history, from economic, sociological, anthropological, and historical perspectives, see gen-

be classified as a market commodity; and the threshold question is whether there already are or could be, except for government interference or transaction costs,[141] functioning markets in these unusual commodities.[142]

Admittedly, having a market in a particular commodity would be quite convenient. The market, not judges or bureaucrats or human beings, would direct the flow of commodities, like human babies and legal rights, from sellers to buyers; and the market would also generate purchase prices.[143] Thus, the major dispute centers on the actual or potential existence of markets for these peculiar commodities which cannot be found at the local retail store.[144]

Proponents of the myth of markets utilize it to attack disfavored policies and to support desired outcomes. Proponents employ two variations of the myth, both of which involve a heavy dosage of value judgments. First, they use the myth to criticize laws, regulations, or court decisions which arose in response to problems perceived to exist by other members of society.[145] Market advocates can attack government intervention as unnecessary and detrimental, arguing that any problem is normally cured by market forces. And if the market fails to address an alleged problem, this means no true problem exists at all, for otherwise, the market would have acted. Thus, proponents can use the myth of markets to urge the government to be passive and to ignore complaints raised by nonproponents about the

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erally THE MARKET IN HISTORY (B. Anderson & A. Latham ed. 1986).

141. *See infra* notes 191-198 and accompanying text (discussing transaction costs).

142. *See, e.g.*, Shukaitis, *A Market in Personal Injury Tort Claims*, 16 J. LEGAL STUD. 329 (1987) (arguing for the creation of a market in personal injury tort claims by allowing the free assignability of such claims). The concept of markets has been used to define the extent to which a state may constitutionally favor its citizens by providing state subsidies of local commerce and by restricting the export of groundwater. *See* Gergen, *The Selfish State and the Market*, 66 TEX. L. REV. 1097 (1988).

143. *See supra* note 139.

144. There is no doubt that real markets were and are of tremendous importance. Real markets changed people's ideas, raised their standard of living, and created new job opportunities. *See* THE MARKET IN HISTORY, *supra* note 140. But these markets actually existed, and commodities were actually bought and sold.

145. *See* Easterbrook & Fischel, *supra* note 86 (contending that current laws impeding hostile takeovers may prevent welfare-increasing exchanges and also cause shareholders of a target company to lose a tender premium). *But see* Bebchuk, *supra* note 88 (arguing that current laws which generally facilitate competing bids may maximize social welfare).

scarcity, abundance, absence, or presence of unusual commodities like legal services for prisoners.[146]

This myth is very useful for those who decry government action, especially when the action is *not* from the judiciary, which is thought to act with more efficiency than other branches of government (executive, legislative, or administrative).[147] Justifying government intervention when the myth applies is like satisfying a "Catch 22." After all, when the myth is invoked, the government should do nothing because a market will take care of any problem that anybody complains about, and when nobody complains about a problem, naturally, the government should do nothing.[148] Either way, government action is unjustified for regulation of anything characterized as a "commodity." Conservatives, who generally "assume that market failure . . . is the exception and sporadic,"[149] prefer the myth in this form and use the myth to excuse the status quo.

The second variation of the myth of markets "attempts to reconstruct the likely terms of a market transaction in circum-

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146. *See, e.g., infra* notes 206-237 and accompanying text (analyzing Judge Posner's use of the myth of markets to deny legal representation for a prisoner); Winter, *State Law, Shareholder Protection, and the Theory of the Corporation*, 6 J. LEGAL STUD. 251 (1977) (arguing that Delaware corporate law could not be so lax as to enable corporate managers to exploit shareholders in the absence of similar lax corporate laws in other states because stock investors would react by paying less for Delaware-incorporated companies, that an investor market for protective corporate laws would prevent such lax laws, and that, therefore, lax laws allowing exploitation must not exist). *But see* Weiss & White, *supra* note 138, at 554-57, 602-03 (concluding that "[i]n fact, if not in theory, there is little evidence that there exists an investor-dominated 'market for corporate law,' " *id.* at 603). *See generally* Macey & Miller, *Bank Failures, Risk Monitoring, and the Market for Bank Control*, 88 COLUM. L. REV. 1153, 1202-12 (1988) (discussing the theory of the market for bank control).

147. *See, e.g.*, R. POSNER, *supra* note 1, at 29, 343-46, 495-99; Fiss, *supra* note 6, at 2-5.

148. Understandably, this myth is a favorite argument for those who disdain governmental interference with or regulation of existing business practices. *See, e.g.*, H. MANNE, *supra* note 5 (defending insider trading as promoting efficiency in the stock market and arguing that purchasers of stocks would pay premiums for corporations which allowed insiders to trade on inside information; in other words, the stock market would decide whether insider trading was desired). *See generally* Seligman, *An Economic Defense of Insider Trading*, FORTUNE, September 5, 1983, at 47 (commenting on Dean Manne's theories). At the same time, however, others who decry government prohibitions against existing social practices could use the myth to call for the decriminalization of drugs, pornography, or prostitution. *Cf.* D. RICHARDS, SEX, DRUGS, DEATH, AND THE LAW (1982) (criticizing the excessive criminalization of sex, drugs, and the right to die in American criminal justice); Szasz, *The Morality of Drug Controls*, in DEALING WITH DRUGS: CONSEQUENCES OF GOVERNMENT CONTROL 327 (R. Hamowy ed. 1987) (arguing against the morality of drug controls).

149. Fiss, *supra* note 6, at 7; *see also supra* note 8.

stances where a forced exchange took place—to mimic or simulate the market, in other words."[150] This form of the myth is also heavily used by law and economics proponents to justify judicially created law.[151] Since "many of the transactions either affected or effected by the legal system are involuntary,"[152] mimicking the market result is a process which involves "*guess[es* about] whether, if a voluntary transaction had been feasible, it would have occurred."[153]

Proponents use the myth to construct solutions which a market would have produced in the absence of problems such as transaction costs.[154] To mimic the market, government intervention often becomes necessary, whether by legislation, regulation, or judicial decree. While both conservatives[155] and liberals[156] invoke the myth of markets, liberals are more likely to find market failure which justifies government intervention to mimic the market[157] and to urge the consideration of nonmarket distributional goals.[158]

Naturally, if no market currently exists and no market can ever exist for particular commodities, an analyst necessarily applies a great deal of discretion when recommending policies which mimic the market. Value judgments must be made in mimicking the market. The analyst must believe that mimicking the market is a worthwhile policy, and she must also make assumptions about how the hypothetical market will function.

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150. R. POSNER, *supra* note 1, at 14.

151. *See id.* (stating that mimicking the market is an "approach . . . used very heavily in [Posner's] book [on economic analysis of law]"). Ironically, "[l]aws . . . generally cover situations in which the market is imperfect or nonexistent." Reuter, *supra* note 1, at 856.

152. R. POSNER, *supra* note 1, at 14. For example, "[m]ost crimes and accidents are involuntary transactions, and so is a legal judgment to pay damages or a fine." *Id.* Judge Posner clearly believes that "very few transactions are voluntary" "in the sense that all potential losers have been fully compensated." *Id.*

153. *Id.* (emphasis added). Despite Judge Posner's admission of the importance of assumptions—which include value judgments—his writings ignore that importance. *See, e.g.*, Cohen, *supra* note 1 (criticizing Judge Posner for his refusal to acknowledge the importance of value judgments in his economic analysis of law); Coleman, *supra* note 30, at 242-49 (illustrating conceptual flaws in Judge Posner's economic analysis of law).

154. *See infra* notes 191-198 and accompanying text (discussing transaction costs).

155. *See, e.g., supra* notes 150-153.

156. *See infra* notes 193-198 and accompanying text.

157. *See* Fiss, *supra* note 6, at 7; *see also supra* note 8.

158. *See, e.g.*, G. CALABRESI & P. BOBBITT, *supra* note 82, at 83-92.

A. *The Nature of Markets*

In addition to using the myth of markets in two different ways, proponents rely on two basic types of markets: a *competitive market* from the perfect competition paradigm and an *exchange market* involving voluntary and informed exchanges or trades.[159] If either market exists, the contention that government intervention is unwise makes theoretical sense since functioning markets generally provide the most efficient[160] means of allocating scarce resources in society.[161]

For example, we believe that the prices and outputs of ordinary goods like automobiles, televisions, domestic appliances, and video cassette recorders are best decided by a competitive market rather than by government bureaucrats because these bureaucrats could decide inaccurately what the competitive market provides correctly and automatically.[162] More importantly, a

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159. *Compare, e.g.*, Goetz & Scott, *supra* note 5, at 333-35 (measuring damages for lost profits under conditions of perfect competition) *with, e.g.*, R. POSNER, *supra* note 1, at 9 ("The third basic economic principle is that resources tend to gravitate toward their most valuable uses if voluntary exchange—a market—is permitted."). These two types of markets can become closely related. Under certain conditions, as more parties take part in exchanges or bargains, this situation of proliferating exchanges begins to approximate a competitive market. *See, e.g.*, K. ARROW & F. HAHN, *supra* note 1, at 183-206. Moreover, economists recognize other markets that lie in-between competitive markets and bargains. *See, e.g.*, E. MANSFIELD, *supra* note 30, at 281-84, 316-26, 336-44, 411 (explaining the different markets of monopoly, monopolistic competition, oligopoly, monopsony, monopsonistic competition, and oligopsony). Finally, there are different mechanisms by which bargains and these in-between markets may work. Mester, *Going, Going, Gone: Setting Prices With Auctions*, FED. RESERVE BANK OF PHILADELPHIA, Mar.-Apr. 1988, at 3 (explaining how different types of auctions help markets to work).

160. *See supra* note 30 (discussing the concept of efficiency).

161. A functioning market allows various parties to buy and sell market commodities, whatever the commodities may be. But a market only directs the flow of commodities from sellers to buyers; it does not address distributional issues. The amount of wealth and income that individuals will receive or the initial allocation of market commodities are political issues to be determined by society. *See, e.g.*, Weisbrod, *Collective Action and the Distribution of Income: A Conceptual Approach*, in ANALYSIS & EVALUATION, *supra* note 1, at 177, 178-83. These distributional issues are important because a person's wealth or income is used to purchase market commodities and because the original owners of market commodities, such as inventions, natural resources, and legal rights, may sell those commodities to others.

162. *See* P. SAMUELSON & W. NORDHAUS, *supra* note 24, at 42-43. Even this statement is subject to exceptions. For instance, in time of war, the price and output of various goods may be controlled by the federal government even though functioning markets for these goods exist. The rationale is that these markets fail to consider other external and paramount social goals.

perfectly competitive market maximizes the welfare of society.[163]

However, in the absence of a competitive market which provides impersonally determined prices by the forces of supply and demand, an exchange market is desirable because both parties benefit in a market transaction.[164] For instance, if one party wishes to hire and has the ability to pay for the services of another who in turn wishes to provide such services, a voluntary and informed exchange ensures that the services will be obtained in a transaction mutually beneficial to both parties. The seller provides the services only if he receives a satisfactory price, and the buyer hires the services only if she pays an acceptable price. Thus, while a competitive market is preferred, an exchange market is also attractive to law and economics.

In the real world, because problems grouped under the general heading of *market failure*[165] often severely interfere with

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163. *See* sources cited *infra* note 173.

164. In comparing the costs of running a competitive market (a price system) which automatically generates prices, an exchange market which lets the buyers and sellers bargain over prices, and a command market which sets prices according to dictates of the government, "one of the advantages of a price system over either bargaining or some form of authoritative allocation is . . . the economy in costs of information and communication." Arrow, *The Organization of Economic Activity: Issues Pertinent to the Choice of Market Versus Nonmarket Allocation*, in ANALYSIS & EVALUATION, *supra* note 1, at 60. A related weakness with exchange markets is that the two sides to an exchange might behave strategically and consequently prevent a value-maximizing transaction. *See generally infra* notes 376-380 and accompanying text (discussing strategic behavior). Thus, all else being equal, a functioning competitive market should be preferred to an exchange market.

165. This article uses the phrase "market failure" to describe two situations: first, where markets are imperfect, in that they deviate from the competitive market or exchange market model, and second, where markets fail to provide socially optimal quantities of goods. Since a competitive market guarantees the production of a socially optimal quantity of goods, the first situation may overlap with the second. Further, all other things being equal, an exchange market increases the total welfare of society because an exchange increases the welfare of the parties involved. Technically speaking, however, "market failure" is defined as the "inability of a system of private markets to provide certain goods, either at all or at the most desirable or 'optimal' levels. . . . [and] arises because of (1) NON-EXCLUDABILITY and/or (2) NON-RIVAL CONSUMPTION of a good." DICTIONARY OF ECONOMICS, *supra* note 30, at 264. *See generally infra* note 176 (discussing excludability and nonrival consumption); Bator, *The Anatomy of Market Failure*, in THE THEORY OF MARKET FAILURE, *supra* note 35, at 35 (defining market failure as "the failure of a more or less idealized system of price-market institutions to sustain 'desirable' activities or to stop 'undesirable' activities"); R. POSNER, *supra* note 1, at 343 ("Monopoly, pollution, fraud, mistake, mismanagement, and other unhappy by-products of the market are conventionally viewed as failures of the market's self-regulatory mechanisms and therefore as appropriate occasions for public regulation"). "Market imperfection" is technically "[a]ny deviation from the conditions necessary for PERFECT

markets or prevent them from functioning, both competitive and exchange markets may be highly imperfect or nonexistent.[166] Under these circumstances, and especially in the case of nonexistent markets for unusual commodities, some kind of government intervention may be necessary to allocate and set prices for certain commodities.[167] Such an intervention necessarily involves value judgments; one broad category of value judgments consists of those assumptions used to mimic a market. Thus, an important inquiry is whether either a competitive or exchange market substantially exists for an unusual "commodity." If both are absent, invoking the myth of markets simply involves the mimicking of a market, that is, creating a hypothetical market to allocate unusual commodities.

Another important inquiry is the degree of imperfection in an existing and reasonably functioning market. Presumably, the greater the imperfection, the less likely the benefits associated with competitive and exchange markets will exist.[168] However, every existing market has imperfections to some degree. For example, although there may be a functioning market for hiring legal or medical services, the supply of attorneys and physicians is controlled—not everyone can attend law or medical school, and a license to practice is often limited to a particular jurisdiction. Higher education is a mixture of competition and welfare, with the subsidization of college education possibly preventing a competitive level of higher educational services.[169]

COMPETITION." DICTIONARY OF ECONOMICS, *supra* note 30, at 264. *But see* R. TRESCH, PUBLIC FINANCE: A NORMATIVE THEORY 6-8 (1981) (discussing market failure in terms of a competitive market in which either technical "market failure" and "market imperfection" exist).

166. *See, e.g.*, Arrow, *The Organization of Economic Activity: Issues Pertinent to the Choice of Market versus Nonmarket Allocation*, in ANALYSIS & EVALUATION, *supra* note 1, at 59-60.

167. For example, nonproponents of the myth of markets may urge government action to resolve certain environmental issues. *See, e.g.*, Kennedy, *Cost-Benefit Analysis*, *supra* note 7, at 398-99.

168. This, of course, is a value judgment that chooses to ignore the "problem of second best." *See supra* notes 96-99 and accompanying text (discussing the "problem of second best").

169. Professor Schultz has written that

> [t]he allocation of resources to provide the instructional services of higher education in the United States is neither socially efficient nor equitable. . . .
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> . . . .
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> It could be said that higher education as it has developed in the United States is a "model" of competition and welfare inasmuch as college students have many subsidized options and no college or university has a monopoly of the supply of these educational services. . . .

As for exchanges between two parties, judgment and experience can favor the same party as in the case in which an adult makes a deal with a child or in which a defrauder strikes a bargain with a fool. Even without a disparity of ability between two parties to an exchange, the legally imposed conditions on the exchange may greatly affect the value of the exchange to the parties. A homeowner who can take his time in selling his house will obtain a higher price than the homeowner who has his house sold at a foreclosure.[170]

Thus when one is enamored of an existing market, he is necessarily accepting a market with certain imperfections. Supporting outcomes of existing markets necessarily means that one tolerates current market imperfections. If one advocates an outcome different from that of an existing market, he is merely supporting another market with other imperfections.

B. Competitive Markets

The first type of market included in the myth of markets is a competitive market that approximates a market in which perfect competition exists.[171] The traditional conditions for perfect

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> Direct financial aid to students in 1968 equalled about 4 percent of the total education cost incurred by public institutions and about 8 percent of such cost incurred by private institutions. . . . But the major subsidies are indirect because tuition and fees paid by students covered only 15 percent of the total educational cost in public institutions and 45 percent in private institutions. . . . The welfare implications of this vast subsidization of students are far from obvious.
>
> Since most of the direct costs of higher education in the United States are not paid for by tuition and students fees, there is a strong presumption that the economic organization of higher education has a built-in tendency in terms of efficiency to spend too much on this education socially *unless the benefits that accrue to society*—benefits the students cannot capture privately during their lifetimes—are very large. This presumption is warranted despite the competition referred to above. It is certainly true that the social rates of return and private rates of return are not proportional in all higher educational activities. Furthermore, there is a tendency to transfer wealth in the form of human capital to a select class of the population.

Schultz, *Optimal Investment in College Instruction: Equity and Efficiency*, in INVESTMENT IN EDUCATION: THE EQUITY-EFFICIENCY QUANDARY 2, 2-3 (T. Schultz ed. 1972) (emphasis in original).

170. *See generally* R. JORDAN & W. WARREN, BANKRUPTCY 512-14 (2d ed. 1989) (explaining that the selling price of real property depends on the market conditions in which the reality is sold).

171. *See, e.g.*, Schwartz & Wilde, *Intervening in Markets on the Basis of Imperfect Information: A Legal and Economic Analysis*, 127 U. PA. L. REV. 630, 631-39 (1979) (arguing that contracts made by imperfectly informed consumers should generally be en-

competition are rather stringent: all items sold must be exactly alike in order to avoid product differentiation; there must be numerous buyers and sellers to prevent any one buyer or seller from influencing the market price; entry or exit barriers to the market must be absent to allow resources like labor or raw materials to enter or leave the market quickly; and market participants must have accurate and instantaneous knowledge of important information, such as the market-determined price of the commodity.[172] The virtue of perfect competition is that it efficiently allocates resources and it maximizes the welfare of society with respect to the particular market commodity being sold.[173]

Two other important conditions are also implicit in the concept of perfect competition.[174] First, market prices must account for all costs and benefits associated with the sale of the market commodity.[175] Second, market commodities must not be "public goods" which are freely available to all.[176] If these two condi-

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forced when those contracts involve goods purchased in competitive markets).

172. *See* E. MANSFIELD, *supra* note 30, at 238-39. *See generally* Stigler, *Perfect Competition, Historically Contemplated*, in MICRO-ECONOMICS: SELECTED READINGS 191 (E. Mansfield 5th ed. 1985) [hereinafter MICRO-ECONOMICS] (showing the evolving meaning of perfect competition).

173. *See, e.g.*, E. MANSFIELD, *supra* note 30, at 476-79; R. MUSGRAVE & P. MUSGRAVE, *supra* note 30, at 54-60; P. SAMUELSON & W. NORDHAUS, *supra* note 24, at 482-87; Arrow, *The Organization of Economic Activity: Issues Pertinent to the Choice of Market versus Nonmarket Allocation*, in ANALYSIS & EVALUATION, *supra* note 1, at 47, 49; *cf.* J. HIRSHLEIFER, *supra* note 24, at 233-37 (comparing monopoly with perfect competition).

174. Arguably, the concept of a perfectly competitive market has innumerable minor implicit conditions, from the assumption that the market participants will behave "lawfully" (that is, not simply steal market commodities), to the assumption that an efficient medium of exchange like money will be used. A perfectly competitive market may have difficulty operating without the government providing public goods such as roads and police officers. *See infra* note 176.

175. The first condition is simply another way of saying that externalities are absent. *Externalities*, or more precisely technological externalities, are unmeasured costs and benefits of market commodities. These externalities impair a competitive market because such a market is presumed to take into account all relevant costs and benefits. When certain costs and benefits have no or little effect on market prices, too much or too little of the market commodity may be produced. *See* E. MANSFIELD, *supra* note 30, at 482-85, 503-08 (explaining that when market prices fail to reflect the social costs and benefits of externalities, an inoptimal amount of the market "commodity," such as environmental pollution, may be produced); R. MUSGRAVE & P. MUSGRAVE, *supra* note 30, at 70-73; P. SAMUELSON & D. NORDHAUS, *supra* note 24, at 712-21; DICTIONARY OF ECONOMICS, *supra* note 30, at 144-45; *infra* note 327. *See generally* E. MISHAN, *supra* note 97, at 111-53 (discussing externalities in general); Davis & Kamien, *Externalities, Information and Alternative Collective Action*, in ANALYSIS & EVALUATION, *supra* note 1, at 67-69, 73-77 (discussing technological externalities).

176. The second condition requires that the market commodities are not "public"

tions are not met, an efficient allocation of resources does not occur.[177]

Although these conditions indicate that perfect competition exists nowhere in our world,[178] the ideal of a perfectly competitive market yields useful and accurate predictions when applied to markets that closely resemble it.[179] The stock and foreign exchange markets are often cited by economists as examples which approach perfect competition.[180] In those markets, the commodity sold is the same (for instance, IBM shares or Japanese Yen), there are relatively many buyers and sellers, entry barriers are

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(or "social") goods. Public goods are generally defined to exist when the consumption of such goods is "nonrival," that is, one person's consumption of these goods does not prevent others from also consuming and benefiting from these goods. *See* E. MANSFIELD, *supra* note 30, at 498-99; R. MUSGRAVE & P. MUSGRAVE, *supra* note 30, at 49-51. A "traditional example is the lighthouse. If one ship receives the benefit of the light signal, that in no way deprives others from doing so." J. HIRSHLEIFER, *supra* note 24, at 478. An extreme case of public (or social) goods exists if the consumption of such goods is both nonrival and nonexcludable. *See* E. MANSFIELD, *supra* note 30, at 49-51; DICTIONARY OF ECONOMICS, *supra* note 30, 347-48. *See generally* P. SAMUELSON & W. NORDHAUS, *supra* note 24, at 712-15 (explaining that private goods are generally provided by markets and public goods, by society). The protection of the environment and the provision of national defense are examples of public goods whose consumption is both nonrival and nonexcludable. *See* R. MUSGRAVE & P. MUSGRAVE, *supra* note 30, at 50. The consumption of a good is nonexcludable when the exclusion principle fails to operate:

> [Under the exclusion principle], whether or not a person consumes a good depends on whether or not he or she pays the price. Those who pay for the good can consume it, while those who do not pay cannot consume it. . . .
>
> . . . .
>
> [An example of a public good in which the exclusion principle operates but nonrival consumption applies is] the case of the uncrowded bridge [where] it is perfectly feasible to charge a fee for crossing the bridge, and to prevent people who do not pay from crossing it.

E. MANSFIELD, *supra* note 30, at 498. *See generally infra* note 191 (discussing exclusion costs which are incurred to exclude consumption of goods).

177. *See, e.g.*, E. MANSFIELD, *supra* note 30, at 497, 503. These two conditions, the absence of externalities and of public goods, are arguably essential elements of perfect competition if a perfectly competitive market is to maximize society's welfare. This should be the case because the most important rationale for a perfectly competitive market is that such a market maximizes social welfare. *See supra* note 173 and accompanying text. *But see, e.g.*, E. MANSFIELD, *supra* note 30, at 497 ("A perfectly competitive economy . . . is unlikely to allocate resources efficiently in the production of public goods and of goods that are responsible for important external[ities]").

178. *See, e.g.*, E. MANSFIELD, *supra* note 30, at 239 ("[h]aving described these four requirements, it is obvious that no industry is perfectly competitive").

179. *See* J. HIRSHLEIFER, PRICE THEORY AND APPLICATIONS, *supra* note 24, at 403-08; E. MANSFIELD, *supra* note 30, at 13-16; Hoffman & Spitzer, *Experimental Law and Economics: An Introduction*, 85 COLUM. L. REV. 991 (1985).

180. *See, e.g.*, J. HIRSHLEIFER, *supra* note 24, at 405-06 (describing the New York Stock Market); D. SALVATORE, *supra* note 139, at 344-45 (discussing the efficiency of foreign exchange markets).

relatively low, and reasonably current market prices are known to market participants. There is a vast difference, however, between real-world examples of competitive markets, ones which approach the conditions for perfect competition, and markets of legal issues, especially noncommercial ones, which fit awkwardly into the model of a competitive market. In the latter, problems causing market failure are pervasive.

C. Market Failure in Competitive Markets

Competitive market failure exists when conditions required for perfect competition are substantially absent. In this situation, private markets cannot provide certain "commodities" at all, that is, no market exists, or they cannot furnish commodities at the most desirable or optimal levels for society.[181] Competitive market failure might arise for a number of reasons. Two such reasons are that particular "commodities" simply cannot fit into the competitive market model, and formidable transaction costs prevent a competitive market from functioning.

1. An imperfect fit

A quick look at reality will show that important legal issues rarely, if ever, qualify for a competitive market paradigm whether the issues are actual or potential. Legal issues are difficult to characterize as relatively homogeneous commodities for a market. For example, consider the issue of corporate control in the context of hostile corporate takeovers. The issue of whether the incumbent management or the corporate raider should control a corporation does not satisfy the competitive market requirement of a relatively comparable commodity because corporate control of one corporation is not even roughly comparable with that of other corporations.

There is a second reason that the issue of corporate control fails to fit into the competitive market mold. Since the price for corporate control of one company is hardly identical to that of another company, no "market price" has been set by a competitive market. When commentators invoke "market" justifications

181. *See supra* notes 165-166 and accompanying text (discussing market failure).

for or against facilitating corporate takeovers,[182] the market they refer to is an exchange market, not a competitive one.[183]

Competitive market failure should also be obvious for commodities such as the legal issues concerning unreasonable searches or unlawful racial discrimination. These issues cannot be viewed as substantially discrete homogeneous commodities;[184] yet, perfect competition in a particular market requires that all market commodities be identical to each other.[185] Other commodities, such as issues concerning the socially optimal amount of environmental pollution, do not fit into a market where prices reflect all costs and benefits; yet, perfect competition implicitly requires market prices to take all costs and benefits into account.[186]

A purely competitive market cannot determine the level of national defense or the number of police officers in a town because these are public goods.[187] It scarcely applies to issues involving physicians and attorneys who themselves are the beneficiaries of market barriers that limit the supply of physicians and attorneys.[188] The competitive market model is not useful for labor markets because they have no clearing mechanism based on prices; the unemployed cannot obtain jobs by underbidding employed workers.[189] Even the widely discussed Coase Theorem,

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182. *See, e.g.*, Bebchuk, *supra* note 88; Easterbrook & Fischel, *supra* note 86; Gilson, *A Structural Approach to Corporations: The Case Against Defensive Tactics in Tender Offers*, 33 STAN. L. REV. 819 (1981).

183. *See, e.g.*, Bebchuk, *supra* note 88; Easterbrook & Fischel, *supra* note 86; Gilson, *supra* note 182; *cf.* Easterbrook & Fischel, *Corporate Control Transactions*, 91 YALE L.J. 698 (1982) (analyzing the problem of allocating gains from the sale of corporate control in terms of the ex ante bargains that shareholders hypothetically would have made among themselves and with management).

184. This is not to say that economists and lawyers have made no attempt to view it as such. *See, e.g.*, Donohue, *Is Title VII Efficient?*, 134 U. PA. L. REV. 1411, 1411-12 & n.5 (1986) and authorities cited therein (using competitive market model to analyze antidiscrimination legislation).

185. *See supra* text accompanying note 172 (giving traditional requirements for perfect competition).

186. *See supra* notes 174-77 and accompanying text.

187. *See supra* note 176 (discussing public goods).

188. Medical schools and law schools by their admission policies restrict the number of students; the American Medical Association and the American Bar Association through accreditation powers limit the number of medical schools and law schools; state bar exams and, to a lesser extent, medical licensing exams place a ceiling on the number of practicing attorneys and physicians. We accept these market imperfections without hesitation. There are sound reasons for all of these limitations, but these reasons are the product of value judgments and not the outcome of economic formulas.

189. If everyone's labor were homogeneous, an unemployed person would bid for a

which addresses the problem of allocating entitlements, applies in exchange markets and not competitive ones.[190] If competitive market failure is the norm rather than the exception in legal issues, it makes little sense to assume an existing competitive "market" will handle the price and allocation of legal issues.

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job by offering to work for a wage less than the wages of the currently employed. But labor markets do not "clear" based solely on the price of wages; wages do not always fall in response to unemployment. *See* L. THUROW, *supra* note 64, at 9-11. A conventional explanation is that since the quality of labor may differ among individuals, competition among employees for jobs may be based instead on qualifications such as education, training, skills, and age. Non-price competition, however, deviates from the standard model of perfectly competitive markets.

> [In microeconomics], every market is a price-auction market that clears based on competitive bidding within a framework of supply and demand . . . .
>
> In equilibrium price-auction markets, it is impossible to find over- or under-employed resources. Every factor of production is paid in accordance with its own productivity (marginal product) and every factor of production that wishes to be employed is employed at a wage or price governed by that productivity. In other words, if an unemployed worker really wants to work, he has only to lower his wage request and some employer will hire him, and fire someone already employed if necessary.

Id. at 4. *See generally id.* at 172-215 (detailing the severe problems economic theory faces in analyzing labor as a typical factor of production).

190. The Coase Theorem addresses the problem of allocating entitlements. In the article that gave birth to the "Coase Theorem," Professor Coase stated that under certain ideal conditions such as zero transactions costs, a party who values a particular legal right the most will ultimately obtain it regardless of whether another party is initially given that right. *See* Coase, *supra* note 139. This passage of the right to the ultimate holder results in the efficient allocation of resources. Coase only uses examples of exchange markets, such as bargaining between a farmer and a cattle rancher, rather than competitive markets, *see id.* at 2-8, and the Coase Theorem is a proposition about exchange markets not competitive ones. *See, e.g.*, E. MANSFIELD, *supra* note 30, at 508-10; Coleman, *supra* note 30, at 244. The Coase Theorem does, however, require perfectly competitive markets to set prices around which parties will bargain or negotiate. *See* E. MANSFIELD, *supra* note 30, at 508-10 (stating that "a competitive economy will allocate resources efficiently, even in the face of seemingly important external effects, if it is possible to carry out such negotiations at little or no cost," *id.* at 509). One commentator has described the "Coase Theorem [as] a proposition in the theory of games, and not a proposition about traditional markets or competitive equilibrium." Regan, *The Problem of Social Cost Revisited*, 15 J.L. & ECON. 427, 428 (1972). *But see* Cooter, *The Cost of Coase*, 11 J. LEGAL STUD. 1, 15-16 (1982) (explaining that one interpretation of the Coase Theorem "requir[es] competitive markets, so that no one has any bargaining power," *id.* at 15). The implication of the Coase Theorem, that given certain assumptions the same efficient allocation of resources will result, is subject to considerable debate. *See, e.g.*, Regan, *supra*, at 427 (arguing that "the truth of the Coase Theorem can only be deduced from an assumption or assumptions which differ in kind from the usual assumptions we make about economic agents").

2. *Transaction costs*

A second important cause of competitive market failure is the existence of transaction costs, a general term describing costs, conditions, barriers, elements, and structures which inhibit the working of competitive markets and which, if substantial, can prevent markets from existing at all.[191] To call some-

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191. *See generally* E. MISHAN, *supra* note 43, at 402-03 ("The term 'transaction costs'. . . is a fairly generic term that has been much used in the literature since about 1960 to include all costs incurred in negotiating terms or in discovering, correcting, maintaining, or defending any change in economic organisation, particularly a change toward an optimal position."); Arrow, *The Organization of Economic Activity: Issues Pertinent to the Choice of Market versus Nonmarket Allocation*, in ANALYSIS & EVALUATION, *supra* note 1, at 47-48 ("[T]ransaction costs . . . in general impede and in particular cases completely block the formation of markets"); Polinsky, *supra* note 16, at 1667 n.67 ("[C]osts which inhibit the working of competitive markets are always included as transaction costs, but 'transaction costs' is often used in a broader sense to include anything which inhibits the attainment of a Pareto efficient allocation of resources"); Dahlman, *The Problem of Externality*, 22 J.L. & ECON. 141, 143-48 (1979) (listing three different notions of transaction costs).

"Transaction costs are the economic equivalent of friction in the physical systems." O. WILLIAMSON, ECONOMIC ORGANIZATION 176 (1986). Some sources of transactions costs are exclusion costs, communication and information costs, and disequilibrium costs. *See* Arrow, *supra*, at 60. If transactions costs are too high, the existence of a market may be infeasible and market failure (or the absence of a market) results. *Id.* Exclusion costs arise from the effort to prevent nonpurchasers from consuming a market commodity. A market requires market prices, but "[p]ricing demands the possibility of excluding nonbuyers from the use of the product, and this exclusion may be technically impossible or may require the use of considerable resources." *Id.* at 57-58. *See* E. MANSFIELD, *supra* note 30, at 498-99; R. MUSGRAVE & P. MUSGRAVE, *supra* note 30, at 49-50 (showing the difficulty of exclusion as a cause of market failure and giving as an example the difficulty of selling street space to motorists on a crowded street during rush hours).

The costs of communication and information include the costs of obtaining "the information needed to enter and participate in any market" and the costs of "supplying and learning of terms on which transactions can be carried out." Arrow, *supra*, at 48, 60. *See generally* E. MACKAAY, *supra*, note 4, at 223-25 (discussing the costliness of acquiring information). For example, in attempting to communicate with his students, a professor may incur high costs in terms of his time and effort. *See* Arrow, *supra*, at 56. The costs of receiving price signals may prevent an ideal differentiation of prices as in the case of the same prices being charged for peak and offpeak usage of transportation or electricity. *See id.* at 60.

The costs of disequilibrium result because events cannot take place instantaneously in the real world. Whether resources are allocated through a market mechanism or by government fiat disequilibrium costs occur, even under conditions of perfect information. "[I]t takes time to compute the optimal allocation, and either transactions take place which are inconsistent with the final equilibrium or they are delayed until the computation are [sic] completed." *Id.* at 60.

Indeed, transaction costs are an inherent feature of any market or any method of allocating resources, and can be viewed as "costs of running the economic system." *Id.* at 48, 60. For example, organizational structures commonly found in the business world can be attributed to transaction costs. "An incentive for vertical integration is replacement of the costs of buying and selling on the market by the costs of intrafirm transfers; the

thing a transaction cost is to say that it is a barrier, perhaps an impassable one, to the ideal event or situation. Transaction costs are characterized as costs because the expenditure of money, resources, or effort is necessary to remove or reduce transaction costs. If no amount of expenditure will remove these costs, the costs are said to be infinite. Where transaction costs are infinite or, more likely, just too high, market failure results. Examples of transaction costs include the cost of entering a market, whether as a seller or buyer, and the cost of information needed by market participants to buy and sell commodities at a competitive price.[192] Market failure, whether caused by transaction costs or other flaws, can justify government intervention. Here the myth of markets could be used to mimic a market.

For instance, Dean Calabresi shows that the existence of information costs may justify the exercise of eminent domain where such costs prevent a competitive market outcome.[193] He gives the example in which the efficient purchase of land for use as a park might not occur due to strategic behavior.[194] In his example, there are 1,000 owners of 1,000 parcels of land with each owner valuing his parcel at $8,000, and there are 100,000 other persons with each person willing to pay $100 each to buy the 1,000 parcels for use as a park.[195]

Although the land would be more efficiently used as a park, this outcome might not occur if some owners ("holdouts") and buyers ("freeloaders") engaged in strategic behavior,[196] that is, misrepresented their valuation of the land.[197] Even if strategic

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existence of vertical integration may suggest that the costs of operating competitive markets are not zero, as is usually assumed in our theoretical analysis." *Id.* at 48.

192. *See* Arrow, *supra* note 191, at 48; P. SAMUELSON & W. NORDHAUS, *supra* note 24, at 506-09 (barriers to competition); E. MACKAAY, *supra* note 4, at 107-09 (information costs).

193. *See* Calabresi & Melamed, *supra* note 30, at 1106-08; *cf. Hawaii Hous. Auth. v. Midkiff*, 467 U.S. 229, 242 (1984) (holding that a law which takes property by eminent domain and later transfers it to private beneficiaries is a "rational approach to identifying and correcting [competitive] market failure").

194. *See infra* notes 376-380 and accompanying text (discussing strategic behavior).

195. Although this is admittedly not quite a competitive market scenario, it gets sufficiently close if the 1,000 owners are viewed as selling 1,000 identical parcels, one each to 1,000 groups of 100 buyers.

196. Strategic behavior is a common transaction cost. *See* A. POLINSKY, *supra* note 4, at 18-20 & n.11. *See generally infra* notes 376-380 and accompanying text (discussing the effect of strategic behavior on costs and benefits).

197. Since the 1,000 owners collectively value their land at $8,000,000 while the 100,000 citizens collectively value the land for use as a park at $10,000,000, the land would be more efficiently used as a park. *See* Calabresi & Melamed, *supra* note 30, at

behavior were absent, the cost to canvass 1,000 owners and 100,000 buyers, and the cost to negotiate a deal for sale of the 1,000 parcels might exceed the potential benefit from the sale.[198] This example could also be characterized as mimicking an exchange market rather than a competitive one. The 100,000 people could be hypothetically portrayed as bargaining with the 1,000 landowners instead of buying the 1,000 parcels of land in a competitive market.

D. Exchange Markets

The second market utilized by the myth of markets is an exchange market in which voluntary and informed bargains or exchanges take place.[199] This market is used in lieu of the first version of the myth of markets because one or more of the conditions for a perfectly competitive market cannot be satisfied, such as the total number of items of a particular commodity available for trading is small or buyers and sellers are few. Nonetheless, if an exchange market exists, there is the possibility for value-increasing bargains or trades to occur, thereby increasing total social welfare.[200]

This second market resembles a bazaar with individual buyers and sellers haggling with each other over the price and terms of a purchase. In this setting, potential value-increasing exchanges inevitably occur because rational human beings will naturally participate in a mutually beneficial exchange.[201] Because

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1106. If, however, enough owners overstated the value of the parcels so that the collective valuation by the owners appeared to exceed $10,000,000, no sale would occur since the land would be more valuable as currently used. Similarly, if enough buyers understated the value of a park to them so that the collective valuation by the buyers appeared to be less than $8,000,000, no sale would occur since the land would again be more valuable as currently used. *See id.*

198. If these total costs exceeded $2,000,000, the sale of land worth $8,000,000 to its owners and $10,000,000 to its buyers would not take place because the costs would consume all of the benefit from a sale.

199. *See, e.g.*, R. POSNER, *supra* note 1, *passim*; Easterbrook & Fischel, *supra* note 86, at 1164 (arguing that current laws prevent mutually advantageous exchanges between offerors of hostile tender offers and shareholders of target companies); Shukaitis, *supra* note 142 (contending that a market in personal injury tort claims should be created).

200. *See, e.g.*, Seita, *supra* note 29, at 85-86 (explaining how exchanges can be mutually beneficial for the parties involved and also for society as a whole). The argument that society benefits from an exchange market assumes, however, that the rest of society is unaffected by the exchange market. A person who enters into bargains to monopolize a market undoubtedly benefits herself and those she deals with, but society ultimately suffers.

201. In economic theory, the rational person is of fundamental importance. Such a

the participants in such a market are presumed to be well informed, they will know whether a mutually beneficial exchange is possible; and if one is, an exchange will occur. Law and economics proponents assume that rational persons will enter into an exchange or trade only if each believes that he or she would benefit, and as a corollary, that rational persons must enter into beneficial exchanges because they gain by such actions.[202]

Many examples of the second type of market can be found in ordinary contracts where the parties to a contract have agreed to a course of action, such as the purchase of goods or services, because both will profit from the bargain. Even when the subject matter of the contract is noncommercial, as when two parties agree that both shall contribute substantial sums to charity, the parties both benefit since the contract accomplishes what each party individually could not.

E. The Absence of Voluntary and Informed Exchanges

Unfortunately, market failure also occurs in exchange markets. As in the case of competitive markets, legal issues may fail to fit the exchange market model, or transaction costs may be insurmountable. For example, an involuntary exchange is automatically at variance with the paradigm of a mutually beneficial exchange, and transaction costs like high information costs[203] may prevent value-increasing bargains from occurring[204] because the parties who stand to benefit from market exchanges may be inadequately informed.

Exchange market failure invalidates "solutions" obtained by the application of the first variation of the myth of markets, which is used to say that the market will take care of the legal

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person is rational in the sense that she will try to maximize her utility, preferences, or tastes. *See, e.g.*, E. MANSFIELD, *supra* note 30, at 55-56; J. HIRSHLEIFER, *supra* note 24, at 7-12, 56-59; DICTIONARY OF ECONOMICS, *supra* note 30, at 120 (defining "economic man"). Proponents of law and economics likewise incorporate the rational person in their analysis of law. *See infra* notes 254-260 and accompanying text. Some economists see rational maximizing behavior in nearly all human action. *See, e.g.*, G. BECKER, *supra* note 12, at 3-14. Other economists find limited maximizing behavior. *See, e.g.*, Simon, *supra* note 27, at 2-3. Still others show a skeptical humor. *See* Bergstrom, *Toward a Deeper Economics of Sleeping*, 84 J. POL. ECON. 411 (1976); Blinder, *The Economics of Brushing Teeth*, 82 J. POL. ECON. 887 (1974).

202. This is because rational persons are assumed to take actions that increase, not decrease or leave unchanged, their utility or self-interest. *See* R. POSNER, *supra* note 1, at 4. *But see* Harrison, *supra* note 7, at 1341-42.

203. *See supra* notes 191-92 and accompanying text.

204. *See, e.g.*, Seita, *supra* note 29, at 142-46.

issue involved (the "commodity") by allocating it according to market forces. And if the second variation of the myth is used, to mimic an exchange market, value judgments clearly come into play.[205] Consider the following analysis of an application of the first variation of the myth of markets in an exchange market setting.

1. Merritt v. Faulkner

In the case of *Merritt v. Faulkner*,[206] several doctors allegedly misdiagnosed and mistreated Billy Merritt, an inmate in a state prison.[207] Merritt filed a complaint seeking compensatory

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205. For example, in discussing the mimicking of exchange markets, Judge Posner remarked as follows:

> The law tries to *guess* where the parties would want to allocate some burden or benefit, such as responsibility if some happy, or harmful, contingency materializes; if it guesses right, this both minimizes the costs of transacting by making it unnecessary for the parties to transact around the law's allocation, and produces the efficient allocation of resources if transaction costs are prohibitive.

R. POSNER, *supra* note 1, at 232 (emphasis added).

206. 697 F.2d 761 (7th Cir.), *cert. denied*, 464 U.S. 986 (1983).

207. On July 10, 1978, Merritt injured his left eye and subsequently suffered blurred vision in that eye. Two days later, he was able to visit a prison doctor, Saylors, about his condition. Although Saylors "could not determine whether there was any damage to the eye . . . he felt [that Merritt's condition] was serious enough to act on it promptly." *Id.* at 762. Saylors described Merritt's situation as urgent and referred Merritt to Houck, a prison ophthalmologist. Later, "Saylors described Houck's handling [of] Merritt's medical condition as 'unusual.'" *Id.*

Houck examined Merritt the next day and found a vitreous hemorrhage in the left eye. About a month after Merritt's injury, Houck had Merritt tested for sickle cell disease, and the test was positive. Houck thought that there might be a connection between sickle cell disease and the left eye's hemorrhage, but he knew nothing about the treatment of sickle cell disease. For the next three months, Houck saw Merritt three times but Houck did not prescribe any treatment nor did he refer Merritt to a specialist. Finally, in December 1978, five months after the injury to Merritt's left eye, Houck referred Merritt to a surgeon for consideration of a vitrectomy, an operation to remove fluid from Merritt's left eye. *Id.*

Six weeks later, and now more than six months after his eye injury, Merritt was sent to a hospital for treatment of his left eye. Instead of performing a vitrectomy on Merritt's left eye, the surgeons at the hospital performed an argon laser photocoagulation on Merritt's *right* eye. Merritt's vision in his right eye was 20/25 and he had never complained about that eye. After the hospital treatment, "Merritt's vision in his right eye deteriorated, and he became functionally blind in both eyes." *Id.*

Over the next year following the hospital treatment, Merritt was examined by Houck about once a month, returned to the hospital once, and also went to a clinic for tests and evaluations. Neither Houck nor the physicians at the hospital or clinic prescribed any treatment or operation for Merritt. During this period, Merritt did visit another prison doctor who noticed that Merritt's left eye was still hemorrhaging. "Although this doctor referred Merritt to the prison's assistant administrator of medical services for treatment, including surgery, no other operation was performed." *Id.* at 763.

and punitive damages against prison officials and physicians for alleged violations of his eighth amendment rights.[208] When the trial court denied Merritt's motion for appointment of counsel, Merritt used two prison inmates as lay assistants in his trial before the court.[209] After evidence was presented, the trial court entered judgment for defendants, and Merritt appealed. On appeal, two members of the Court of Appeals Panel held that the federal district judge had abused his discretion when he denied appointed counsel to Merritt.[210]

In dissent, Judge Posner utilized the first version of the myth of markets in an exchange market setting to justify the lower court's decision.[211] Specifically, Posner stated as follows:

> [A] prisoner who has a good damages suit should be able to hire a competent lawyer and that by making the prisoner go this route we subject the probable merit of his case to the test of the market. Merritt alleges that the defendants are legally responsible for his blindness. If this were so, he would have a case that was attractive to many personal-injury lawyers, even apart from the fillip of an award of attorney's fees if the plaintiff prevails. . . . If Merritt cannot retain a lawyer on a contingent fee basis the natural inference to draw is that he does not have a good case.[212]

In other words, Judge Posner assumed that a functioning exchange market existed so that judicial intervention by way of court-appointed counsel was unnecessary and, indeed, detrimental. Because the "market" had rejected Merritt's case as unworthy of representation, his complaint had no net monetary value.[213]

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208. The lawsuit was brought under 42 U.S.C. § 1983. *Merritt*, 697 F.2d at 770. "Merritt alleged that he received no treatment for six months after the injury to his eye, that the prison officials interfered with his ability to receive proper treatment, and that the defendants' conduct resulted in his blindness." *Id.* at 765. Defendants answered by stating "they acted in good faith and that Merritt's blindness was caused by sickle cell disease." *Id.* at 763.

209. Merritt demanded a jury trial but the trial court rejected the demand as untimely. Although Merritt argued that his failure to make a timely demand was due to his blindness and his reliance on a lay advocate (his fellow inmate) to present motions to the court, the trial court refused to accept that excuse. *See id.* at 763.

210. *See id.* at 764-65.

211. *See id.* at 769-71.

212. *Id.* at 769-70.

213. For example, Merritt may have had a claim with an expected jury award of $20,000. Assume that the figure of $20,000 is calculated by multiplying the probability of a successful lawsuit, .2, by the magnitude of the possible award, $100,000, or:

Moreover, Judge Posner argued that it would be easy for Merritt, or any prisoner, to get a lawyer if a meritorious lawsuit were present:

> I do not think we need worry that a prisoner who has a good case will have difficulty getting the name of a lawyer. Merritt himself had the name of a lawyer—he moved for the appointment of a specific lawyer. If Merritt had had a good case this or another lawyer would have been happy to handle it. . . . Every prisoner knows at least one lawyer: the lawyer who represented him at his criminal trial. Every prisoner has access to the jailhouse lawyers, who can put him in touch with lawyers on the outside . . . but if [prisoners have difficulty getting the names of lawyers], let us order the district judges to supply them with names; let us not decree a lawyers' draft.[214]

Thus, Judge Posner rejected the possibility of market failure.

What is disturbing about *Merritt* lies not in the conclusion of the dissent, that no lawyer should be appointed for Merritt, but rather in the way the conclusion was justified. In arguing that an exchange market exists, Posner relied purely on logic and assumptions without referring to any real-life facts.

Suppose, however, that reality diverged from theory. As one

Expected Value (of jury award) = .2 x $100,000 = $20,000.

Suppose the attorney provided by the market would receive a 50% contingency fee and recover litigation expenses if Merritt won. Assume the attorney's expenses, whether Merritt won or lost, would amount to $15,000, and to simplify the analysis, that all of the expenses would be recoverable in a winning lawsuit.

In this case, the attorney's expected return from taking the case would be -$2000 because the $15,000 expense, which is certain to occur, exceeds the expected recovery of $13,000 that is comprised of an expected $10,000 in contingency fees (the attorney will receive half of what the jury awards Merritt) and of an expected $3000 in attorney's expenses (given only if Merritt is successful, which has a probability of .2):

$$\begin{aligned}\text{Attorney's Expected Value} &= -\$15{,}000 + (.5)(\$20{,}000) \\ &\quad + (.2)(\$15{,}000) \\ &= -\$15{,}000 + \$10{,}000 + \$3000 \\ &= -\$2000\end{aligned}$$

Thus, no attorney with these expectations would take Merritt's case even though the expected jury award would be substantially greater than zero.

Because no attorney would profit by representing Merritt, an attorney and Merritt would be unable to enter into a mutually beneficial agreement to pursue a lawsuit. While Merritt may be anxious to retain a lawyer, every lawyer would reject Merritt's offer. Thus a market to sell the lawsuit is absent for while there is a "seller," there is no "buyer." Also note that even if the expected value is positive, a lawyer may not seek out such "profitable" lawsuits due to search costs which may make the process of discovering good lawsuits too expensive. *See infra* note 227-230 and accompanying text.

214. *Merritt*, 697 F.2d at 770.

commentator remarked, in criticizing Judge Posner's analysis in *Merritt*:

> Judge Posner's "unqualified absolute" that the marketplace can determine the outcome of the case is, in my opinion, an example of making market theory the end of the inquiry—the resolver of all issues—and hence the wrong use of economic theory. It elevates theory over the facts, over reality. As pointed out by Norval Morris, former Dean of the University of Chicago Law School, in fact, lawyers typically spurn inmate suits, regardless of how meritorious they might be. At the very least, it seems that before a decision was made on whether to subject a prisoner's case to the marketplace, one ought to know whether there is a lawyers' marketplace, in fact, for prisoners' cases, and if so, whether and how, if at all, that marketplace functioned in the situation at the bar.[215]

Whether Judge Posner was correct about the merits of Merritt's case, he uses the myth of markets to arrive at a seemingly objective solution to a legal problem. Nowhere are Posner's basic assumptions and value judgments disclosed.

2. *Prisoners are different from other clients*

Assuming that the potential financial return from a lawsuit dominates an attorney's decision to represent a prisoner in a civil suit and that prisoners and lawyers are well informed, a prisoner with a meritorious lawsuit would, according to Judge Posner, obtain legal representation.[216] However, even assuming that prisoners know the names of attorneys, that information alone is insufficient to make both prisoners and lawyers well informed.

Posner assumes that just because Merritt knew the names of some attorneys—indeed, Merritt had specifically requested that a particular attorney be appointed to represent him—that these attorneys would be able to properly evaluate a potential lawsuit. This is an assumption that may or may not be true.

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215. Millstein, *supra* note 16, at 543.

216. This analysis assumes that the immediate financial return from a particular case is the most important factor in a lawyer's decision whether to take the case; presumably, a positive financial return would be an inducement. It is difficult to calculate the long-term financial effect on a lawyer who involves himself in controversial activities. In the long run, a lawyer who represents socially disfavored persons may have lower earnings if he loses or fails to attract other clients because they disapprove of the lawyer's association with disliked parties.

Let us speculate in the manner of Judge Posner about the existence of an exchange market, and determine whether a lawsuit would be treated differently by attorneys depending on the type of clientele involved. Assume that a meritorious lawsuit exists, for either free or imprisoned individuals. A torts or civil rights attorney with knowledge of the facts of the aggrieved individual's case would conclude that the lawsuit has a reasonable chance of winning substantial damages.

Initially, a clear difference between a typical client and an incarcerated client is that the latter has little mobility.[217] This alone might cause attorneys to pass over meritorious lawsuits of prisoners. A second factor is that attorneys have to interview jailhouse clients in prisons under conditions which may be less than ideal for eliciting information. Furthermore, if these clients need to be examined by expert witnesses, these experts also have to visit the clients in prison. This immobility can, in theory,[218] increase the chances that meritorious cases would not be discovered.

3. *A good case under normal conditions*

Ordinarily, an attorney interviews potential clients in his office and can thereby economize on the time he must spend to evaluate a prospective client's case. Assume that a torts or civil rights lawyer interviews 100 potential clients a month and undertakes to represent on a contingency fee basis (together with a possible recovery of attorney's fees) only those cases that are meritorious and that will confer a net financial benefit to the lawyer. If the 100 prospective clients yield a sufficient number of meritorious cases, the attorney will continue the process of interviewing clients. If an insufficient number of cases is found, the time and expense of interviewing clients will cause the attorney to practice in another area of law.

Suppose a typical meritorious case is one in which damages sought are $100,000; the expenses that the lawyer will incur for

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217. Another difference, although difficult to quantify in its impact, is the psychological discomfort an attorney might feel in meeting his client under prison conditions. A counterweight, however, might be the ethical obligation an attorney would feel to provide legal services to members of a socially disfavored group who have legitimate grievances. Undoubtedly, intangible incentives and disincentives to represent prisoners are difficult to measure and easy to theorize.

218. *See infra* notes 227-230 and accompanying text.

each case are $15,000, including fees for experts;[219] and the amount of recoverable costs in the event of victory would be equal in amount to the lawyer's expenses of $15,000.[220] If the probability of winning this meritorious case is perceived by the attorney to be forty percent, the expected jury award would equal $40,000 and the expected recoverable costs would be $6000. Assuming that the contingency fee arrangement gives the attorney a fifty percent share of the jury award if the lawsuit is successful, the expected return to the attorney would be $11,000 for a single meritorious case.[221]

Of course, for any one such case, the outcome could be either a loss to the attorney of $15,000 (sixty percent of the time) or a gain of $50,000 (forty percent of the time), with both loss and gain measured against the situation that the lawyer was in before he took the case. Naturally, if the lawyer were risk averse,[222] he might decline to represent a potential client. How-

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219. Assume that the attorney, not the client, would pay for these expenses.

220. To simplify the analysis, the attorney's expenses are assumed to be identical in amount to costs recovered when the lawsuit is successful. In reality, some economic "expenses" are not recoverable costs because these expenses are in the nature of compensation and for indirect expenses, such as the opportunity cost of an attorney's time or the attorney's overhead. In economics literature, opportunity costs (or alternative costs) are those costs attributable to other opportunities sacrificed when choosing a particular course of action. *See* P. SAMUELSON & W. NORDHAUS, *supra* note 24, at 469-72; E. MANSFIELD, *supra* note 30, at 196-200; E. MISHAN, *supra* note 97, at 64-73; G. STIGLER, *supra* note 50, at 104-110; Grant & Ireson, *The Comparison of Alternatives*, in MANAGERIAL ECONOMICS AND OPERATIONS RESEARCH 11-19 (E. Mansfield 4th ed. 1980). For example, the opportunity cost of interviewing a potential client might be the time an attorney would have been working on other legal matters, such as those for which the attorney would be paid by the hour rather than on a contingency fee basis.

221. Expected return (to attorney) = *minus* expenses *plus* share of jury award *plus* recoverable costs

$$= -\$15{,}000 + (.5)(.4)(\$100{,}000) + (.4)(\$15{,}000)$$

$$= -\$15{,}000 + \$20{,}000 + \$6000$$

$$= \$11{,}000$$

However, in an ideal world governed by economics, the typical attorney will not obtain this outcome if the amount represents an excessive expected return. Excessive returns will draw individuals from other professions, and the increased competition will result in a "normal" return. *See* P. SAMUELSON & W. NORDHAUS, *supra* note 24, at 477-78. The $11,000 may not be excessive. Part of the money may pay for overhead and other expenses during the time that no potential fees are generated, such as when prospective clients are being interviewed.

222. *See* Seita, *supra* note 29, at 103 n.63 and sources cited therein (describing risk attitudes).

ever, risk aversion would be unlikely because the attorney could simultaneously accept a significant number of meritorious cases.

Although the outcome of any one case would be uncertain, as more cases are litigated, the lawyer would be reasonably certain that a sufficient number of good cases should be won and that the gains from these cases will outweigh the expenses incurred for the good cases that were lost.[223] Thus the attorney would have, roughly, a risk-neutral attitude in evaluating meritorious cases—an attitude much like that of an insurance company's in evaluating risks.[224]

Since the expected return is substantially greater than zero for a meritorious case, an attorney will agree to represent or "buy" the case that the client proposes to "sell," thus creating an exchange market. However, the expected return is not a pure profit to the attorney. Part of the return must compensate for the expenses of interviewing potential clients. If interviewing 100 possible clients each month yields a handful of meritorious cases, those cases must provide an expected return that will pay for the expenses associated with the meritless cases. Otherwise, the attorney will have a negative income.

Suppose the 100 interviews per month generate two good cases and ninety-eight bad cases, for a two percent meritorious rate. Since, by hypothesis, the two good cases will provide an expected return of $22,000, that amount will have to cover all expenses of the ninety-eight bad cases.[225] Assuming that each meritless case costs $200, ninety-eight of them will cost $19,600, a figure easily covered by the expected return of $22,000.[226]

4. The same lawsuit for an incarcerated client

Now assume that the potential client with an identical meritorious case—having an expected return of $11,000 for an attorney—is imprisoned. A logical, albeit theoretical, argument can

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223. *See id.* at 139 n.134 and sources cited therein (discussing the effect of large numbers of transactions).

224. *See id.* at 139-41 nn.134-36 and sources cited therein (showing that risk neutrality can arise when the decisionmaker deals in many transactions).

225. For example, there would be the attorney's overhead expenses (fixed costs) and the value of his time (opportunity cost).

226. In an ideal world ruled by economics, the profit of $2,400 [$22,000 - $19,600 = $2,400] would be reduced to zero because the expense incurred by the attorney would include a fair profit (opportunity cost); anything over zero would be an excessive return and induce other lawyers in different legal areas to migrate over to torts or civil rights law. *See, e.g.*, P. SAMUELSON & W. NORDHAUS, *supra* note 24, at 480-81.

easily be constructed to show that such a client would be ignored by a lawyer. Since the prisoner is immobile, an attorney would have to visit him in prison and incur extra costs associated with the time needed to travel to where the prisoner is located.[227]

Usually, a lawyer can interview more prospective clients in a shorter period of time if the clients come to him rather than the reverse.[228] The additional costs, not to mention the problems of an unfavorable interviewing environment, might make seeking incarcerated clients unprofitable for the attorney. If the additional costs made the expenses of the bad cases outweigh the gains from the good cases, a rational person would disregard solicitations by prisoners.

Suppose the expense of a bad case is $500 due to the extra time and traveling expenses required to investigate a prisoner's lawsuit. Assume that a lawyer can only interview fifty prisoner cases each month since the number of interviews should decrease when only imprisoned potential clients are involved. If the same percentage of prisoner cases is meritorious as that for ordinary cases, the attorney can expect two percent of all cases or just one case to be meritorious. The attorney's cost-benefit equation would yield a net loss of $13,500.[229] The search costs[230] of investigating prisoner cases make it unfeasible to take cases that, if brought by free citizens, would clearly be meritorious.

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227. The extra costs could result from transportation costs and the opportunity cost of the attorney's time. There are, of course, other methods of communication available such as telephone calls, letters, interviews by paralegals. All other things being equal, however, an attorney loses some flexibility in having an immobile client.

228. This would explain, in part, the fact that clients go to lawyers more often than the other way around. Under different circumstances, however, it might be more logical for a lawyer to visit his clients. Transaction costs such as transportation costs might be reduced if a lawyer specializes in prisoner representation and can interview many potential clients in prison. In this situation, total transportation costs could decline because the lawyer might make one trip to see all of his potential clients rather than having his clients make separate trips to see him, assuming, of course, that they can leave prison. What would occur should depend upon the facts involved.

229. The forty-nine bad cases would cost $500 each to investigate while the one good case would generate an expected return of $11,000:

$$-(49)(\$500) + \$11,000 = -\$24,500 + \$11,000 = -\$13,500$$

230. In this setting, search costs are those incurred to identify valuable lawsuits. These costs are a type of transaction costs, which are costs associated with entering into a transaction like representing a client in a lawsuit. *See* A. POLINSKY, *supra* note 4, at 11-12; E. MACKAAY, *supra* note 4, at 109. *See generally supra* notes 191-198 and accompanying text (discussing transaction costs).

5. *Concealing value judgments*

In the hypothetical just discussed, there is no exchange market because well-informed parties are absent. It is simply too expensive for an attorney to investigate prisoner complaints even though meritorious cases presumably exist. Thus, he never obtains the information to decide whether to take a particular case. Other problems might also cause exchange market failure. If the percentage of meritorious cases among prisoners were lower than for ordinary clients, the unattractiveness of prisoner lawsuits would be increased further.[231] There might also be a "problem of asymmetric information between prisoner and lawyer."[232]

Obviously, the arguments presented in these scenarios about market failure in *Merritt* are quite speculative. These arguments rely not on real-life data but rather on logical deductions from certain premises that are assumed to reflect reality. Given the absence of meaningful empirical data,[233] the use of markets as a

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231. One might speculate that prisoners, compared with other members of society, are more prone to complain without legal justification. Suppose the percentage of meritorious cases among prisoners were one percent rather than the two percent assumed for the general population. Then the overall result of investigating prisoner complaints would be -$38,500:

$ 11,000	[expected return for the meritorious case]
- 49,500	[99 x $500] [99% of the prisoners cases are assumed to be meritless, with expenses of $500 associated with investigating each case]
-$ 38,500	

232. Cohen, *supra* note 1, at 1154. Cohen goes on to say:

> Even if, as Posner suggested, judges supplied prisoners with names of lawyers, the prisoners are not in a strong position to evaluate the quality of these lawyers. Likewise, the lawyers might have difficulty determining the value of the prisoners' cases, because the prisoners will have an incentive to exaggerate their worth until the lawyers commit themselves to representation.

Id.

Undoubtedly, the difficulties of clients evaluating lawyers and of lawyers evaluating claims arise in ordinary cases as well as in prisoner cases. The immobility of prisoners, however, accentuates the problem typically faced by normal clients in trying to gauge the ability of different counsel. The information available within the prison walls about different lawyers might be more restricted and less accurate than the information available to other citizens who have greater freedom to contact past clients of prospective counsel, to call the local bar association about complaints against a particular lawyer, to call an attorney's references, etc. And, perhaps, prisoners may be more likely to exaggerate the value of their claims than ordinary clients, a tendency that would make it more difficult for lawyers to evaluate prisoner claims. This tendency, if present, would increase the cost of investigation, so that the expense for a bad case might increase from $500 to, say, $600.

233. Even if such data were available at reasonable cost there would be the problem

analytical tool for decision making is highly suspect. The rubric of markets simply disguises an analyst's personal views of reality. This is also exactly what Judge Posner did in *Merritt*.

Of course, Posner's view of reality may be more accurate than others. But Posner's experience with the problems of representing prisoners in torts and civil rights cases appears to be limited. He was never a trial judge, and before being appointed as an appellate judge, he was a noted scholar who probably never represented criminals in civil cases on a contingency fee basis. Although Posner's view may in fact be correct, the reasons for its possible accuracy—other than coincidence—are a mystery.

Perhaps there are other unspoken reasons which are masked by the concept of markets. One reason might be the fear of excessive prisoner lawsuits which could create possibly large liabilities for correctional institutions.[234] Moreover, if the percentage of meritorious lawsuits is lower for prisoner cases than for ordinary cases, judges will—when the government is required to provide counsel—find it difficult and time-consuming to single out the good prisoner cases. If these were the real reasons for Posner's position, a procedural due process analysis would have to be performed to determine whether our society should be willing to provide appointed counsel in the face of these problems.[235]

In cases like *Merritt*, some may well believe that the occasional, or even frequent, suffering of prisoners due to the negligence of correctional institutions is a small price to pay compared either to the consumption of judicial resources in requiring appointed counsel or to the possibility of encouraging future lawsuits. However, even if Judge Posner believes this, his dissent emphasizes only the myth of markets to justify his con-

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of interpreting the data.

234. Apparently conditions in state and federal prisons are unappealing: prisons are woefully overcrowded and attention to prisoners' complaints may be minimal. *See* PRISONERS IN 1985, Bureau Just. Statistical Bull. 4-7 (June 1986) (discussing overcrowded conditions in federal and state prisons). At the end of 1987, there were over 580,000 federal and state prison inmates; from 1980 to 1986, the prison population increased by 76%. *See* 1989 STATISTICAL ABSTRACT, *supra* note 65, at 185, table 322.

235. This is exactly what the majority opinion did in *Merritt*. *Cf.* Evitts v. Lucey, 469 U.S. 387 (1985) (holding that a prisoner is entitled to appointed counsel on a first appeal); Lassiter v. Department of Social Servs. of Durham County, 452 U.S. 18, *reh'g denied*, 453 U.S. 927 (1981) (implying that under different circumstances an indigent prisoner may be entitled to appointed counsel before her parental status is terminated and the state takes custody of her child). *See generally* Mathews v. Eldridge, 424 U.S 319 (1976) (discussing how procedural due process protections are determined).

clusions.[236] Yet a market does not exist by fiat.[237] Unless the presence of an exchange market is established, and securing the evidence of that may be extremely difficult, using the myth of markets only advances the user's own values and personal views of reality.

Since empirical data may be scarce or unconvincing in directing us to any solution, we would necessarily have to make a decision guided basically by our values and views. Admittedly, however, sometimes decisions have to be made under conditions of uncertainty. If that is the case, instead of begging the question by using the myth of markets, we ought to encourage an honest debate about different values and views. Such an analysis would bring out into the open the conflict between those individuals who follow Posner's values and views and those who reject them.

IV. Myth of Quantifiable Costs and Benefits

Closely connected to the myth of markets,[238] as well as to the myths of "efficiency" and "rational person,"[239] is the myth of quantifiable costs and benefits. When labels such as "markets," "efficiency," and "rational person" are used, economic analysts of law implicitly assume that costs and benefits can be measured or quantified in real or hypothetical units.[240] Typically, this

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236. Judge Posner does spend half a sentence on the majority opinion's "potential impact on the dockets of our busy district courts." Merrit v. Faulkner, 697 F.2d 761, 771 (7th Cir.), *cert. denied*, 464 U.S. 986 (1983).

237. Posner's theoretical market analysis in *Merritt* was challenged by a number of commentators including a fellow judge in *Merritt*. *Id.* at 768-69 (Cudahy, J., concurring); Cohen, *Posnerian Jurisprudence*, *supra* note 1, at 1132-33, 1154. In *Merritt*, Judge Cudahy argued as follows:

> [B]arriers to entry into the prison litigation market might be very high . . . . [O]ur knowledge of the state of effective competition among attorneys for the business of prisoners with legal claims is slight . . . .
>
> . . . .
>
> . . . I see no immediate prospect of justice being entirely a function of a market theory which may bear little relation to the reality of the prison setting.

Merritt, 697 F.2d at 768-69.

238. *See supra* Part III on (Myth of Markets).

239. "Efficiency," in the sense that common law decisions promote efficient outcomes or in the sense that the common law evolves towards efficiency, and the "rational person" are other myths used by economic analysts of law. *See supra* notes 27, 29-30; *infra* notes 254-56.

240. *See, e.g.*, R. Posner, *supra* note 1, at 3-6; A. Polinsky, *supra* note 4, at 7 & n.4, 135-38.

means that costs and benefits are measured in terms of dollars.[241] Once quantification occurs, a comparison of costs and benefits can be made to determine, among other things, market prices, efficient outcomes, or rational choices.

For example, the cost of a college education might be the present value of four years of tuition, books, and lost wages during college, while the benefit of a college education might be the present value of expected higher wages that a college graduate will receive compared to a non-college graduate.[242] If the present value of costs were $100,000 and the present value of benefits were $150,000, a college education would be more beneficial than its cost, and a rational person motivated by money alone would choose to attend college because it would be efficient to do so.

Although costs and benefits are comparable to each other when they are quantified, they can be compared to each other without quantification. Consider again the example of a college education. In deciding whether or not to go college, a person might only conclude that he wants to attend college more than going to work during a four-year period. A quantification in dollar terms is unnecessary for a person to make his choice; he can simply compare two choices and decide which he prefers. This is a qualitative[243] evaluation of costs or benefits in which costs and benefits are simply ranked in some order. An individual may determine that a particular cost is preferred to another, a particular benefit is preferred to another, or a particular package of

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241. When dollars are used as a common denominator, exact comparisons of costs and benefits can be made. Dollars or other common denominators are cardinal numbers which provide absolute or quantitative measurements so, for example, any "thing" which costs four dollars is equal to any other "thing" which also costs four dollars. *See* DICTIONARY OF ECONOMICS, *supra* note 30, at 57. *Cf. infra* note 243 (ordinal numbers). *See generally* J. HIRSHLEIFER, *supra* note 24, at 60-63 (comparing cardinal and ordinal measurements of utility).

242. There are, of course, other costs and benefits of a college education. For example, a college education may benefit a person by enriching his understanding and appreciation of culture, history, and science, and, in broadening his horizon of ideas, make him a more humane and tolerant person.

243. An individual can qualitatively evaluate costs and benefits by ranking them in terms of ordinal numbers, that is, numbers like "first," "second," and "third" which rank but do not quantitatively measure things. Ordinal rankings will show whether one choice is preferred to another but they will not reveal how close one choice may be to another. For example, of all the choices a high school graduate may have, going to college may rank first and going to work may rank second. This ordinal ranking, however, will not show whether the decision between college and work was a close or lopsided one. *See* DICTIONARY OF ECONOMICS, *supra* note 30, at 312. *Cf. supra* note 241 (cardinal numbers). *See generally* J. HIRSHLEIFER, *supra* note 24, at 60-63 (comparing cardinal and ordinal measurements of utility).

costs and benefits is preferred to another, such as the package associated with college being preferred to the package associated with work.

Qualitative evaluations, however, are rather imprecise, for descriptions such as "best" or "better" leave much more to the imagination and controversy than quantitative evaluations of "fifty dollars" or "twenty cents." As a result, when qualitative evaluations determine social decisions, the reliance on value judgments cannot be denied and experts are more likely to be challenged in their qualitative "value judgments" than their quantitative "facts." Yet quantitative evaluations, despite their seeming objectivity, are often just as dependent upon value judgments because the quantification process relies upon crucial assumptions—in other words, value judgments.

For example, some members of society may greatly desire a college education while others may find it of little use. Characterizing society's attitude toward a college education is difficult because adding the qualitative preferences of different individuals is impossible without value judgments about the way in which preferences should be added.[244] One value judgment may be what people are willing to pay for a college education. This quantifies the preferences that individuals have about a college education, and society can be viewed as desiring a certain amount of college education only to the extent that its members are willing to pay for it.[245] Advocates of economic analysis of law make that kind of value judgment when they quantify costs and benefits by referring to what people are willing to pay to avoid costs and to obtain benefits.[246]

A. Markets, Efficiency, and Rational Persons

For markets to exist, costs and benefits must at a minimum be comparable to each other. In perfectly competitive markets, costs and benefits must be quantifiable because competitive sup-

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244. *See infra* notes 304-07 and accompanying text (stating that comparisons of individual welfare require value judgments).

245. This, of course, is only partially true. Higher education is heavily subsidized in public institutions, partially subsidized in many private institutions, and many students in either type of institution receive scholarships. *See supra* note 169.

246. For some illustrations of difficulties in a cost-benefit analysis, see *infra* notes 261-270 and accompanying text. *See generally* A. POLINSKY, *supra* note 4, at 135-38 (stating that "[p]robably the most difficult problem in undertaking an economic analysis of a legal rule is putting dollar values on the relevant costs and benefits," *id.* at 135).

ply and demand curves are aggregates of individual marginal cost and utility curves.[247] For example, the marginal cost curve of one company cannot be aggregated with that of another without the two curves being measured by a common denominator, typically in money terms. Similarly, the marginal utility curve of one individual cannot be aggregated with that of another person without both curves being expressed in the same units. Thus, in using the myth of markets in the sense of competitive markets, economic analysis must rely on quantifiable costs and benefits.

In exchange markets, parties enter into a bargain because they benefit from it. For example, when a buyer purchases goods from a seller, both buyer and seller gain from the sale for, otherwise, the sale would not take place.[248] Thus exchange markets require that the parties be able to compare the costs and benefits of an exchange. However, the costs and benefits of an exchange need not be quantified before an *individual* decides whether to make a bargain since he only has to conclude that he is better off with the bargain than without it. Moreover, quantification is unnecessary when a decision maker makes a value judgment that a *group* of individuals are on balance benefited or injured by making particular bargains. Minors, for example, are often given the power to rescind their contracts even though these contracts were voluntarily entered into,[249] and incompetent individuals cannot even make valid contracts.[250] But economic analysts often quantify costs and benefits for both individual decisions and group decisions.[251] By doing so, economic analysts appear to have an objective method of determining that exchange markets are desirable. This quantification, however, is value driven.

The notion of efficiency is also linked to quantifiable costs and benefits. Since economic analysts of law generally define efficiency to mean maximizing benefits or minimizing costs,[252] the

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247. *See, e.g.*, P. SAMUELSON & W. NORDHAUS, *supra* note 24, at 409-10, 475-76.

248. *See supra* note 164 and accompanying text.

249. *See* RESTATEMENT (SECOND) OF CONTRACTS § 14 & comments & reporter's note (1981).

250. *See id.* § 15 & comments & reporter's note.

251. *See, e.g.*, Priest, *A Theory of the Consumer Product Warranty*, 90 YALE L.J. 1297, 1351-52 (1981) (concluding, in an economic analysis of consumer product warranties, that costs of warranty coverage are more precise than fuzzy notions of relative bargaining power or consumer information).

252. *See, e.g.*, *supra* note 30; Seita, *supra* note 29, at 97-101 and accompanying notes, and 119-22 and accompanying notes. The terms "maximizing benefits" and "mini-

notion of an efficient social decision necessarily depends upon a comparison of measurable costs and benefits of many variables involving many individuals. Once costs and benefits are quantified, a decision maker, such as an executive, a judge, or a legislator, can determine which choices or outcomes are better than others.

Thus, if she determines that the alternative of having industrial pollution and jobs yields a net benefit greater than the alternative of having clean air and no jobs, the decision maker would conclude that the first alternative is more efficient than the second. Efficiency is thought to be desirable because a rational human would naturally want "more" rather than "less."[253] From this, it follows that rational human beings collectively would favor social decisions that produced the greatest net gain.

In economic analysis of law, each individual is presumed to act rationally, that is, to further his own interests.[254] The ideal rational person would be very much like Spock, the Vulcan of Star Trek fame. A rational person like Spock weighs the costs and benefits of alternative courses of action before making a decision and chooses the alternative that yields the greatest net benefit or the smallest net loss.[255] Since most human beings would want to be better off than worse off, no matter what "better off" and "worse off" may mean to them, a weighing of costs and benefits is undoubtedly important in shaping much of a person's choice.[256]

If economics went no further it would be in agreement with

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mizing costs" are misnomers; efficiency is found when benefits are merely *increased* or costs are *reduced*. *See id.* at 97-101 & nn.54-57.

253. *See* R. POSNER, *supra* note 1, at 3-6.

254. The economic model of human behavior assumes rationality. *See, e.g.*, R. POSNER, *supra* note 1, at 3-6; R. COOTER & R. ULEN, *supra* note 4, at 16-17; Burrows & Veljanovski, *Introduction: the Economic Approach to Law*, in THE ECONOMIC APPROACH TO LAW, *supra* note 4, at 2-4. What this means is that human beings will *act* as though they are rational thinkers, not that they in fact consciously make rational choices. *See* R. POSNER, *supra* note 1, at 15-17; Fiss, *supra* note 6, at 3-4.

255. Star Trek fans may recall Spock's statement, "the good of the many outweighs the good of the few," before he sacrificed himself for the benefit of his starshipmates in Star Trek II. V. MCINTYRE, STAR TREK II: THE WRATH OF KHAN 174 (1982) (a novel based on a film by the same title and produced by Paramount Pictures Corp. 1982). James Kirk, the captain of the starship Enterprise, also engaged in a cost-benefit analysis in deciding to rescue Spock in a later episode "[b]ecause the needs of the one outweighed the needs of the many." V. MCINTYRE, STAR TREK III: THE SEARCH FOR SPOCK 296 (1984) (a novel based on a film by the same title and produced by Paramount Pictures Corp. 1984).

256. *See, e.g.*, Simon, *supra* note 27, at 2-3.

other social sciences.[257] But the rational person of economics is an extremely rational person, one who *always* seeks to maximize his welfare,[258] so that a husband "would read in bed at night only if the value of reading exceeded the value (to him) of the loss in sleep suffered by his wife, or he would eat with his fingers

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257. For example, social scientists from varying disciplines such as psychology and anthropology accept the idea that human beings generally use a process of cost-benefit analysis in making decisions. *See id.* Moreover, behavioral biologists have even constructed models in which animal behavior is shaped, though not intelligently and consciously, by considerations of costs and benefits. *See, e.g.*, R. DAWKINS, THE SELFISH GENE 74-79 (1976).

Aside from cost-benefit considerations, concepts of rationality are in fact very important in other social sciences: "Freud's work, for example, depended heavily on conceptions of what was or was not rational behavior for people living in a particular society at a particular time, and all the social sciences seem to agree that most behavior is purposeful." Hogarth & Reder, *Introduction: Perspectives from Economics and Psychology*, in RATIONAL CHOICE, *supra* note 12, at 4.

258. As Herbert Simon explains:

> [T]he term "rational" has long had in economics a much more specific meaning than its general dictionary signification of "agreeable to reason; not absurd, preposterous, extravagant, foolish, fanciful, or the like; intelligent, sensible." As is well known, the rational man of economics is a maximizer, who will settle for nothing less than the best. Even his expectations, we have learned in the past few years, are rational . . . .

Simon, *supra* note 27, at 2. The meaning of rationality as generally used in economics can be distinguished from that generally used in other social sciences in a number of ways:

> In its treatment of rationality, neoclassical economics differs from the other social sciences in three main respects: (a) in its silence about the content of goals and values; (b) in its postulating global consistency of behavior; and (c) in its postulating "one world"—that behavior is objectively rational in relation to its total environment, including both present and future environment as the actor moves through time.
>
> In contrast, the other social sciences, in their treatment of rationality, (a) seek to determine empirically the nature and origins of values and their changes with time and experience; (b) seek to determine the processes, individual and social, whereby selected aspects of reality are noticed and postulated as the "givens" (factual bases) for reasoning about action; (c) seek to determine the computational strategies that are used in reasoning, so that very limited information-processing capabilities can cope with complex realities; and (d) seek to describe and explain the ways in which nonrational processes (e.g., motivations, emotions, and sensory stimuli) influence the focus of attention and the definition of the situation that set the factual givens for the rational processes.
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> These important differences in the conceptualization of rationality rest on an even more fundamental distinction: in economics, rationality is viewed in terms of the choices it produces; in the other social sciences, it is viewed in terms of the processes it employs.

Simon, *Rationality in Psychology and Economics*, in RATIONAL CHOICE, *supra* note 12, at 26 (citation omitted). *See also* Hogarth & Reder, *Introduction: Perspectives from Economics and Psychology*, in RATIONAL CHOICE, *supra* note 12, at 4.

only if its value exceeded the value (to him) of the disgust experienced by his family."[259] Obviously, this rational person who always acts in a way that maximizes his welfare must be able to compare costs and benefits in order to maximize. In part, the economic analysis of law assumes that a rational person can quantify costs and benefits to himself, as evidenced by when he states how much he is willing to pay to avoid a loss or obtain a gain.[260]

B. Cost-Benefit Analysis

A direct conclusion of the myth of quantifiable costs and benefits is that an objective cost-benefit analysis can be made of different alternatives, outcomes, or courses of action. Beyond the personal level in which each individual acts to maximize his gains and minimize his losses, some kind of cost-benefit analysis is unavoidable when a decision maker determines that individuals in her society would prefer one course of action, such as pollution and jobs, over another, such as a pristine environment and unemployment. By calculating the net gain or net loss for particular alternatives, the decision maker can determine which alternative maximizes the welfare of society. But a cost-benefit analysis is often difficult to apply to social issues because a decision maker must measure the costs and benefits of different courses of action to individuals other than the decision maker herself.[261]

Any single individual presumably will try to behave in a way that maximizes his net benefits given a particular set of circumstances. Rational behavior requires an individual to choose a path that makes him better off than other paths. Given, for example, the unfortunate circumstance of being born in chains, a slave might choose to accept his lot and live rather than rebel and die. Of course, he might prefer over those two choices a third but unavailable choice, that of living as a free man.

But while each person may have preferences, discerning

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259. Becker, *A Theory of Social Interactions*, 82 J. POL. ECON. 1063, 1078 (1974).

260. *See supra* note 30. Quantification, however, is not a necessary condition for rational behavior. For example, in making a cost-benefit analysis, a rational person could rank or order choices, and thus prefer to read in bed so long as his wife's discomfort is tolerable to him.

261. Indeed, a person may even find it difficult to quantify the costs and benefits of different alternative courses of action to herself alone. *See infra* notes 361-402 and accompanying text (discussing inconsistent evaluation).

those preferences requires judgment, not a calculator. Because a decision maker presumably lacks telepathic powers and cannot totally empathize with other human beings, she must necessarily imagine how others will be affected by her actions. Thus, while a decision maker may be quite accurate in judging costs and benefits to herself, her estimate of costs and benefits to others depends inextricably upon her personal views of the preferences of others.

Furthermore, applying a cost-benefit analysis gets progressively more complex as the number of variables involved increases. An analyst must consider the possible problem of linkage or interdependence of costs and benefits both for individual behavior as well as for group behavior.[262] For example, while the death penalty for murder may deter some members of the set of potential murderers, others may be more motivated to commit murder because of the death penalty.[263] And as a decision affects more people, its ultimate impact on society, from primary and secondary effects, becomes more unpredictable.

Yet in making predictions about a decision's effect upon our social welfare (or the national interest), an analyst must be able to determine the balance of costs and benefits to society as a whole and not simply to those individuals directly affected by a decision.[264] Otherwise, what may appear to be a good outcome for the parties directly affected may be detrimental for society as a whole, as in the case of a cartel which benefits its few members and injures the large class of consumers.[265]

Since the interests of individual members of society may diverge from those of society itself,[266] an analysis must consider a decision's indirect as well as direct effects and must aggregate total social costs and benefits—a formidable task. Without many assumptions to simplify the analysis in a great number of cases,

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262. *See infra* notes 327-360 and accompanying text (discussing the neglect of secondary effects).

263. D. LUNDE, MURDER AND MADNESS 34 (1975).

264. *See generally* E. MISHAN, *supra* note 97, at xix-xxii (stating that cost-benefit analysis must be concerned with society as a whole and not with a smaller part).

265. *See, e.g., supra* notes 123-125 and accompanying text.

266. The archetypical example of a divergence between private and social concerns is that of a monopoly. Economic theory prefers a competitive market over a monopoly because in the latter case society as a whole is worse off even though the monopolist is better off. *See* J. HIRSHLEIFER, *supra* note 24, at 233-37 (explaining why a monopoly is disfavored by economists); P. SAMUELSON & W. NORDHAUS, *supra* note 24, at 518-20 (also explaining why a monopoly is disfavored by economists).

it would be impossible to arrive at meaningful conclusions in a reasonable length of time. Yet as more assumptions are used, cost-benefit analysis looks more like a house of cards in delicate balance and ready to collapse if a few assumptions are removed.

Additionally, even if the pleasures and pains of individual human beings could be quantified, a person might measure his costs or benefits inconsistently.[267] The possibility of having multiple values for the same cost or benefit naturally raises the question of which value to select in a cost-benefit analysis. For instance, in evaluating a particular item, like the worth of a house, a person could place different values on a house, depending upon whether he was buying or selling it.[268] A decision maker might find it perplexing to determine which value, the buying or selling value, was more appropriate to include in calculating the benefit of a house to an individual. In solving this problem of inconsistent evaluation, a decision maker necessarily exercises her judgment in choosing one value for each cost and benefit for an individual, and by extension, for society as a whole.

Because it relies fundamentally upon the judgment of the analyst in the arena of social decision making, cost-benefit analysis is a subjective process, prone to guesses, and is much more like an art than a science.[269] And while an artist has the freedom

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267. *See infra* notes 361-402 and accompanying text (discussing inconsistent evaluation).

268. Kennedy, *supra* note 7, at 401-21; A. POLINSKY, *supra* note 4, at 136-37; R. POSNER, *supra* note 1, at 15.

269. Law and economics advocates often write as though economic analysis provides easily and objectively determined conclusions. *See* Cohen, *supra* note 1, at 1160-63 (criticizing Judge Posner's use of economic analysis to promote his political views). Yet,

> cost-benefit analysis is as much an art as a science, for which the rule of reason is every bit as important as strict analytical rigor. Our theoretical knowledge on . . . costs and benefits comes from . . . models [imperfectly attuned to reality] . . . . At best these theoretical models provide a consistent analytical framework for thinking about practical problems, with their results serving as guidelines to the policymaker.

R. TRESCH, *supra* note 165, at 476; *accord*, McKean, *The Nature of Cost-Benefit Analysis*, in MICRO-ECONOMICS, *supra* note 172, at 535 (stating that "cost-benefit analysis necessarily involves . . . the making of subjective judgments, not just briskly proceeding with dispassionate scientific measurements"); Calabresi, *Transaction Costs, Resource Allocation and Liability Rules—A Comment*, 11 J.L. & ECON. 67, 69-70, 73 (1968) (describing efficiency analysis as requiring the use of "guesses"); *see* R. POSNER, *supra* note 1, at 14 (explaining that efficiency analysis involves a "guess" about market outcomes). As an art, cost-benefit analysis has no single correct way of measuring costs and benefits. Different ways are entirely legitimate in applying the art. Whether the analyst has politically conservative or liberal views, her personal views necessarily shape her conclusions.

to incorporate personal views into her expression of the art, no one would assert that her expression was correct in any absolute sense. Hopefully, a responsible analyst will state her assumptions and methods explicitly so that others can carefully scrutinize the validity of her conclusions.[270] Unfortunately, much of economic analysis of law fails to do so and thereby promotes the myth that a cost-benefit analysis is an objective process that is easily performed.

C. *Inaccurate Evaluation*

The difficulty of cost-benefit analysis lies in its attempt to calculate values for inherently unquantifiable variables. Whenever total social costs and benefits are aggregated in order to determine whether a particular decision has improved or diminished the welfare of society, an analyst must tally costs and benefits to individual members of society. Whether an analyst calculates the costs and benefits to society of different rules of legal procedure[271] or of particular theories of statutory and constitutional interpretation,[272] she must somehow quantify costs and benefits to each individual and then make meaningful comparisons of one person's welfare with that of others.

1. *Absence of a common denominator*

The dominant problem of quantifying costs and benefits results from the absence of a common denominator which would allow measurement of costs and benefits in the same units. Because common units are often absent, a person must use her judgment in selecting a method by which costs and benefits to

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See, e.g., Cohen, *supra* note 1; Kennedy, *supra* note 7 (reviewing the arguments made by the liberal school of law and economics which among other things encourages government intervention to provide a more even distribution of entitlements, and concluding that cost-benefit analysis as practiced by the liberal school generates only the liberal solutions to social problems while ignoring possible conservative solutions).

270. *See* A. POLINSKY, *supra* note 4, at 138.

271. *See* Posner, *An Economic Approach to Legal Procedure and Judicial Administration*, 2 J. LEGAL STUD. 399 (1973). *See generally* Cohen, *supra* note 1, at 1127-28, 1139-44 (critiquing Judge Posner's application of cost-benefit analysis to the procedural mechanisms of the legal system).

272. *See* Posner, *Economics, Politics, and the Reading of Statutes and the Constitution*, 49 U. CHI. L. REV. 263 (1982). *See generally* Cohen, *supra* note 1, at 1128-31, 1144-50 (critiquing Judge Posner's theories of statutory and constitutional interpretation).

different human beings are valued.[273] To compare apples with oranges, for example, an evaluator could apply her personal liking for the two fruits to determine which fruit is more valuable. But if perfectly competitive markets existed for both apples and oranges, using market prices would be a more versatile and powerful method of determining the value of each fruit because market prices would accurately reflect the relative value[274] of each fruit not only to the evaluator but also to other persons.

Using perfectly competitive market prices facilitates valuation because dollars are used as common units to evaluate market commodities.[275] Moreover, the inherent preferences of individuals for various commodities are irrelevant when market prices exist.[276] Although a market price cannot measure the usefulness or inherent value of a particular commodity to a particular person, these prices can compare the relative value of one commodity with another.[277] Since each commodity is valued in

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273. Only the costs and benefits to human beings should ultimately count. Even if an evaluator gave weight to perceived joys and sorrows of animals, trees, or the environment, their happiness and sadness would have weight solely because a human evaluator recognized that human beings were affected by the treatment of these nonhuman things. *Cf.* Sierra Club v. Morton, 405 U.S. 727, 743 (1972) (Douglas, J. dissenting) ("The river . . . is the living symbol of all the life it sustains or nourishes. . . . Those people who have a meaningful relation to that body of water . . . must be able to speak for the values which the river represents and which are threatened with destruction.") *See generally* Stone, *Should Trees Have Standing? Toward Legal Rights for Natural Objects*, 45 S. CAL. L. REV. 450, 456 (1972) (arguing that legal rights be given "to forests, oceans, rivers and other so-called 'natural objects' in the environment—indeed, to the natural environment as a whole.")

274. The relative value of a number of different commodities would be their values expressed in terms of other commodities. If a person is indifferent in choosing between two apples and one orange, the relative value of an orange is two apples.

275. In theory, these market commodities could be anything: goods, services, human beings, entitlements, or whatever else can be imagined. *See supra* notes 138-142 and accompanying text.

276. There is a theoretical distinction between the market price of an item and its inherent value to a consumer, with the difference between the two called "consumer surplus." *See* J. HIRSHLEIFER, *supra* note 24, at 204-12; E. MANSFIELD, *supra* note 30, at 99-105; P. SAMUELSON & W. NORDAUS, *supra* note 24, at 417-19. Consumer surplus exists because a person would be willing to pay more for an item than what he actually pays. Perhaps there is a special use the consumer may have for the item that will yield him great joy or high profits, or more mundanely, the consumer may believe he is marginally better off with the purchase than without it.

277. Traditionally, the first concept of value is referred to as "value in use" or the "capacity [of a commodity] to satisfy human wants," while the second is "[v]alue in exchange is the worth of [a] commodity in terms of its capacity to be exchanged for another commodity." *See* DICTIONARY OF ECONOMICS, *supra* note 30, at 439-440. *See generally supra* note 43 (comparing "value" in the context of value judgments to use or exchange "value" in economics).

dollars, market prices will permit an accurate mathematical comparison of two different market commodities. If market prices were twenty cents an apple and forty cents an orange, a person should logically conclude that an orange is worth exactly twice as much an apple.[278]

The evaluator's personal liking for apples and oranges becomes irrelevant because the evaluator would equate each commodity with its market price in dollars. For example, given a choice between receiving apples and oranges, a person would select oranges because an orange would be worth twice as much as an apple. Even if the evaluator disliked oranges, she could resell them in a perfectly competitive market, receive forty cents per orange, and use the sale proceeds to purchase twice the number of apples. Thus the value of a commodity would be identical to its market price, and everyone would agree that higher priced commodities were more valuable than the lower priced ones.

Similarly, costs as well as benefits can be valued if markets for these costs existed.[279] But because perfectly competitive markets exist only in theory, like the ideal of a frictionless world, a cost-benefit analysis of real-world problems cannot proceed flawlessly. If substantially competitive markets are available, however, a cost-benefit analysis might be reasonably accurate. Unfortunately, there is a dearth of even substantially competitive markets for most costs and benefits that might be considered in legal issues.[280] As a consequence, anything closely resembling an objective measurement of the costs and benefits of different choices to different human beings is impossible.

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278. Since every item sold in a particular market is assumed to be indistinguishable from all other items, all apples in the apple market are identical and all oranges in the orange market are identical. *See supra* text accompanying note 172. Therefore, if any one orange is worth twice as much as any one apple, every orange is worth twice as much as every apple.

279. *See, e.g.*, E. MISHAN, *supra* note 97, at 163; R. MUSGRAVE & P. MUSGRAVE, *supra* note 30, at 164-68. For example, the cost to a municipality of providing y units of police protection would be the value of y times the market price ($z) for police protection since the market is willing to pay $z for each unit of police protection. *See, e.g.*, R. MUSGRAVE & P. MUSGRAVE, *supra* note 30, at 168.

280. *See supra* notes 165-198 and accompanying text (absence of substantially competitive markets). In addition, the presence of a few voluntary exchanges would contribute little to the valuation process when benefits and costs to many parties are involved. For example, although a contract made by a local government to sell an historical site for ten million dollars would shed light on the value of the site to the contract parties—the seller valuing the site at less than ten million dollars and the buyer, more than ten million dollars—the contract tells nothing about the value of the site to third parties.

2. Interpersonal comparisons of welfare

Unlike foreign exchange rates which readily and objectively equate one currency with another, there is no interpersonal exchange rate to compare objectively one person's welfare with another. And, unlike the census bureau which accurately computes the number of legal residents in this country during a particular time period, there is no social welfare bureau to calculate accurately the total social welfare at any one time. The only conceivable way to perform interpersonal comparisons of welfare and to measure total social welfare is to make value judgments about how comparisons and measurements are to be made.[281] For example, an analyst must define and measure individual welfare, predict how different factors will change a person's welfare, decide whether an individual's welfare counts in the social calculus, and aggregate individual welfare into social welfare. Let us examine the value-laden process by which an analyst might exercise her judgment.

a. Defining and measuring individual welfare. First, an analyst must define and be able to measure individual welfare. An apparently easy solution might be the economic definition of personal welfare as *utility*, or simply the preferences that a person has.[282] This sounds attractive except that the analyst must now determine what these preferences are. Few individuals can be expected to have the same order of preferences.

Consider the simple example of asking individuals to rank the fifty states by where each person would ideally prefer to live. A person might prefer New York to Vermont, be indifferent between Vermont and Maine, and so on. It would be unlikely that many persons would have identical ranking of preferences for all fifty states. Even assuming that most people would rate one

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281. *See, e.g.*, K. ARROW, *supra* note 64, at 3-5; J. GRAAFF, THEORETICAL WELFARE ECONOMICS 8-9 (1957); E. MANSFIELD, *supra* note 30, at 467-68.

282. Economists commonly define individual welfare as the *utility* that an individual possesses. *See* J. GRAAFF, *supra* note 281, at 33-40; J. HIRSHLEIFER, *supra* note 24, at 59-66; E. MANSFIELD, *supra* note 30, at 53-61; E. MISHAN, *supra* note 43, at 119-24; P. SAMUELSON & W. NORDHAUS, *supra* note 24, at 411-15. But while the maximization of utility may, at one time, have meant

> that human beings avoid pain and seek pleasure or happiness. . . . What modern economists call "utility" reflects nothing more than rank ordering of preference. The statement "Basket A is preferred to basket B" and the statement "Basket A has higher utility than basket B" mean the same thing. They both lead to the empirical prediction: "Basket A will be chosen over basket B."

J. HIRSHLEIFER, *supra* note 24, at 59.

preference above all others, the analyst must obtain that information. Since a conversation with every individual is impractical and some conversations might convey little useful information, the analyst must make assumptions about the preferences of individuals in cases of large numbers of people. Opinion polls, public demonstrations, letters to decision makers, and election outcomes are some bases by which an analyst may arrive at these assumptions.

The analyst could choose happiness or pleasure as the appropriate definition of welfare, but these emotions, like any other human condition, are often difficult to identify and impossible to quantify. If the analyst chose happiness as the appropriate definition of welfare and was evaluating the effect of alternatives A and B on a person, she could ask the individual which alternative made him happier. That information would tell her whether the person preferred A to B, B to A, or was indifferent between A and B.[283] Assuming she had all the time in the world, the analyst could obtain a preference pattern for all of an individual's choices and be able to arrange them by order of preference.[284] Thus choice A might be preferred to choice B which in turn was preferred to choice C: A>B>C. The analyst could then predict what choices would make the individual happier than others.[285]

Unfortunately, while she could conceivably construct a pref-

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283. This is an example of transitivity which assumes that alternatives can be compared with each other so that an individual can prefer one to another or be indifferent between two choices. Transitivity requires that when a person prefers A to B and B to C that he will prefer A to C; a preference for C over A will show an intransitive preference pattern. *See, e.g.*, K. ARROW, *supra* note 64, at 13 & nn.5-6. Intransitive behavior is one definition of irrationality. *See infra* note 361.

284. Even assuming that a person would honestly disclose his preferences and that his preferences were transitive, a decision maker would have difficulty in knowing all of a person's preferences over any appreciable length of time. The decision maker would have to describe everything in terms of choices, and she would have to determine how an individual would rank them. The decision maker would have to ask a large number of questions concerning an infinite number of choices, and any answers she would receive could be valid only for a particular moment since preferences often change over time. Of course, by concentrating only on important choices that "matter" to persons, a decision maker could determine what goals should be pursued.

285. This assumes that the preferences are sufficiently stable. Finding out what an individual's preferences are at a particular time may be of limited usefulness since a future action aimed at increasing his welfare may have a contrary effect if his preferences change quickly and significantly. *See generally* March, *Bounded Rationality, Ambiguity, and the Engineering of Choice*, 9 BELL. J. ECON. 587 (1978) (observing that "[r]ational choice involves two guesses, a guess about uncertain future consequences and a guess about uncertain future preferences.")

erence pattern, it would only provide an ordering of preferences, that is, A would be first, B second, and so on. The passion or the intensity with which a person might prefer certain alternatives to others could not be disclosed by a mere ordering of preferences.[286] Moreover, since few of us retain the same desires with the same intensities over our lifespan, there would also be the problem of changing preferences over time.[287] One may have been a radical in youth who is now a reactionary in old age--even Ronald Reagan was once a democrat.[288]

Even if a person were asked to quantify his happiness, there would be a problem in comparing his units of happiness with those of another person. But a decision maker must be able to tell whether individuals affected by her action are happier as a collective whole. She can determine this only by making a personal value judgment about the relative happiness felt by different human beings. This exercise of judgment is what decision makers perform daily in countless settings, such as when parents select a television program to watch on the basis of which program makes their children happier as a group, or when senators decide to vote on a judicial nomination on the basis of what would please their constituency as a whole. Undoubtedly, a parent or a senator will be guided in her judgment by persuasive and reliable indications of how her children or constituency genuinely feel about her decision; for example, there may be loud and persistent demonstrations by those affected. Nevertheless, a personal value judgment on her part is necessary.

To solve the problem of quantification, a decision maker could select a person's *wealth and income* or perhaps his *willingness and ability to pay* as the appropriate definition of welfare.[289] But these selections also have their problems. Looking at the first, a person might object to a decision that increases his

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286. The distance between A, B, etc. would not be revealed because ordinal rather than cardinal numbers would describe the ranking of an individual's preferences. Value judgments would have to be made to assign cardinal numbers. *See generally* A. MACKAY, ARROW'S THEOREM: THE PARADOX OF SOCIAL CHOICE 10, 61-71 (1980) (using the analogy of scoring a decathlon to show the "squeez[ing] of cardinal blood out of an ordinal turnip," *id.* at 10).

287. *See generally supra* note 285 (discussing the stability of preferences).

288. *See* L. EDWARDS, RONALD REAGAN: A POLITICAL BIOGRAPHY 12, 74 (1980).

289. "Willingness and ability to pay" are Judge Posner's criteria for measuring individual welfare. *See supra* note 30 (according to Posner's definition of economic efficiency, which he assumes to be the best measure of individual welfare, one who cannot pay does not count).

coffers but destroys his environment or endangers his life. Increased wealth (or income) at the cost of decreased happiness hardly seems consistent with the notion of improved individual welfare.

Of course, the alternative selection of a person's willingness (and ability) to pay would resolve the problem of increased wealth and decreased happiness by ascertaining for which state (a situation or outcome) a person was willing to pay more. A person may, for instance, choose between the status quo (his original state) or a new state of increased wealth and decreased happiness. Whatever a person is willing to pay for would be a clear indication of what he prefers, and perhaps some of us would prefer sadness.

This selection, however, would have the troublesome feature of giving greater deference to the wishes of the rich and validating the wealth distribution of the status quo.[290] A wealthy person's ability to pay more for anything will give greater weight to his wishes than to those of an impoverished person on any issue that a wealthy person is concerned with. Moreover, if political decisions were determined by votes of dollars, the ability of the rich as a whole to out-vote the other economic segments of society would make important political decisions turn on the wishes of the rich.[291] Yet a plutocracy seems fundamentally at odds with the representative democracy we maintain in our society.

We are ultimately left with value judgments about the proper definition and measurement of an individual's welfare. In current practice, we use an eclectic approach. For example, we

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290. *See, e.g.*, Steiner, *The Public Sector and the Public Interest*, in ANALYSIS & EVALUATION, *supra* note 1, at 27-29.

291. According to the Department of Commerce, the following distribution of income and wealth exists:

U.S. Distribution of Family Income in 1987

Portion of Total Number of Families by Income	Percent of Total Family Income	Income at Lower Limit of Category
Lowest Fifth	4.6%	
Second Fifth	10.8%	$14,450
Third Fifth	16.9%	$25,100
Fourth Fifth	24.1%	$36,600
Highest Fifth	43.7%	$52,910
Top 5 Per Cent	16.9%	$86,300
All Families	100%	$30,853 (median)

See 1989 STATISTICAL ABSTRACT, *supra* note 65, at 446, tables nos. 722-23.

apply notions of one-person one-vote in public elections, assum-

Net Worth of U.S. Families by Family Income in 1983*

Family Income	Percent of Total Number of Families	Net Worth Mean	Net Worth Median
Less than $5000	9%	$12,051	$514
$5000-7499	8%	$20,146	$2725
$7500-9999	7%	$27,832	$2140
$10,000-14,999	14%	$36,277	$11,575
$15,000-19,999	13%	$36,816	$15,383
$20,000-24,999	11%	$45,564	$22,820
$25,000-29,999	9%	$60,513	$28,876
$30,000-39,999	13%	$69,083	$45,981
$40,000-49,000	7%	$95,658	$63,941
$50,000 and over	10%	$262,254	$130,851
All Families	100%	$66,050	$24,574

* Estimate for net worth excludes value of consumer durables, the cash value of life insurance, equity in small businesses and farms, and the present value of expected future benefits from pensions or social security.

See STATISTICAL ABSTRACT OF THE UNITED STATES 1987 451, table no. 727 (107th ed. 1987).

These statistics mean that those families with a family income in the top 10% not only have the highest family income but also have the greatest concentration of wealth. On the basis of their wealth, the families with the highest family income (the rich) can as a group easily "outvote" any single group or any coalition of groups with low family incomes (the poor) by wide margins. As the table below illustrates, the top 10% of families in terms of family income can outvote the bottom 9% by a margin of 96 to 4, the bottom 17% by 91 to 9, the bottom 24% by 85 to 15, the bottom 38% by 73 to 27, the bottom 51% by 64 to 36, the bottom 62% by 57 to 43, and the bottom 71% by 51 to 49.

TOTAL RELATIVE WEALTH BY FAMILY INCOME IN 1983

Family Income	% of Total Number of Families	Cumulative % of Total No. of Families	% of Total Wealth	Cumulative % of Total Wealth (X)	X divided by X + 39.2%
Less than $5000	9%	9%	1.6%	1.6%	4
$5000-7499	8%	17%	2.4%	4.0%	9
$7500-9999	7%	24%	2.9%	6.9%	15
$10,000-14,999	14%	38%	7.6%	14.5%	27
$15,000-19,999	13%	51%	7.2%	21.7%	36
$20,000-24,999	11%	62%	7.5%	29.2%	43
$25,000-29,999	9%	71%	8.1%	37.3%	49
$30,000-39,999	13%	84%	13.4%	50.7%	56
$40,000-49,000	7%	91%	10.0%	60.7%	61
$50,000 and over	10%	101%	39.2%	99.9%**	
All Families	100%	100%	100.0%	100.0%	

** Rounding errors.

See id. (figures above derived from government data). While these figures will change if adjusted for the age of the family wage earners, the conclusion about the great disparity

ing that a person votes for an issue or candidate that advances his welfare and that each voter's potential gain of welfare is the same.[292] In commercial transactions, we favor the notion of a person's willingness to pay, assuming that the person paying more for a market commodity gains more welfare than the person offering to pay less.[293] Finally, we invoke the notion of paternalism in giving immense discretion to parents in the raising of their children, assuming that parents know best about the welfare of their offspring.[294]

b. Deciding which factors affect individual welfare. Next, a decision maker must use her judgment to determine the factors which affect individual welfare. Since it is impractical to interview every person in society about the factors that increase or decrease his welfare, a decision maker must make assumptions

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of wealth among American families would still hold true.

292. Even here, our society does not make it easy for people to vote:

> Most Americans, in order to vote, must establish their eligibility by registering prior to election day. This requirement makes voting a more difficult act than it otherwise would be. Not only must citizens care enough to go to the polls, but to register they must also make an earlier expenditure of time and energy. Indeed, registration is often more difficult than voting. It may require a longer journey, at a less convenient hour, to complete a more complicated procedure—and at a time when interest in the campaign is far from its peak.
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> This aspect of the American electoral system is unusual. In most democratic countries the government assumes responsibility for enrolling all citizens on a permanent, nationwide electoral register. This difference is widely considered a major cause of the low rate of voter turnout in the United States.

Rosenstone & Wolfinger, *The Effect of Registration Laws on Voter Turnout*, 72 AM. POL. SCI. REV. 22, 22 (1978); *see* F. PIVEN & R. CLOWARD, WHY AMERICANS DON'T VOTE 17-25 (1988). *See generally id.* at 5 (comparing voter turnout rates in different democratic nations for the most recent national election as of 1983 and showing that the United States has the 23rd lowest rate out of 24 nations); T. MACKIE & R. ROSE, THE INTERNATIONAL ALMANAC OF ELECTORAL HISTORY 410-11 (2d ed. 1982) (comparing voter turnout rates in different democratic nations for recent elections and showing that the United States has the lowest average rate).

If every state had conditions for voting as permissive as the most permissive states in America, such as permitting citizens to register as late as on election day and having registration offices open in the evenings or on Saturdays, voter turnout would probably increase significantly (perhaps 15%). *See* Rosenstone & Wolfinger, *supra*, at 41-42. And if the burden for registration were placed not on the individual but on the government, voter turnout would probably increase substantially further. *See Id.* at 41. For an explanation of how the American voting system burdens the poor and the less educated, see generally F. PIVEN & R. CLOWARD, *supra*, at 3-6, 13-25, 113-21. *See generally* S. VERBA, *supra* note 64, at 13-14 (showing that compared to other industrialized countries, "[i]n the United States, voting turnout differs sharply across occupations, with those in higher-status (and higher-paid) jobs more likely to vote," *id.* at 14).

293. *See* Thurow, *supra* note 28, at 57.

294. *See, e.g.*, Santosky v. Kramer, 455 U.S. 745 (1982); Stanley v. Illinois, 405 U.S. 645 (1972).

about how human behavior and welfare are influenced. Some assumptions may be widely, perhaps universally, shared by members of society.

For example, Dean Calabresi finds that "moralisms" justify our laws against slavery or a person selling his kidneys because these events impose significant costs upon, and thus depress, the welfare of third parties.[295] Other assumptions may be less pervasive. The decision maker may believe that criminal behavior is deterred more by the probability of conviction than the severity of punishment, or more by fines than by imprisonment.[296] If she "knows" what factors affect individual welfare, a decision maker can implement policies that will enhance a person's welfare or change a person's undesirable behavior.

In yet another exercise of judgment, an analyst must determine which desires are legitimate, and hence, whose satisfaction will increase social welfare.[297] The converse, that of determining illegitimate desires, is also important.[298] For instance, satisfying the thirst of bigots for racial or religious persecution is thought to be reprehensible, thus causing a decrease in society's well-being. Society passes laws to punish criminal acts because in assessing the welfare of criminals and of their victims, the happiness or pleasure of a criminal in committing crimes is entitled to no weight compared to that of a victim in being protected from criminal activity.[299]

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295. *See* Calabresi & Melamed, *supra* note 30, at 1089, 1111-12. Moralisms are "externalities" or costs (or benefits) that are not taken into account by a market, and thus, need government intervention for protection. *See supra* note 175; *infra* note 327; Arrow, *The Organization of Economic Activity: Issues Pertinent to the Choice of Market versus Nonmarket Allocation*, in ANALYSIS & EVALUATION, *supra* note 1, at 59.

296. *See generally* R. POSNER, *supra* note 1, at 201-25 (providing assumptions of criminal behavior); G. BECKER, *supra* note 12, at 39-79 (same). A common and major rationale given for capital punishment is that death deters. The evidence for deterrence, however, is inconclusive and indeed seems more convincing that the death penalty does not deter effectively—at least in the way that it is currently carried out in this country.

Compare Bailey, *Disaggregation in Deterrence and Death Penalty Research: The Case of Murder in Chicago*, 74 J. CRIM. L. & CRIMINOLOGY 827, 827-29 & n.17 (1983) *and* Forst, *supra* note 90, at 938-40 & n.48 (arguing that there is no evidence establishing a deterrent effect for capital punishment) *with* R. POSNER, *supra* note 1, at 210-11 & n.6 and sources cited therein (contending that capital punishment has a substantial deterrent effect).

297. *See, e.g.*, Baker, *Counting Preferences in Collective Choice Situations*, 25 UCLA L. REV. 381 (1978).

298. *See, e.g.*, Arrow, *supra* note 1, at 59.

299. *Cf.* Schwartz, *supra* note 36, at 807 (stating that "the pleasure of the rapist is entitled to *much less weight* than the distress of the victim") (emphasis added). It would be theoretically possible, however, to give weight to a criminal's desires under some

Moreover, although society preaches the ideal that life is priceless and exacts a heavy penalty upon criminals who take a life or create a serious risk to another's life, it places a relatively low value upon a criminal's life. Many states permit a police officer to use deadly force, thus creating a serious risk to life, if the officer "reasonably believes it necessary . . . to prevent the escape of a person fleeing from an arrest for a felony"[300] whether or not the felony involves the use or threat of deadly force.[301] Apparently, these states believe that the lives of felons are to be given little consideration compared to the interest of society in apprehending those felons.

Finally, a decision maker's value judgment is exercised by her tacit acceptance of existing conditions. If statistical evidence indicates that the race of the victim weighs heavily in the severity of punishment imposed[302] and this practice is tolerated, she

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schemes of making interpersonal comparisons of welfare. For instance, Judge Posner presumably would find some value in a criminal's desire to rape but conclude that on balance "the total wealth of society would be increased if rape could be completely repressed at a reasonable cost." Posner, *An Economic Theory of the Criminal Law*, 85 COL. L. REV. 1193, 1199 (1985). In practice, however, no one tries to determine how much value there is in a desire to commit rape (or many other violent crimes); certain criminal desires are simply not counted.

300. W. LAFAVE & A. SCOTT, JR., CRIMINAL LAW 472 (2d ed. 1986).

301. *See id.* (describing the common law). Although a significant minority of state statutes follow the common law, *id.*, the validity of these laws may be doubtful in light of Tennessee v. Garner, 471 U.S. 1 (1985), which held that a Tennessee statute was unconstitutional inasmuch as it permitted an officer to use deadly force against an unarmed felony suspect who presented no danger either to the officer or to others. *See id.*; W. LAFAVE & A. SCOTT, JR., *supra* note 300, at 472-73 (discussing *Garner*). *See generally* MODEL PENAL CODE § 3.07 & explanatory note & comment (1985) (stating rules to follow in the use of force in law enforcement). *Garner*, however, would not apply to prison escapees, and "most modern codes . . . permit a guard or policeman employed at a prison or jail to use any force, including deadly force, when reasonably believed necessary to prevent the escape of a person" whether or not the escape was dangerous. W. LAFAVE & A. SCOTT, JR., *supra* note 300, at 474; *see* MODEL PENAL CODE, *supra*, § 3.07(3) & comment at 126-27.

302. *See, e.g.*, Gross & Mauro, *supra* note 90, at 105-10 (finding that killers in white-victim homicides are more likely to receive the death penalty than killers in black-victim homicides). Professors Gross and Mauro point out that:

[w]e are more readily horrified by a death if we empathize or identify with the victim, or see the victim as similar to a relative or friend, than if the victim appears to us as a stranger. In a society that remains segregated socially if not legally, and in which the great majority of jurors are white, jurors are not likely to identify with black victims or see them as family or friends. This reaction is not an expression of racial hostility, it is simply a reflection of an emotional fact of interracial relations in our society.

This effect is not restricted to capital sentencing. Psychological experiments have shown that people are more likely to agree to help strangers who are members of their own race than those who are not, and that they are more likely to help people who appear similar to themselves in other ways. Other experiments have shown that individ-

shows by her inaction what she believes to be important to the welfare of individuals in society.[303]

c. Transforming individual values into social choices. Once a decision maker or analyst decides how to measure individual welfare, she must then translate the desires of numerous individuals into a social decision. For example, she could conclude that the outcome of a presidential election is the proper method to determine whether society should have more battleships or more schools. That is, if a Republican wins, society should have more arms, and if a Democrat wins, society should have more education. While using elections for translating individual values into a social choice is convenient for those social issues that are covered or related to the elections, not all social choices are subject to elections. Most litigated cases, administrative regulations, executive orders, or statutes are never addressed in a public election. For the vast majority of social issues, then, the decision maker—whether judge, jury, legislator, and so on—must utilize her judgment when she aggregates individual values into a social choice.

For example, suppose the decision maker is looking at two alternatives and has determined that the individuals affected by them would have the following amounts of welfare under the two alternatives:

Alternative I	Alternative II
Individual A = 20 units of welfare	Individual A = 10 units
Individual B = 4 units of welfare	Individual B = 10 units
Individual C = 25 units of welfare	Individual C = 10 units
Individual D = 3 units of welfare	Individual D = 10 units

The analyst could aggregate individual values by adding together each person's welfare units, so that Alternative I with fifty-two units substantially exceeds Alternative II with forty

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uals empathize more with members of the same race than with members of different races.

Id. at 108 (footnotes omitted).

303. *See, e.g.*, McCleskey v. Kemp, 481 U.S. 279 (1987) (holding that statistical evidence of discriminatory sentencing based on the race of the victim in capital crimes did not violate the Constitution on either equal protection or due process grounds). *See generally* Lawrence, *The Id, the Ego, and Equal Protection: Reckoning with Unconscious Racism*, 39 STAN. L. REV. 317 (1987) (examining the effect of America's "historical and cultural heritage in which racism has played and still plays a dominant role," *id.* at 322) (footnote omitted).

units. But addition is not the only logical means of aggregation. If multiplication were selected, Alternative II with 10,000 units would look far better than Alternative I with 6,000 units. Additionally, the difference between the two alternatives may look dramatically greater if more complex schemes involving logarithms or exponents are used.[304]

By choosing a method of aggregation—whether it is the addition or multiplication of individual values—the analyst will have made a value judgment in selecting a particular way of aggregating individual values into a social total.[305] As mentioned before, we collectively do this when we accept the notion that each person is entitled to one vote in an election and that the candidate or issue with the greatest number of votes should win.[306] And as also stated previously, another common method is

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304. Consider, for example, the following methods of aggregation which lead to dramatically different social totals:

	Alternative I	Alternative II
Addition	52	40
2 to the power of the Sum of Individual Values	4.5×10^{15}	1.1×10^{12}
Multiplication	6,000	10,000
Logarithm (base 10) of the Product of Individual Values	3.78	4.00
The Product of Individual Values to the 3rd Power	2.16×10^{11}	1.00×10^{12}

305. *See, e.g.*, K. ARROW, *supra* note 64, at 4.

306. This, of course, is not absolute. In our presidential elections, the president is selected by electors rather than by popular vote. Further, since no one is forced to vote in an election, if a person neglects to vote his desires will not count.

Interestingly, voting mechanisms currently in effect are potentially vulnerable to the problem of outcome manipulation. For example, assume there are three groups of voters [Blues, Greens, and Reds] who are given three choices to vote for. There are 4 Blues, 4 Greens, and 2 Reds. Suppose the choices are A — the Blues will receive high paying jobs, the Reds will receive low paying jobs, and the Greens will receive no jobs; B — the Greens will receive high paying jobs, the Blues will receive low paying jobs, and the Reds will receive no jobs; and C — the Reds will receive high paying jobs, the Greens will receive low paying jobs, and the Blues will receive no jobs.

	Blues (4 votes)	Greens (4 votes)	Reds (2 votes)
ORDER	A	B	C
OF	B	C	A
PREFERENCE	C	A	B

to allocate goods and services through a market process in which

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Suppose that the Blues, Greens, and Reds will vote as a bloc, and that each group can vote for only one choice. Assume that the winning choice which binds all voters is that choice which receives a majority of the votes. If, however, no choice receives a majority, a runoff is held between the choices receiving the two highest totals with a majority vote in the runoff election determining the winning choice. In an election in which the groups vote honestly according to their preferences, the initial election would find the Blues casting 4 votes for A, the Greens, 4 votes for B, and the Reds, 2 votes for C. In the runoff between choices A and B, the Reds would vote for A since they prefer choice A to B, and the winning choice would be A, by a 6 to 4 vote.

If the three groups are allowed to engage in strategic behavior, *see infra* notes 376-380 and accompanying text, the winning choice would be unpredictable. Each group would attempt to protect its own interests by making deals with other groups. Since only one group can receive its first choice, each group will seek to obtain its second choice if it believes that the first choice seems improbable. The Greens, seeing that a nightmare would occur in the absence of strategic behavior, would attempt to bargain with the Reds by offering to vote for choice C. The Reds would accept this offer because choice C is their highest priority, and the Greens would benefit by receiving their second choice. The winning choice would be C by a 6 to 4 vote over A (no votes would be cast for B). No other agreement between the Greens and Reds is possible because the Greens would never vote for their worst choice A and the Reds would similarly never vote for their worst choice B. This is not, however, a stable arrangement.

Once the Blues are aware of the Green-Red agreement, they will seek to upset it because the agreement results in their worst possible choice. Since the Blues cannot offer anything better to the Reds, the Blues will attempt to lure the Greens into a new agreement in which the Blues promise to cast their votes for their second-best choice B. Because the Greens will obtain their first choice by this new agreement, they will abandon the Green-Red agreement for the Blue-Green agreement. No other agreement between the Blues and Greens is possible because the Blues would never vote for C and the Greens would never vote for A. The Blue-Green accord would result in a 8 to 2 vote in favor of B over C (no votes would be cast for A).

But the agreement to vote for B is also unstable for the Reds, faced with the specter of their worst choice, would react by enticing the Blues away from the Blue-Green agreement with an offer to vote for A, the Reds' second-best choice. Since the Blues will obtain their first choice by the Reds' offer, they will desert the Blue-Green agreement in favor of the Red-Blue agreement. No other agreement between the Reds and Blues could be reached because the former would never vote for B and the latter would never vote for C, and the vote would be for A over B by a 6 to 4 vote (no votes would be cast for C). Yet, once again, there is an unstable equilibrium, for we are back to the original outcome in which A prevails over B, and the cycle of intrigue begins anew. Thus, there is no single solution.

The problem of outcome manipulation is possible because none of the three choices commands a majority of first choice votes from the Blues, Greens, and Reds. Virtually all reasonable, and certainly all currently effective, voting schemes for aggregating individual votes into a collective choice suffer from the *paradox of voting*, that is, cyclical majority voting patterns or potentially inconsistent outcomes. *See* K. Arrow, *supra* note 64, at 2-3 & n.3; A. MacKay, *supra* note 286, at 26-31; D. Mueller, *supra* note 1, at 38-42. This unavoidable flaw exists not only for elections but for any procedure that uses a voting scheme. For instance, legislative bodies, social groups, and business organizations may vote on issues two at a time (choices A and B, or perhaps a motion with its proposed amendment). The power to control the agenda by which choices are matched may, in cases where no election choice is favored by a majority of voters, dictate the winning choice—even though a one-person one-vote rule is applied. Consider the previously dis-

cussed example of choices A, B, and C.

Assume that the winning choice which binds all voters is selected through a procedure involving two elections. The first election decides between two choices with the winner receiving a majority of the votes; the second election decides between the winner of the first election and the remaining third choice. The winner of the second election is the winning choice which binds all voters. Suppose one of the groups of Blues, Greens, or Reds has the power to determine which two choices are to be matched in the first election. That power gives a decisive advantage to the group wielding it. If the Blues had the power, they would pit B against C in the initial election (B would win by an 8 to 2 vote over C), and their top choice A would prevail over B in the final election (by 6 to 4). Similarly, with the Greens in control, they would match A against C in the first election (C would defeat A by a 6 to 4 vote), and their favorite choice B would beat C in the second election (by 8 to 2). Finally, if the Reds could set the agenda, A and B would be voted on first (with A prevailing by 6 to 4), and the Reds' best outcome C would defeat A in the second election (by 6 to 4).

Any reasonable majoritarian voting scheme can exhibit symptoms of the paradox of voting. Judge Easterbrook attempts to demonstrate that point in his argument that it is sometimes impossible to guarantee consistent majority decisions from the Supreme Court. *See* Easterbrook, *supra* note 47, at 814-23. As one of his examples, he gives the hypothetical in which the nine justices on the Supreme Court hold these legal positions with respect to deciding cases involving the establishment clause of the first amendment, by descending order of preference:

	3 Justices	3 Justices	3 Justices
Legal	Absolute	Balancing	Neutral
Position	Neutral	Absolute	Balancing
	Balancing	Neutral	Absolute

Easterbrook, *supra* note 47, at 816. Because each bloc of justices ranks these legal positions in a different order and no single legal position is preferred to another by all the justices, no position commands a majority of the court. Thus six justices will prefer absoluteness over neutrality, neutrality over balancing, and balancing over absoluteness. Suppose, however, that the order of preference is changed for any bloc, such as the first bloc:

	3 Justices	3 Justices	3 Justices
Legal	Absolute	Balancing	Neutral
Position	Balancing	Absolute	Balancing
	Neutral	Neutral	Absolute

Then six justices will favor balancing over either absoluteness or neutrality, and absoluteness over neutrality. With this change, a majority of the court will consistently adopt the balancing approach.

Judge Easterbrook's example, however, does have consistent case outcomes—in the sense that the outcomes' justifications are consistent—if the justices are not restricted to consideration of only two of the three legal positions for any one case. If all three positions can be considered, the Supreme Court's opinions will be consistent—consistently showing three views with no single majority opinion since each view is supported by three judges.

An example of inconsistent justification might arise when issues of free speech, a fair trial, and national security are pitted against each other in pairs in different cases. Suppose the justices hold these preferences (by descending order) with respect to the three issues:

only dollars count.[307] Therefore, we as a society may choose different methods of aggregation, depending upon the type of decision involved.

3. *Reliance on uncertain probabilities*

An analyst also exercises her judgment when she relies on unknown probabilities and assesses the effect of uncertainty upon human behavior. Because many crucial probabilities are unknown to an analyst, she must necessarily provide her "best guess" in determining the likelihood of important events, an event which generates significant costs or benefits to human beings. The chance that the Internal Revenue Service will audit a taxpayer affects his propensity to evade taxes; the chance that a lawyer will earn a higher salary than just a college graduate influences a person's decision to go to law school.[308]

If an individual's behavior will change the probability that an important event will occur, the individual may attempt to affect the likelihood of the event's occurance. He may change or modify his behavior to decrease the probability if the event is detrimental or to increase the probability if the event is beneficial. Thus knowing the probability of future events occurring is important for a decision maker. It is also important, however, to know whether a person affected by such an event is aware of the event or the probability of its occurrence.

For example, with respect to the death penalty as a deter-

	3 Justices	3 Justices	3 Justices
Legal	Free Speech	Fair Trial	National Security
Position	Fair Trial	National Security	Free Speech
	National Security	Free Speech	Fair Trial

Then clear inconsistent case opinions might emerge in the sense that the court's justifications may appear intransitive. In one case, the media's right of free speech might outweigh a criminal defendant's right to a fair trial so that the media can give enormous publicity on the details of a heinous crime (free speech wins over fair trial by a vote of 6 to 3). In a second case, a criminal defendant's right to a fair trial might outweigh national security concerns so that he can get top secret documents from the government (fair trial wins over national security by a vote of 6 to 3). In a third case, national security might outweigh free speech so that an injunction can be issued against the publication of a book that will expose the identities of American intelligence agents abroad (national security wins over free speech by a vote of 6 to 3).

307. *See supra* text accompanying notes 289-292.

308. Of course, other probabilities might be the chance that a taxpayer may benefit greatly from tax evasion and the chance that a person may dislike law school or be unable to afford it.

rent to homicides, Dr. Lunde, a noted forensic psychiatrist, has pointed out that "[t]here is no significant correlation, either positive or negative, between the threat of the death penalty and the homicide rate in the U.S. Most murders are impulsive acts that arise out of a situation in which the assailant reacts quickly, without reflecting upon possible long-term consequences."[309] Furthermore, Dr. Lunde questions whether a severe deterrent is as effective as a swift and certain deterrent.[310] Thus, there are many variables that could realistically affect a person's behavior: the probability that an important event will occur, a person's awareness of that probability, and how quickly a person will be affected by the event. And, to add more complications, different risk attitudes also affect a person's response to uncertain events.[311]

Without empirical data and sufficiently robust models, it is easy for the personal views of an analyst to provide conclusions in economic analysis. Judge Posner, for example, believes that many "white collar crimes—financial, nonviolent crimes committed by middle class people, such as price fixing, tax evasion, securities fraud, and bribery—probably could be punished exclusively by fines."[312] He arrives at this conclusion essentially by using the following formula:

$$F = PC/p$$

in which F is the optimal fine, PC is the expected punishment cost (and is related to the harm caused by the criminal), and p is the probability of being caught and convicted.[313]

But even assuming the validity of the formula and the accu-

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309. D. LUNDE, *supra* note 263, at 34. Dr. Lunde goes on to say that, "[o]f the 40 murderers I have examined, only two had given any thought to the possibility of the death penalty, and in both these cases the defendants were depressed, suicidal, and wanted the death penalty (neither received it)." *Id.*

310. In commenting on the death penalty as a deterrent to homicides, Dr. Lunde states that:

> it should be remembered that the death penalty has been administered in only a small percentage of murder cases (less than half of 1 percent in modern times), and then only after considerable delay. To the extent that punishment deters crime, it is thought to be a function of the swiftness and certainty of punishment, rather than the severity.

D. LUNDE, *supra* note 263, at 34; *see* J. LEVIN & J. FOX, MASS MURDER 224-25 (1985).

311. *See infra* notes 318-326 and accompanying text (discussing risk attitudes).

312. R. POSNER, *supra* note 1, at 210.

313. *See id.* at 203-10. The expected punishment cost should be greater than either a crime's potential gain to a criminal or its potential harm to a victim. *See id.* at 203-04, 206. However, the expected punishment cost should not be so great as to "deter the occasional crime that is value maximizing." *Id.* at 207.

racy of the expected punishment cost (PC), there is little empirical data about the probability (p) that white collar criminals will be caught and convicted. Where the probability is uncertain, an analyst merely applies her subjective personal views in arriving at the optimal fine. An analyst could easily assume that the probability p might be very small, perhaps one in ten thousand. Under these conditions, if the expected punishment cost PC exceeds $10,000—a rather small sum—the optimal fine exceeds $100,000,000, a figure beyond the financial assets of virtually all Americans. Under different assumptions, fines would or would not work.[314]

Admittedly, the use of probabilities to explain human behavior is helpful in this world where making decisions often results in uncertain outcomes.[315] Economic analysis of law does illuminate human behavior by its observation that decision making is affected by conditions of uncertainty.[316] But neither the subject of decision making under uncertainty, nor any other application of mathematics, is an economic preserve. Other social sciences have also used decision theory and other areas of mathematics in their analyses.[317]

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314. This article does not contend that fines are inappropriate for most white collar crimes. It merely states that assumptions about the efficacy of fines is speculative given the absence of empirical data about the probability of apprehension and conviction for white collar crimes.

315. *See generally* Seita, *supra* note 29 (discussing the effect of uncertain outcomes in contract law).

316. *See, e.g.*, *supra* note 123 and sources cited (game theory). To a great extent, however, the theory of games might be viewed as an interdisciplinary subject, created by a mathematician (Von Neumann) and an economist (Morgenstern) and developed by other social scientists. *See, e.g.*, A. RAPOPORT, FIGHTS, GAMES, AND DEBATES (1974) (use of game theory by a mathematician—psychologist); R. AXELROD, THE EVOLUTION OF COOPERATION (1984) (political scientist); Williams, *Introduction to Game Theory*, in MANAGERIAL ECONOMICS AND OPERATIONS RESEARCH, *supra* note 220, at 451-59 (mathematician).

317. *See, e.g.*, DIMENSIONS OF QUANTITATIVE RESEARCH IN HISTORY (W. Aydelotte, A. Bogue & R. Fogel, ed. 1972); MATHEMATICAL APPLICATIONS IN POLITICAL SCIENCE V (J. Herndon & J. Bernd, ed. 1971); S. GOLDBERG, INTRODUCTION TO DIFFERENCE EQUATIONS: WITH ILLUSTRATIVE EXAMPLES FROM ECONOMICS, PSYCHOLOGY, & SOCIOLOGY (1986); F. GRAVETTER & L. WALLNAU, STATISTICS FOR THE BEHAVIORAL SCIENCES: A FIRST COURSE FOR STUDENTS OF PSYCHOLOGY & EDUCATION (1985); D. KENNY, STATISTICS FOR THE SOCIAL AND BEHAVIORAL SCIENCES (1987); Krimerman, *Introduction to Measurement and Mathematics in the Social Sciences*, in THE NATURE AND SCOPE OF SOCIAL SCIENCE, *supra* note 76, at 483; K. RAI & J. BLYDENBURGH, POLITICAL SCIENCE STATISTICS (1973); W. MENDENHALL & M. RAMEY, STATISTICS FOR PSYCHOLOGY (1973); Kahneman & Tversky, *The Psychology of Preferences*, SCI. AM., Jan. 1982, at 160 (observing that in making risky choices people tend to follow regular patterns that can be described mathematically); Tversky & Kahneman, *Judgment Under Uncertainty: Heuristics and Biases*, in JUDGMENT UNDER UNCERTAINTY: HEURISTICS AND BIASES 3 (D. Kahneman, P. Slovic & A. Tver-

4. Risk attitudes

An important condition that complicates the estimation of costs and benefits to individuals is the existence of risk, or more generally, uncertainty that potential costs and benefits will occur.[318] Because different people may have different risk attitudes towards the same uncertain events, calculating the aggregate value of a social decision, such as the providing of a free or subsidized college education requires the use of simplifying assumptions. Moreover, variation in risk attitudes may exist not only among different individuals but also among different events for each individual.[319]

The same person who shows risk-seeking or risk-preferring behavior by gambling may display risk-averse behavior by purchasing insurance.[320] Whenever there is uncertainty that an event will occur, an analyst must recognize that risk attitudes will make evaluation of costs and benefits difficult for groups of people and for any single individual. But if costs and benefits must be measured in order to reach a social decision, the analyst

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sky eds. 1982) (showing that individuals rely on a few heuristic principles in assessing probabilities and understanding statistics) [hereinafter JUDGMENT UNDER UNCERTAINTY]. *See generally id.* (essays examining the effects of judgmental heuristics used under conditions of uncertainty).

318. In this article, a "risk" exists "whenever it is uncertain whether an unfavorable outcome may occur." Seita, *supra* note 29, at 81. This article does not make the technical distinction between "risk" and "uncertainty" that is sometimes made by economists. *See generally* DICTIONARY OF ECONOMICS, *supra* note 30, at 373, 431 (explaining the technical difference between "risk" and "uncertainty"); Seita, *supra* note 29, at 81 n.14 & sources cited.

319. *See* C. HOLLOWAY, *supra* note 132, at 390-414 (discussing risk-averse, risk-seeking, and risk-neutral attitudes); Kahneman & Tversky, *supra* note 317 (same); Seita, *supra* note 29, at 103 n. 63 (same). *See generally* Arrow, *Theory of Risk Aversion*, in ESSAYS IN THE THEORY OF RISK-BEARING 90-120 (1971) (analyzing risk aversion).

320. Gambling is risk-seeking behavior because an individual prefers the uncertain event (gambling) over a certain outcome (the sum to be saved by refraining from the gamble) even though the expected value of the *gain* from gambling is less than the certain sum to be saved by abstention. For example, the expected value of the gain from a lottery ticket may be only one dollar, a figure calculated by multiplying the probability of winning the lottery by the prize to be won, such as $1 = .001 x $1000, but the price of the lottery ticket may be two dollars (a certain sum). Purchasing insurance is risk-averse behavior because an individual prefers the certain outcome (the cost of insurance) over the uncertain event (the loss from fire, theft, and so on) even though the expected value of the *cost* of insurance is more than the expected value of the cost of an insurable loss. For example, purchasing insurance to cover a fire on a home may cost $200 (a sum certain), but the expected value of the loss from a fire as determined by statistical data may be only $100, a figure calculated by multiplying the probability of the fire occurring by the damage resulting from a fire, such as $100 = .001 x $100,000. *See* sources cited *supra* note 319.

must make value judgments about the appropriate weights to be given to different persons and to different events.

The uncertainty that an event will occur may exist, for example, when a person attempts to value the decision to obtain a college education—the potential pecuniary benefits may include a higher-paying job and the potential pecuniary costs may include college expenses and lost wages during the college years.[321]

Suppose the expected value (benefit) of a higher-paying job over a lifetime is $400,000 higher by going to college and that the expected value (cost) of tuition and lost wages over the time spent in college is $150,000.[322] If an individual were driven by expected values only, he would rationally choose to attend college since the expected value of the net gain would be $250,000. But suppose the gain is a sum calculated from statistical data showing that the "average" college graduate will earn $400,000 more over a lifetime by going to college and that this gain is not guaranteed for any single individual. That is, the gain is uncertain or involves a "gamble" because some college graduates may earn much more than $400,000 and others may not even earn more than if they had not gone to college. Conversely, the cost of $150,000 will be incurred early on and be more certain, at least as to tuition, and thus will be a disincentive to attend college.

Comparing the expected benefit of $400,000 with the expected cost of $150,000 is, in a sense, comparing apples and oranges because the different risks involved (more uncertainty for the benefit, more certainty for the cost), makes one dollar of expected benefit different from one dollar of expected cost.[323] While the person involved may easily be able to rank the two alternatives in order of preference, if a decision maker must make the choice for the person, she needs a basis for comparing events for an individual.[324] A common denominator, or a kind of

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321. This example leaves out non-pecuniary costs and benefits which may be considerable, such as the cost of leaving invalid parents or the benefit of intellectual stimulation. A rational person presumably compares the total package of costs and benefits for each alternative course of action. *See generally* Grant & Ireson, *The Comparison of Alternatives*, in MANAGERIAL ECONOMICS AND OPERATIONS RESEARCH, *supra* note 220, at 11-19 (describing the procedure of comparing alternatives).

322. A present value for the expected value must be assumed to compare the apples and oranges of dollars at different times. *See generally* J. VAN HORNE, FINANCIAL MANAGEMENT AND POLICY 22-27 (5th ed. 1980) (discussing present value).

323. Other complications might be the desire for a individual for quick results, immediate gratification, or short-term profit.

324. Perhaps a choice must be made for the individual because transaction costs prevent the canvassing of each individual's preferences (legislation) or because the per-

risk-exchange rate, is needed to compare the expected benefit with the expected cost. One such denominator is the concept of a "certainty equivalent" or a certain sum (sure to occur) that a person will equate with the uncertain expected value of the gamble.[325] If a person is indifferent between $100,000 for certain and the $400,000 in expected higher wages from going to college, the benefit of going to college will have a certainty equivalent of $100,000 in certain dollars. Then going to college will have a benefit that is less than its certain cost of $150,000.[326]

Naturally, the choice of a "certainty equivalent" or any other basis for comparing costs and benefits with varying degrees of uncertainty is a value judgment on the part of the decision maker. She must make a difficult guess about the importance of uncertain costs and benefits to an individual. Furthermore, since different persons may have different risk attitudes about identical events, such as the degree of risk aversion toward insurable losses and of risk preference toward gambling, the certainty equivalents may vary for identical events from person to person. Thus, to estimate aggregate uncertain costs and benefits for a social decision, a decision maker exercises substantial judgment about the value of uncertain costs and benefits to the public.

D. Neglect of Secondary Effects

Together with the complications of inaccurate evaluation presented above, an analyst also faces similar complications from problems that, for convenience, can be described as arising from the secondary effects of a social decision. The impact of secondary effects may be quite overwhelming to fully account for in the cost-benefit analysis. Two examples of secondary effects arise from the interdependence of costs and benefits and from third-party effects or externalities.[327] Like the treatment of

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son is ill-informed and incapable of making the comparison (again, legislation).

325. *See, e.g.*, C. HOLLOWAY, *supra* note 132, at 100-23, 129-44 (discussing certainty equivalents).

326. This assumes that the certainty equivalent and the expected value of the costs are equal.

327. The phrase *third-party effects* is used in this article to describe, in common language, what are called *externalities* in economic jargon. Many externalities cannot be handled by a market mechanism and thus are examples of market failure. *See supra* note 175 and sources cited; Arrow, *The Organization of Economic Activity: Issues Pertinent to the Choice of Market Versus Nonmarket Allocation*, in ANALYSIS & EVALUATION, *supra* note 1, at 47, 59 (describing externalities as "a special case of a more general

problems stemming from inaccurate evaluation, it is necessary in practice to assume what the impact of secondary effects will be, to minimize it, or to ignore it.[328] Whichever path is selected, a heavy dose of value judgment is exercised.

1. *Interdependence of costs and benefits*

Since human beings are rather complex creatures, they may be affected in surprising ways by changes in their environment. In attempting to influence the behavior of certain individuals by altering the costs and benefits of different actions, a decision maker may find that these costs and benefits are interdependent. Any significant interdependence of costs and benefits presents a significant obstacle to their accurate evaluation. Even assuming that costs and benefits can be quantified to arrive at a total net gain or loss, the computed figure is only a static picture of the relevant variables. Perhaps nothing may be predicted about the effect of changing any of the variables.

Consider, for example, Judge Posner's formula which calculates that a person commits a crime when its expected benefits exceed expected costs.[329] According to the formula, criminal behavior can be modeled in the following equation:

$$EV = TB + IB - E - OC - CP$$

where EV is the expected value (net benefit or loss) to a potential criminal of committing a crime and is comprised of the following benefits and costs associated with that crime: TB, the tangible benefits; IB, the intangible benefits; E, the out-of-pocket expenses; OC, the opportunity costs; and CP, the cost of punishment.[330]

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phenomenon, the failure of markets to exist"). *See generally* R. TRESCH, *supra* note 165, at 90-92 (discussing externalities in cost-benefit analysis); Coleman, *supra* note 30, at 231-37 (distinguishing between externalities and external effects).

328. *See, e.g., infra* notes 329-340 and accompanying text; Seita, *supra* note 29, at 100 & n.55.

329. *See* R. POSNER, *supra* note 1, at 205-06. Neither Judge Posner nor other advocates of law and economics contend that people in fact make such calculations consciously. Any model of criminal behavior merely proposes that rational people should behave as though these calculations had been made. *See id.* at 206 & n.1 and sources cited therein; *see also* Fiss, *supra* note 6, at 3.

330. Examples of tangible benefits (TB) would be money robbed from banks; intangible benefits (IB), the satisfaction of assaulting hated individuals; out-of-pocket expenses (E), the purchase of handguns; opportunity costs (OC), what the criminal could be doing with his time other than in criminal activity; and expected costs of criminal punishment (CP), the chance of imprisonment. R. POSNER, *supra* note 1, at 205-06.

These primary variables, in turn, would consist of other secondary variables. For

This equation makes it look deceptively simple to alter a person's behavior.[331] For the average criminal, it appears as though an increase in out-of-pocket expenses (E), opportunity costs (OC), or cost of punishment (CP) would decrease a criminal's expected value (EV) from committing a crime and thereby tend to discourage criminal behavior. That would follow because costs have increased while benefits have remained the same. But it might be difficult to predict the change in the expected value (EV) if the variables in the equation were dependent upon each other.[332] Any interrelationship among the variables might cause a change in one variable to result in changes in other variables.[333]

For example, let us speculate on a possible case of interde-

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example, CP = P x M, where CP, the expected costs of criminal punishment, would be a function of P, the probability of apprehension and conviction, and M, the magnitude or severity of punishment. *Id.* at 207. And the process of dependence upon other variables could continue since the secondary variables might depend on still other variables. For instance, M, the magnitude of punishment, might depend upon the speed with which a particular punishment will be inflicted. A person who has committed a crime might fear an immediate imposition of a five-year sentence in prison differently from the same sentence being imposed three years after he has committed a crime.

331. To control the level of criminal activity, Posner suggests changing the different variables. One way would be to increase

> the amount of law enforcement activity and the severity of punishment. [In addition], the benefits of theft, and hence its incidence, might be reduced by a redistribution of wealth away from the wealthy. Similarly, the opportunity costs of crime could be increased, and thus the incidence of crime reduced, by reducing unemployment, which would increase the gains from lawful work. The out-of-pocket expenses of crime could also be increased, for example by imposing a heavy tax on handguns.

R. POSNER, *supra* note 1, at 206.

332. The interdependence of costs and benefits is different from third-party effects, or externalities, which affect individuals other than those immediately connected with an action. For example, raising the cost of punishment to criminals, aside from any interdependent effect, may have the third-party effect of chilling actions by, and thus deteriorating the civil liberties of, non-criminals. *See generally infra* notes 341-360 and accompanying text (discussing third-party effects).

333. This can occur, for example, if TB, IB, E, OC, and CP are functions of other variables which are common to TB, IB, E, OC, and CP. Then

$$\begin{aligned} EV(TB, IB, E, OC, CP) = {} & TB(x, y, z, \ldots) + IB(x, y, z, \ldots) \\ & - E(x, y, z, \ldots) - OC(x, y, z, \ldots) \\ & - CP(x, y, z, \ldots) \end{aligned}$$

so that EV is a function of five variables (TB, IB, E, OC, CP) which are, in turn, functions of other variables in common (x, y, z,. . .). Then, in trying to change E by manipulating x, we will also cause, and have to predict, the extent of changes in the other four variables of EV (TB, IB, OC, CP). *See generally* W. KAPLAN, ADVANCED CALCULUS 135-39 (2d ed. 1973) (discussing computation of derivatives of composite functions). Thus the interdependence of EV's five variables makes the final computation of EV very complex.

pendence between one cost and one benefit. Suppose the out-of-pocket expenses (E) and tangible benefits (TB) of a crime could affect each other. Imagine that gun control advocates succeed in making guns more difficult to obtain. This would tend to increase out-of-pocket expenses (E) because potential criminals might have to pay more in order to obtain weapons; all other things being equal, a decrease in the supply of a product implies an increase in its price. At the same time, because fewer law-abiding citizens would have guns, the tangible benefits (TB) of committing a crime might increase due to a criminal's expectation that his chances of getting away with a crime would increase. Thus, in this example, whether an increase in out-of-pocket expenses (E) would cause a decrease in the expected value (EV) of a crime depends on the magnitude of the increase in tangible benefits (TB). How the average criminal would change his behavior might be enormously uncertain.

Another hypothetical example might be an interdependence between opportunity costs (OC) and tangible benefits (TB). Increasing opportunity costs (OC) by providing more jobs to the unemployed and higher paid jobs to the employed might increase the tangible benefits (TB) to be gained from criminal activity because, all else being equal, prospective victims would have more wealth to surrender to a criminal. Since many of the persons benefited by increased employment and higher paying jobs might never have committed a crime due to a perceived high cost of punishment (CP),[334] the increased opportunity cost (OC) to a potential criminal may be overshadowed by a greater increase in tangible benefits (TB).[335]

Obviously, these hypothetical examples of interdependence are purely speculative. The predictive value of these examples is quite uncertain due to the absence of any empirical data about the extent and effect of interdependence among variables. Yet

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334. Many individuals might include as a cost of punishment (CP) societal disapproval or personal regret over a violation of ethical codes. Although Posner does not include shame or a guilty conscience as an expected cost of punishment (CP), such external or internal forces are possible punishments. In this way, ethical codes can have a powerful influence over a person's behavior. *Cf.* Arrow, *Social Responsibility and Economic Efficiency*, 21 PUB. POL. 303 (1973) (explaining that ethical codes can promote social responsibility and economic efficiency).

335. Of course, the opportunity cost will increase only if a potential criminal is able to take advantage of greater job opportunities. He may, however, be ignorant of the availability of new jobs or be insufficiently trained to work at those jobs.

interdependence certainly exists.[336] Judge Posner's economic formula not only ignores interdependence[337] but also has little predictive value. The formula says nothing about the necessary amount of increase nor about the method of making an increase. All we know is that increasing one variable will probably change the expected value of committing a crime.[338] Economic analysis of criminal law illuminates criminal behavior no more, and probably less, than the analyses of other social sciences. Sociology, for example, has long accepted the idea that criminal behavior is influenced by various factors[339] and, unlike economics, uses real-life observations of individual behavior to support its conclusions.[340]

2. *Third-party effects*

Another problem in quantifying the costs and benefits of different decisions, actions, or policies is the generation of third-party effects from these events.[341] For example, the third-party

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336. The term interdependence is just another way of stating that a model is too simple. For example, a more realistic model would describe EV in terms of x, y, z, etc. and not TB, IB, etc. *See*, *supra* note 333. *See* generally *supra* notes 175, 295, 327 and sources cited (discussing externalities).

337. Judge Posner acknowledges some interdependent effect. *See* R. POSNER, *supra* note 1, at 208 (recognizing the possibility that eliminating the marginal deterrence of a crime—by punishing all crimes equally harshly—may increase the probability that the more heinous crimes will occur).

338. *See, e.g.*, Posner, *supra* note 299, at 1205 n.25.

339. How human beings respond in real life will determine in large measure the effectiveness of particular crime-fighting actions. A potential criminal's reactions to factors such as the publicity of punishment for a crime, the severity of punishment, the immediacy of punishment, the presence of police, and the number of prosecutors and judges should provide useful guidelines. Further, the characteristics of the potential criminal ought to be important as well: age, education, possible drug addiction, and so on.

340. *See, e.g.*, M. CLINARD & R. MEIER, SOCIOLOGY OF DEVIANT BEHAVIOR (5th ed. 1979); CRIME, LAW, AND SANCTIONS (M. Krohn & R. Akers ed. 1978); L. MCDONALD, THE SOCIOLOGY OF LAW & ORDER (1976). Psychology has also made similar observations. *See, e.g.*, D. LUNDE, *supra* note 263, at 34.

341. Law and economics advocates almost always refer to *third-party effects* by a different name, that of *externalities*. *See* C. GOETZ, *supra* note 4, at 18-19 (discussing externalities); R. POSNER, *supra* note 1, at 62 (same). More generally, all costs and benefits are not reflected in market prices. *See supra* note 175 (discussing the effect of externalities on market prices). Thus "when an externality is present there is a divergence between private and social cost." Dahlman, *The Problem of Externality*, in THE THEORY OF MARKET FAILURE, *supra* note 35, at 209. Externalities can be viewed as a product of transaction costs "for with zero transaction costs side effects will be internalized and will not negatively affect resource allocation." *Id.* at 210.

effects or "external impacts of plant closings are enormous."[342] There can be a myriad of effects upon individuals not directly affected by the closing. These effects can be positive if the company closing the plant hires new employees for another plant in a different location. They can also be negative if the former plant workers require unemployment and welfare benefits from taxpayers.[343]

In focusing on the impact of a policy upon one class of individuals, a decision maker may discount, ignore, or concede the possibility of significant third-party effects on other classes of individuals.[344] Whatever she chooses to do, it is invariably an exercise of judgment because the direction and magnitude of third-party effects are difficult to measure. Consider, for instance, Dean Calabresi's analysis of inalienable entitlements which cannot be bargained away, such as a person's freedom from slavery and right to keep his bodily organs.[345] Although Calabresi states that external costs called "moralisms" justify the inalienability of such entitlements, he recognizes that such "costs do not lend themselves to collective measurement which is acceptably objective and nonarbitrary."[346]

Assumptions about the minimal presence or an acceptable level of third-party effects obviously simplify cost-benefit analysis, and unsurprisingly, law and economics proponents—as well as others engaged in cost-benefit analyses—generally fail to emphasize third-party effects.[347] Remember, for example, Judge Posner's equation for criminal behavior which expressly takes into account the effect of social policies upon the class of criminals but not the effect of such policies upon other classes of individuals.[348] It seems plausible, however, to anticipate important third-party effects from social policies designed to affect potential criminals.[349] Presumably criminal behavior will be re-

342. Singer, *supra* note 25, at 717. Of course, the direct effects may also be tremendous, "with large adverse impacts on [the] physical and emotional health" of the unemployed workers. *Id.* at 718.

343. *See id.* at 712-17.

344. *See, e.g., id.* at 719 (arguing "that economists generally tend to undervalue [the] intangible costs of [major plant closings]").

345. *See* Calabresi & Melamed, *supra* note 30, at 1111-12.

346. *Id.* at 1111.

347. While the possible existence of third-party effects will be recognized, they will not be given much attention. *See, e.g.*, R. POSNER, *supra* note 1, at 205-12.

348. *See supra* notes 329-340 and accompanying text.

349. Indeed, Judge Posner gives some attention to possible third-party effects. *See* R. POSNER, *supra* note 1, at 207-08 (citing the chilling effect of too harsh a punishment).

duced, on the margin, when the cost of punishment is increased by relaxing constraints on police misconduct or when out-of-pocket expenses are increased by banning firearms. On the other hand, there may be major third-party effects if greater police misconduct hurts many more innocent people and the banning of firearms infringes upon the right to bear arms.

In making a cost-benefit analysis, it is easier to focus on only the immediate and direct effects of a proposed course of action. Remote and indirect effects are complicated to figure out and are more uncertain. The more uncertain a cost (or benefit), the greater the tendency to disregard it. After all, the remote and indirect cost may never occur or may be counterbalanced by other remote and indirect benefits.[350]

If the immediate and direct benefits apparently outweigh the costs for the affected individuals and institutions, an analyst could readily conclude that the action should be taken. By focusing on the benefits of an isolated event, an analyst may understandably—often quite sensibly in the absence of other information—generalize that society is better off. This is an example of assuming that what is good (or bad) in particular must also be good (or bad) for society in general.[351]

Of course, ignoring or minimizing the existence of third-party effects does not weaken their impact. An analyst's assumptions will not change reality. But because third-party effects often are indirect and have long-term repercussions, the *present* recommendations of an analyst may be readily accepted by her audience before the *future* consequences of implementing her recommendations show unexpected significant third-party effects. That a decision maker must select among different courses of action which may involve varying degrees of uncertain future third-party effects is an inherent problem in making decisions under conditions of uncertainty.

Obviously, an individual, a group, or society as a whole must take actions and make decisions knowing that the future may hold surprises. Whatever is done, value judgments play a decisive role because a decision maker's experience, education, personality, beliefs, peer pressure, age, financial condition, and other factors may lead her to favor one choice over another. Value judgments ought to be disclosed because the propriety of

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350. *See* A. DOWNS, AN ECONOMIC THEORY OF DEMOCRACY 86-87 (1957).

351. *See* Seita, *supra* note 29, at 100 & n.55.

such values can then be debated. For example, a cost-benefit analysis that recommends more federal funds for public education or national defense is full of value judgments—at a general level, that market forces cannot solve education or defense problems and that money will solve those problems, and at a more specific level, that money channeled though existing bureaucracies will be effectively utilized and that the elimination of waste is problematic. Pretending that a cost-benefit calculation represents a relatively objective and complete analysis of all possible significant effects is incorrect and only circumvents public debate.

The way we resolve today's important legal issues, such as those involving racial and social equality, abortion, capital punishment, freedom of expression, the right to education, the concentration of economic power, and the right of privacy,[352] will

352. A number of important legal issues have been recently addressed by the United States Supreme Court. *See, e.g.*, Webster v. Reproductive Health Services, 109 S. Ct. 3040 (1989) (issue of abortion); Stanford v. Kentucky, 109 S. Ct. 2969 (1989) (death penalty for minors); Browning-Ferris Indus. v. Kelco Disposal, Inc., 109 S. Ct. 2909 (1989) (whether the eighth amendment prohibits awards of punitive damages in cases involving private parties); H.J., Inc. v. Northwestern Bell Tel. Co., 109 S. Ct. 2893 (1989) (application of the Racketeer Influenced and Corrupt Organizations Act); Public Employees Retirement System of Ohio v. Betts, 109 S. Ct. 2854 (1989) (age discrimination); Texas v. Johnson, 109 S. Ct. 2533 (1989) (flag burning as part of free speech); Pennsylvania v. Union Gas Co., 109 S. Ct. 2273 (1989) (whether states' eleventh amendment immunity can be abrogated by federal environmental laws enacted pursuant to Commerce Clause); Wards Cove Packing Co. v. Atonio, 109 S. Ct. 2115 (1989) (racial discrimination); Graham v. Connor, 109 S. Ct. 1865 (1989) (standard for determining excessive police force in violation of the fourteenth amendment); Price Waterhouse v. Hopkins, 109 S. Ct. 1775 (1989) (sex discrimination); Skinner v. Railway Labor Executives' Ass'n, 109 S. Ct. 1402 (1989) (constitutionality of drug testing); DeShaney v. Winnebago County Department of Social Services, 109 S. Ct. 998 (1989) (state's duty to prevent child abuse); City of Richmond v. J.A. Croson Co., 109 S.Ct. 706 (1989) (affirmative action); Argentine Republic v. Amerada Hess Shipping Corp., 109 S.Ct. 683 (1989) (foreign sovereign immunity); Mistretta v. United States, 109 S.Ct. 647 (1989)(constitutionality of congressional delegation of sentencing guidelines for federal crimes to an independent sentencing commission); Kadrmas v. Dickinson Public Schools, 108 S.Ct. 2481 (1988) (indigent children's right of access to education); Business Electronics Corp. v. Sharp Electronics Corp., 108 S.Ct. 1515 (1988) (federal antitrust liability); Honig v. Doe, 484 U.S. 305 (1988) (handicapped individuals' right of access to education).

State Supreme Courts have also addressed important legal issues. For example, school financing sytems which rely on local property taxes have been challenged in a number of states as being unconstitutional under state constitutions because rich school districts receive much greating funding than poor school districts. The Supreme Court of Texas, in a recent landmark opinion, declared that the Texas system for financing public schools was unconstitutional under the Texas constitution due to the "glaring disparities" between what rich and poor school districts spend on public education. *See* Edgewood v. Kirby, No. C-8353 (Tex. Oct. 2, 1989) (WESTLAW, Texas Database, 1989 WL 113161). The disparity between public funding for rich and poor school districts

undoubtedly have amorphous but significant third-party effects. Because these effects are indefinite and occur after a long time lag, their characterization—as positive or negative—depends largely on value judgments.

Debating important legal issues is a process ripe with value judgments. Justice Antonin Scalia, in commenting on affirmative action, stated that

> [m]y father came to this country when he was a teenager. Not only had he never profited from the sweat of any black man's brow, I don't think he had ever seen a black man. There are, of course, many white ethnic groups that came to this country in great numbers relatively late in its history—Italians, Jews, Irish, Poles—who not only took no part in, and derived no profit from, the major historic suppression of the currently acknowledged minority groups, but were, in fact, themselves, the object of discrimination by the dominant Anglo-Saxon majority. If I can recall in my lifetime the obnoxious "White Trade Only" signs in shops in Washington, D.C., others can recall "Irish Need Not Apply" signs in Boston, three or four decades earlier. To be sure, in relatively recent years some or all of these groups have themselves practiced discrimination. But to compare their racial debt—I must use that term, since the concept of "restorative justice" implies it; there is no creditor without a debtor—with that of those who plied the slave trade, and who maintained a formal caste system for many years thereafter, is to confuse a mountain with a molehill.[353]

In Justice Scalia's statements, one can see many value judgments about social costs and benefits. Some are that his father did not benefit from the oppression of African-Americans; that many white ethnic groups took no part in and did not benefit from historically significant oppressions of minority groups like African-Americans and Native Americans; and, that white ethnic groups often suffered a cost of discrimination similar to what non-whites faced. But there are, of course, sharply differing value judgments,[354] including the view that without the dispossession of Native Americans from their lands, Justice Scalia's father would have had no America to immigrate to.

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does not violate the federal constitution. *See* San Antonio Indep. School Dist. v. Rodriguez 411 U.S. 1 (1973).

353. Scalia, *Commentary—The Disease as Cure: "In order to get beyond racism, we must first take account of race."*, 1979 WASH. U.L.Q. 147, 152.

354. Each of Justice Scalia's value judgments can be vigorously attacked. That, however, is beyond the scope of this article.

Legal issues are not the only ones that have third-party effects. What, for example, are the third-party benefits of investing in human capital? Arguably, not only do the recipients of investment in human capital benefit but so does society as a whole.[355] When citizens in a society are better educated and in better health, one might believe—a value judgment—that society is made better off in the long run, just as society benefits in the future by investing in physical infrastructure such as highways, airports, harbors, telephones, railroads, and dams.[356]

The weighing of costs and benefits on a national level is especially difficult and often prone to widely varying beliefs. For instance, did the spending of billions of dollars on the Apollo Project and the landing of a man on the moon make Americans better off (the third-party effects)? There are value judgments made when we follow certain policies—whether legal in nature or not. Questions of whether our nation should nurture infant industries or protect ailing industries,[357] whether business should have a long-term rather than a short-term outlook,[358]

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355. For example, Professor Schultz expresses his value judgments that, "investment in improving population quality can significantly enhance the economic prospects and welfare of poor people. Child care, home and work experience, the acquisition of information and skills through schooling, and other investments in health and schooling can improve population quality." T. SCHULTZ, INVESTING IN PEOPLE 7 (1981). *See generally* INVESTMENT IN EDUCATION: THE EQUITY-EFFICIENCY QUANDARY, *supra* note 169 (essays examining the effects of education upon the distribution of personal income).

356. *See* T. SCHULTZ, *supra* note 355. Professor Schultz has remarked that:

> There is much anxiety about food, energy, and other physical properties of the earth. Such anxiety is not new . . . . To the extent that the present forebodings are based predominantly on assessments of the declining physical capacity of the earth, I reject them, because a valid assessment must reckon the abilities of man to deal with changes in the physical properties of the earth. . . .
>
> The thrust of my argument is that the investment in population quality and in knowledge in large part determines the future prospects of mankind.

Id. at xi.

357. For example, behind the shield of temporary high tariffs against imports, Harley-Davidson, an American manufacturer of top-of-the-line motorcycles, was successful in changing its business to regain market share against its Japanese competitors. *See How Harley Beat Back the Japanese*, FORTUNE, Sept. 25, 1989, at 155. *See generally* G. HUFBAUER, D. BERLINER & K. ELLIOTT, TRADE PROTECTION IN THE UNITED STATES: 31 CASE STUDIES (1986) (analyzing 31 cases in which the United States has applied exceptional restraints on imports to protect important manufacturing and agricultural industries from foreign competition).

358. That is, should American companies strive for future gain at the cost of current pain? A major study on industrial productivity addresses a number of suspected causes of America's productivity problem, including the assertion, "that American industry has been hampered by investors and financial institutions that are driven by short-term expectations and have little interest in, or understanding of, the long-term needs of the businesses they invest in." M. DERTOUZOS, R. LESTER & R. SOLOW, MADE IN AMERICA:

whether the fight against drugs is more important than purely economic concerns,[359] and countless others involve value judgments. Every country, every organization, and every person faces similar problems in a weighing of costs and benefits.[360]

E. Inconsistent Evaluation

Associated with the difficulty of accurately evaluating costs and benefits to individuals and to groups of individuals is the common condition of inconsistent evaluation of costs and benefits by the very individuals and groups affected by those costs and benefits. The various causes of the problem of inconsistent evaluation can be grouped into general categories which include wealth effects, strategic behavior, and heuristics. Other causes may be attributable to irrationality (or intransitivity)[361] but eco-

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REGAINING THE PRODUCTIVE EDGE 43 (1989). *See generally* Morita, *Something Basic is Wrong in America*, N.Y. Times, Oct. 1, 1989, § 3 at 2, col. 1 (arguing that American companies have a short-term orientation that encourages the neglect of vital long-term investment).

359. Apparently, although President Bush is seeking to provide financial assistance to Columbia in its battle to fight drugs, he is also permitting American action which will deprive Columbia of more money than it will receive from the United States;

> Certainly [Columbia's war against drugs] is a military war, but first and foremost it is an economic one. And it will be hard to have any success as long as the United States holds to commercial policies that sap the legal economies of those countries [where drugs are produced]. Colombia is to receive more than $100 million in new anti-drug assistance. But it will lose $500 million each year because of the United States-inspired dissolution of an international coffee agreement. The result of such policies will be to block expansion in the Andean countries of the cultivation of legitimate crops for the American market.

Caleron, *War on Drugs, for Real, With Casualties*, N.Y. Times, Oct. 1, 1989, § 4 at 3, col. 1.

360. *See, e.g.*, Rosenberg, *National Pride vs. Economics*, U.S. NEWS & WORLD REP., Aug. 31, 1987, at 36 (reporting on the Israeli debate over the Lavi project, a jet fighter which would cost twice as much to develop than to purchase a comparable aircraft from the United States, but which would boost Israeli national pride and help establish an Israeli aerospace industry).

361. Rationality has different meanings in different academic disciplines. *See* Simon, *Rationality in Psychology and Economics*, in RATIONAL CHOICE, *supra* note 12, at 25, 26. Rational behavior in economics usually means behavior that is consistent, or that shows transitivity. *See, e.g., id.* at 26; K. ARROW, *supra* note 64, at 19-22; R. COOTER & T. ULEN, *supra* note 4, at 11. Transitive behavior permits a ranking, and therefore, a prediction of preferences, desires, tastes, and the like. If at a particular point in time, such as dinner, a person prefers beef to chicken and also prefers chicken to fish, transitive behavior means that he will prefer beef to fish. But if he prefers fish to chicken, no ranking, and hence, no prediction is possible about the maximization of welfare since he prefers beef to chicken, chicken to fish, and fish to beef. *See supra* notes 283-286 and accompanying text. Of course, even if there is transitive behavior, preferences may change over time. This adds another dimension of problems since a decision maker must

nomic analysis of law ignores irrational behavior,[362] possibly because its effects cannot be accurately predicted.

Depending on the circumstances of an individual or group and the manner in which the cost or benefit occurs or may occur, an individual or group may place different dollar figures on the particular cost or benefit involved. In that situation, an analyst has to decide which figure should be used in a cost-benefit calculation. Since different figures can be used, cost-benefit analysis is afflicted with what Professor Duncan Kennedy calls the problem of "general indeterminacy" in which solutions computed by the analysis are not unique and depend upon the value judgments of the analyst.[363]

1. *Wealth effects*

Wealth effects can be defined in various ways, all of which depend on the effect of existing or potential distributions of wealth (which includes income). At the individual level, a wealth effect exists "when a person places a high value, relative to his wealth, on the loss or gain in question."[364] A poor person, for example, may be willing to pay close to all of his wealth to prevent his only home from being destroyed. For society as a whole, wealth effects are those changes in the allocation of resources caused by different distributions of wealth.[365] Consider, for instance, the different uses of resources generated by a society whose rich members[366] demanded hallucinogenic drugs and by another whose rich preferred cancer-fighting drugs.[367]

The relationship between wealth effects and the "general indeterminacy" problem has been exhaustively explored by Professor Kennedy and others.[368] A principal part of Professor Ken-

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be able to monitor changing preferences, evidenced at the society-wide level perhaps by changing public opinion.

362. Irrational behavior is excluded from cost-benefit analysis because economic analysis of law assumes rational behavior on the part of human beings. *See supra* notes 27, 254-60.

363. *See* Kennedy, *supra* note 7, at 422-45.

364. A. POLINSKY, *supra* note 4, at 136; *see* Rizzo, *The Mirage of Efficiency*, 8 HOFSTRA L. REV. 641, 648-49 & n.25 and sources cited (1980).

365. *See* Kennedy, *supra* note 7, at 422 & nn.88-89 and sources cited; Thurow, *supra* note 28, at 57.

366. To have a significant impact on the allocation of resources, the rich would have to hold a relatively large proportion of the total wealth in society.

367. *See, e.g.*, Calabresi & Melamed, *supra* note 30, at 1095-96.

368. *See, e.g.*, Kennedy, *supra* note 7, at 422-45; Kelman, *supra* note 9, at 678-95; Bebchuk, *The Pursuit of a Bigger Pie: Can Everyone Expect a Bigger Slice?*, 8 HOFSTRA

nedy's analysis has focused on the generation of "offer" and "asking" prices by wealth effects.[369] A decision maker necessarily exercises her judgment by choosing either the offer or asking price for relevant costs and benefits.

Wealth effects can cause a person to place two different values, offer and asking prices, on a loss or gain because the person's wealth will affect the degree of difference between the two values.[370] Offer prices will be lower because the values will be what he would pay to prevent the loss from occurring or to obtain the gain, and thus be limited by his wealth. Asking prices will be higher because the values will be what he would have to be paid to allow the loss to occur or to forgo the gain, and thus have no limit but a person's desires.[371]

In the case of a loss, an offer price is an amount that a person will offer to prevent a loss that would otherwise occur, such as the loss of his home, whereas an asking price is an amount that a person can demand before the loss is allowed to occur.[372] For a benefit, an offer price is an amount that a person will offer to obtain a benefit that would otherwise not occur, such as medicines for a life-threatening illness, whereas an asking price is an amount that a person can demand before a benefit is taken away.[373]

Thus wealth effects make a person feel richer or poorer depending on the way in which a cost or benefit occurs. The impact of wealth effects grows with the importance of the cost or benefit.[374] If the cost or benefit is relatively unimportant because, for example, a person cares very little about the loss of a job that he dislikes, "then the answers to the two questions [of offer and asking prices] will be very close to each other and the ambiguity will, for all practical purposes, disappear. In general, however, these two questions will produce different answers."[375]

L. REV. 671, 679-87 (1980).

369. *See* Kennedy, *supra* note 7, at 401-22.

370. *See, e.g.*, Kennedy, *supra* note 7, at 401-07; Kelman, *supra* note 9, at 678-95; A. POLINSKY, *supra* note 4, at 136-38; R. POSNER, *supra* note 1, at 15.

371. *See, e.g.*, Kennedy, *supra* note 7, at 401; A. POLINSKY, *supra* note 4, at 136-137.

372. *See, e.g.*, A. POLINSKY, *supra* note 4, at 136-37.

373. *See, e.g.*, Kennedy, *supra* note 7, at 401.

374. A. POLINSKY, *supra* note 4, at 136-37.

375. *Id.* at 137.

2. Strategic behavior

Another frequent inconsistency in valuing costs and benefits is the product of strategic behavior which occurs when a person disguises or misrepresents his views. Circumstances which encourage strategic behavior exist when

> what is best for A to do depends upon B's choice, and B in turn must take into account the options open to A. So the concept of *optimizing*, choosing a 'best' outcome, can become somewhat hazy. Behavior in strategic situations may involve promises, threats, or other types of communications among the parties. There is room for conscious *cooperation* or *conflict*.[376]

This behavior is possible in exchange markets but not competitive ones.[377]

A person may behave strategically because there is the opportunity to be better off than by behaving "honestly" (in the sense that all relevant information is disclosed to another party). For example, it is common for buyers and sellers in sales transactions to withhold information on how eagerly (perhaps measured by the amount of profit) they view the sale; if a buyer bargains for a painting he finds very attractive, he should not let the seller know this.[378] Here, the value of the sale to the seller may dependent upon the buyer's desires, and the value to the buyer, on the seller's desires. Although there may possibly be an intrinsic value that a seller places on the thing to be sold, that

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376. J. HIRSHLEIFER, *supra* note 24, at 282 (emphasis in original). *See generally* A. POLINSKY, *supra* note 4, at 18-19 (discussing strategic behavior in terms of transaction costs); A. RAPOPORT, *supra* note 316, at 142 (defining strategic behavior in technical terms of game theory). "The theory of games provides a systematic way of exploring mixtures of conflicting versus common interests." J. HIRSHLEIFER, *supra* note 24, at 282; *see* sources cited *supra* note 123 (game theory). Game theory is useful as a perspective in analyzing conditions of conflict and cooperation in a variety of situations. *See, e.g.*, R. AXELROD, *supra* note 316 (evolution of cooperation); R. DAWKINS, *supra* note 257 (evolutionary biology); H. RAIFFA, THE ART & SCIENCE OF NEGOTIATION (1982) (business negotiations). *See generally* M. SHUBIK, GAME THEORY IN THE SOCIAL SCIENCES (1983).

377. Assuming that costs and benefits can be viewed as market commodities, strategic behavior is not possible in competitive markets because prices are set automatically by the market, whereas in exchange markets the parties must bargain over sale prices. *Compare supra* notes 162-164, 172 and accompanying text (competitive markets) *with supra* notes 199-202 and accompanying text (exchange markets).

378. Of course, the very fact that two parties are negotiating with each other discloses that each is interested in a deal. The intensity of each party's interest, however, is an unknown quality, and information about one side's intensity of desire gives a clear advantage to the other.

value is more probably a function of the exchange value that the seller could receive.[379]

A seller may place an initial value of $100,000 on a parcel of land but the value to him may increase if a buyer indicates that she will pay $1,000,000 for the parcel. If another buyer offered $2,000,000, the value of the land to the seller would again change. Thus values may change from strategic situations. Strategic behavior changes the value—a shifting concept—that we place on things. Knowing that others have different values may change your own value, and of course, your value may lead to changes for others. This means that there is really no "inherent" value to those things affected by strategic behavior.

The effect of strategic behavior may seem academic since functioning exchange markets provide benefits to both sides in an exchange or bargain, and it might seem irrelevant that the precise value each party may place upon the thing to be exchanged is unknowable. After all, both sides are pleased with the deal.

But it becomes a problem when an analyst must tally costs and benefits in order to reach an appropriate social decision which increases social welfare. Consider again the example Dean Calabresi used to justify the use of eminent domain.[380] Intrinsic values are given for the class of landowners and the class of park-desiring persons. Strategic behavior which alters initial values (which are themselves the product of initial available uses) is viewed as an illegitimate nuisance that should be obviated in the cost-benefit analysis. While that viewpoint may be quite reasonable and widely accepted, characterizing strategic behavior as a transaction cost and disregarding the effect of changing values are exercises in judgment for a decision maker.

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379. *See supra* note 277 and accompanying text. The "intrinsic" value one places on a competitive market commodity is affected by the availability of substitute commodities. Microeconomists distinguish between price and value by using the example of consumer surplus to show that there may be great value placed on a competitive market commodity even though its price may be low. *See, e.g.*, J. HIRSHLEIFER, *supra* note 24, at 206-207 (showing that water is more valuable than diamonds in the sense of having greater consumer surplus while diamonds have a higher market price). Consumer surplus, however, might be lower if there were an abundance of cheap substitutes, for example, juices or other life-supporting liquids as substitutes for water.

380. *See supra* notes 193-198 and accompanying text.

3. *Heuristics*

A third category of problems for cost-benefit analysis arises from the widespread use of heuristics, that is, rules of thumb used to provide solutions to problems and answers to questions.[381] Human beings use heuristics because they generally provide reasonable ways to cope with the innumerable potential decisions,[382] insignificant or significant,[383] that individuals face daily.[384] The presence of uncertainty is a necessary condition for the use of heuristics;[385] if everything were known, rules of thumb would never be needed to guess at or to estimate solutions and answers. Thus the use of heuristics can be viewed as techniques actually used for decision-making (or judgment) under uncertainty.[386]

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381. According to Professor Wiest, "A *heuristic* is itself an aid to discovery—especially the discovery of a solution to a problem. Going one step further, we may describe a heuristic as any device or procedure used to reduce problem-solving effort—in short, a rule of thumb used to solve a particular problem." Wiest, *Heuristic Programs for Decision-making*, in MANAGERIAL ECONOMICS AND OPERATIONS RESEARCH, *supra* note 220, at 408, 409-10 (emphasis in original). *See generally* JUDGMENT UNDER UNCERTAINTY, *supra* note 317 (essays on heuristics).

382. Heuristics are used because they save time:

> We all use heuristics in our daily living, drawing them from our knowledge and experience. To help us face the countless problem-solving situations that confront us each day, we devise simple rules of thumb that free us from the task of solving the same or similar problems over and over again. For example, consider the rule, "When the sky is cloudy, take an umbrella to work." . . . .
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> . . . .
>
> . . . While heuristics may not lead to the best solution in a particular case, experience over time has proved their general usefulness in finding good solutions to recurring problems with a minimum of effort.

Wiest, *Heuristic Programs for Decision-making*, in MANAGERIAL ECONOMICS AND OPERATIONS RESEARCH, *supra* note 220, at 410.

383. *See, e.g.*, Tversky & Kahneman, *Judgment Under Uncertainty: Heuristics and Biases*, in JUDGMENT UNDER UNCERTAINTY, *supra* note 317, at 3; Tversky & Kahneman, *Causal Schemas in Judgments Under Uncertainty*, in JUDGMENT UNDER UNCERTAINTY, *supra* note 317, at 117.

384. Many scholars have noted the widespread use of heuristics. *See, e.g.*, Oskamp, *Overconfidence in Case-study Judgments*, in JUDGMENT UNDER UNCERTAINTY, *supra* note 317, at 287-88; Singer, *The Vitality of Mythical Numbers*, in JUDGMENT UNDER UNCERTAINTY, *supra* note 317, at 411; Kahneman & Tversky, *Intuitive Prediction: Biases and Corrective Procedures*, in JUDGMENT UNDER UNCERTAINTY, *supra* note 317, at 415-17; Slovic, Fischhoff & Lichtenstein, *Facts Versus Fears: Understanding Perceived Risk*, in JUDGMENT UNDER UNCERTAINTY, *supra* note 317, at 463-64.

385. *See generally* JUDGMENT UNDER UNCERTAINTY, *supra* note 317 (essays on heuristics).

386. By contrast, other academics have studied the way human beings *should* make decisions under conditions of uncertainty. *See, e.g.*, C. HOLLOWAY, *supra* note 132; H. RAIFFA, DECISION ANALYSIS: INTRODUCTORY LECTURES ON CHOICES UNDER UNCERTAINTY (1970).

Although heuristics are generally useful, they may also create problems for a cost-benefit analysis in at least two ways. First, heuristics may prevent individuals from recognizing that two costs (or two benefits) are identical, thus causing people to provide different values for identical costs (or benefits). Psychologists Kahneman and Tversky have found that people will give different answers to objectively identical alternatives depending on the way the alternatives are "framed" (a heuristic):

> Another important aspect of the psychology of preferences is how people define the consequences of their choices. The same decision can be framed in several different ways; different frames can lead to different decisions. For example, consider the following problem:
>
> . . . .
>
> Imagine that the U.S. is preparing for the outbreak of a rare Asian disease, which is expected to kill 600 people. Two alternative programs to combat the disease have been proposed. Assume that the exact scientific estimates of the consequences of the programs are as follows: If Program *A* is adopted, 200 people will be saved. If Program *B* is adopted, there is a ⅓ probability that 600 people will be saved and a ⅔ probability that no people will be saved. Which of the two programs would you favor?
>
> The majority response to this problem is a risk-averse preference for Program *A* over Program *B*.
>
> Other respondents were presented with the same problem but a different formulation of the programs: If Program *C* is adopted, 400 people will die. If Program *D* is adopted, there is a ⅓ probability that nobody will die and a ⅔ probability that 600 people will die.
>
> The majority choice in this problem is risk-seeking: the certain death of 400 people is less acceptable than a ⅔ chance that 600 people will die.[387]

Obviously, when the heuristic of framing produces different responses from people, a decision maker must decide which response should be included in a cost-benefit analysis. While the

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387. Kahneman & Tversky, *supra* note 317, at 168 (emphasis in original). Kahneman and Tversky went on to say that

> [i]t is easy to see that the two versions of the problem describe identical outcomes. The only difference is that in the first version the death of 600 people is the normal reference point and the outcomes are evaluated as gains (lives saved), whereas in the second version no deaths is the normal reference and the programs are evaluated in terms of lives lost.

Id. at 168.

different responses may be a product of ignorance that could be cured, with the consequence that people will give consistent answers, which answer would informed people choose?

Another problem of heuristics stems from their potential to provide inaccurate perceptions that are significantly different from objective reality. While heuristics are generally useful in simplifying decision making, they sometimes "lead to severe and systematic errors."[388] When false perceptions cause people to place incorrect values on costs and benefits—incorrect in that individuals arrive at these values based on false information—which values should a decision maker select, the incorrect values or the values that informed people with accurate perceptions would presumably have? In the sense that people might choose different values in the absence of false perceptions, the use of heuristics again causes inconsistent evaluation.

Consider for a brief discussion, the condition of racial discrimination. Judge Posner has written that

> [d]iscrimination against racial or other groups has a number of possible causes. Sheer malevolence and irrationality may be factors in some cases. Discrimination is sometimes anticompetitive—this appears to have been a factor in the internment during World War II of California's Japanese residents—and sometimes exploitative, as in the case of Negro slavery; race enters as a convenient factor identifying the members of the competing or exploited group. In recent times, however, the most important factor responsible for discrimination probably has been information costs. To the extent that race or some attribute similarly difficult to conceal (sex, accent) is positively correlated with undesired characteristics or negatively correlated with desired characteristics, it is rational for people to use the attribute as a proxy for the underlying characteristic with which it is correlated. If experience has taught me (perhaps incorrectly) that most Mycenaeans have a strong garlic breath, I can economize on information costs by declining to join a club that accepts Mycenaeans as members. To be sure, I may thereby be forgoing a valuable association with some Mycenaeans who do not have strong garlic breath, but the costs in valuable associations forgone may be smaller than the information costs of making a more extensive sampling of Mycenaeans. Discrimination so motivated is no different in its fundamental economic character (its distributive effects may of

388. Tversky & Kahneman, *Judgment Under Uncertainty: Heuristics and Biases*, in JUDGMENT UNDER UNCERTAINTY, *supra* note 317, at 3.

> course be different) from a decision to stop buying Brand X toothpaste because of an unhappy experience with a previous purchase of it, albeit the next experience with the brand might have been better.[389]

Assuming that Judge Posner's story of racial discrimination is true,[390] and one could criticize him for rewriting history on a number of points,[391] his value judgment[392] about the primary source of modern day racial discrimination is essentially that the use of a heuristic to lower information costs causes racial discrimination. Thus cloaked in the jargon of economics, the practice of racial discrimination has a rational and defensible position.

Even assuming that the heuristic of racial stereotypes is

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389. R. POSNER, THE ECONOMICS OF JUSTICE, *supra* note 4, at 362 (footnote omitted).

390. As one critic stated,

> [t]he only evidence he cites for the empirical assertion that this rational behavior is the most important source of discrimination is an article about ex-slaves in the post-bellum South, scarcely an adequate base for such a sweeping statement. Further, it is not clear that the use of the most easily observable characteristic is the optimum sorting strategy in most situations in which discrimination occurs, since a small investment in some additional information may produce far better decisions about hiring, school admission, etc. Posner thus fails to support his assertion that discrimination as practiced in contemporary America is generally economically efficient.

Reuter, *supra* note 1, at 866-67 (footnotes omitted).

391. For example, Posner suggests that Japanese-Americans in California were "interned" because of "anticompetitive" reasons. Although he mention that the anticompetitive factor was "a factor," by neglecting to mention any other factors, a reader is left with the distinct impression that it must have been anticompetition that was the driving force behind the wholesale violation of the constitutional rights of Japanese-Americans, of whom two-thirds were American citizens and one-third barred from becoming citizens because federal law only allowed the naturalization of "a white person." Posner ignores the long history of racial hatred by whites against nonwhites in California, one example of which was California's clamor for internment of Japanese-Americans. There are a number of informative books on the internment. *See, e.g.*, J. TENBROEK, E. BARNHART & F. MATSON, PREJUDICE, WAR AND THE CONSTITUTION (1954); PERSONAL JUSTICE DENIED: REPORT OF THE COMMISSION ON WARTIME RELOCATION AND INTERNMENT OF CIVILIANS (1982); M. WEGLYN, YEARS OF INFAMY: THE UNTOLD STORY OF AMERICA'S CONCENTRATION CAMPS (1976).

On another issue, it is hard to understand how Judge Posner can justify his statement, except by making a personal value judgment, that "[i]n recent times . . . the most important factor responsible for [racial] discrimination probably has been information costs." R. POSNER, ECONOMICS OF JUSTICE, *supra* note 4, at 362 (footnote omitted). There are no facts adduced as evidence in support of Posner's statement, and it is not obvious why the desire to reduce information costs should be a more significant factor than other possible causes. *See, e.g.*, Lawrence, *supra* note 303, at 317-36 (viewing racism as a product of culture and the unconscious).

392. *See, e.g.*, Reuter, *supra* note 1, at 866-69 (critiquing Posner's "a priori speculation," *id.* at 869).

used solely to lower information costs and facilitate making decisions that involve racial issues, Kahneman and Tversky have found that heuristics like this can "lead to severe and systematic errors."[393] The heuristic of using stereotypes to lower information costs seems to be a variation of and have problems associated with what Kahneman and Tversky call the availability heuristic—which is used when "people assess the frequency of a class or the probability of an event by the ease with which instances or occurrences can be brought to mind."[394]

Kahneman and Tversky point out that the availability heuristic is useful

> for the judgment of frequency because, in general, frequent events are easier to recall or imagine than infrequent ones. However, availability is also affected by various factors which are unrelated to actual frequency. If the availability heuristic is applied, then such factors will affect the perceived frequency of classes and the subjective probability of events. Consequently, the use of the availability heuristic leads to systematic biases.[395]

Unfortunately, the mind may remember more easily individuals that are different or distinctive, and thus believe that such individuals commit certain acts more frequently than these individuals actually do.[396] The mind may also remember more clearly what has been inculcated into memory from culture, education, history, propaganda, religion, and other factors.[397]

By selectively recalling the homicidal acts of the mentally ill, a "normal" individual may well believe that the mentally ill are more dangerous than normal individuals even though the same proportion of normal individuals may also commit murders.[398] In 1990, how much of and which of the many outra-

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393. Tversky & Kahneman, *Judgment Under Uncertainty: Heuristics and Biases*, in JUDGMENT UNDER UNCERTAINTY, *supra* note 317, at 3.

394. *Id.* at 11.

395. Tversky & Kahneman, *Availability: A Heuristic for Judging Frequency and Probability*, in JUDGMENT UNDER UNCERTAINTY, *supra* note 317, at 164.

396. *See* Taylor, *The Availability Bias in Social Perception and Interaction*, in JUDGMENT UNDER UNCERTAINTY, *supra* note 317, at 192-94.

397. *See, e.g.*, Lawrence, *supra* note 303, at 330 (describing racism as an inherent part of American culture).

398. It is unclear whether in fact the mentally ill are more dangerous than normal individuals, that is, commit proportionately more crimes of violence including homicides. Research on this issue appears to be inconclusive. *See, e.g.*, Teplin, *The Criminality of the Mentally Ill: A Dangerous Misconception*, 142 AM. J. PSYCHIATRY 593 (1985) (stating that persons with serious mental disorders did not commit serious crimes at a dispropor-

geous crimes of 1989 that involved racial animus will a person remember, and will it depend on who that person is? Will he or she remember most vividly the white man massacring five Asian children in Stockton, California;[399] the young black and Hispanic teenagers raping a white jogger in New York City's Central Park;[400] or the gang of young white men murdering a 16-year old black in the Bensonhurst section of New York City?[401]

If the heuristic of racial stereotypes is systematically biased and gives an inaccurate impression, an individual will place the wrong values on associating with or avoiding other races. Pre-

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tionate rate); Steadman, *Critically Reassessing the Accuracy of Public Perceptions of the Dangerousness of the Mentally Ill*, 22 J. HEALTH & SOC. BEHAV. 310 (1981) (finding that ex-mental patients are arrested more often for serious crimes than members of the general population). *See generally* Klassen & O'Connor, *Crime, Inpatient Admissions, and Violence Among Male Mental Patients*, 11 INT'L J. L. & PSYCHIATRY 305 (1988) (finding a high correlation between prior hospital admissions and previous arrests for male mental patients).

399. *See, e.g.*, Baker, Joseph & Cerio, *Death on the Playground*, NEWSWEEK, Jan. 30, 1989, at 35; *Slaughter in a School Yard*, TIME, Jan. 30, 1989, at 29. U.S. NEWS & WORLD REPORT, the third national weekly news magazine, did not carry a report on the Stockton massacre which occurred on January 17, 1989. *See generally* N.Y. Times, February 11, 1989, § 1 at 6, col. 5 (giving the date of killings).

400. *See, e.g.*, Gelman & McKillop, *Going 'Wilding' in the City*, NEWSWEEK, May 8, 1989, at 65; Gibbs, *Wilding in the Night*, TIME, May 8, 1989, at 20; *A Clockwork Orange in Central Park*, U.S. NEWS & WORLD REP., May 8, 1989, p. 10. The Central Park rape, which occurred on April 19, 1989, seems to have generated much more national news coverage than either the Stockton or Bensonhurst crimes. *See supra* note 399 (Stockton massacre), *infra* note 401 (Bensonhurst murder). *See generally* Wolff, *Youths Rape and Beat Central Park Jogger*, N.Y. Times, April 21, 1989, at B1, col. 2 (giving the date of rape). Twelve days after the Central Park rape occurred, billionaire Donald Trump publicly urged hatred and punishment for the gang which raped the Central Park jogger. *See* N.Y. Times, May 1, 1989, § 1 at 13 (Donald Trump's full page ad in the New York Times). *See also* Hackett & McKillop, *Opinions, But No Solutions*, NEWSWEEK, May 15, 1989, at 40 (stating that Donald Trump ran full page ads in four New York City area newspapers). He did not, however, place a similar full page ad (or any other ad) in the New York Times condemning the Bensonhurst murder within a comparable time period (or, as far as can be determined, on any other date). *See generally* N.Y. Times, Aug. 23, 1989, to Sept. 8, 1989. Both Central Park and Bensonhurst are located in New York City where Donald Trump is a prominent local figure.

401. *See, e.g.*, Baker, Clifton & Fararo, *A Racist Ambush in New York*, NEWSWEEK, Sept. 4, 1989, at 25. Neither TIME nor U.S. NEWS & WORLD REPORT, the other two national weekly news magazines, carried a report on the murder which was committed in the Bensonhurst section of New York City on August 23, 1989. *See generally* Blumenthal, *Black Youth is Slain in Brooklyn By Whites in Attack Held Racial*, N.Y. Times, August 25, 1989, § 1 at 1, col. 1 (giving the date of murder). Of the three crimes committed in Stockton, in New York City's Central Park, and in Bensonhurst, the Bensonhurst killing was overtly the most racist. *Compare* sources cited *supra* note 399 (Stockton massacre) *and* sources cited *supra* note 400 (Central Park rape) *with* Roberts, *supra*, *and* Bohlen, *In Bensonhurst, Grief Mixed With Shame and Blunt Bias*, N.Y. Times, August 28, 1989, § 1 at 1, col. 3.

sumably a rational person would, if given the correct information, change his evaluation of other races.[402] Thus the decision maker must decide which values to select in a cost-benefit calculation—values based on what individuals incorrectly remember or values based on what they should remember.

V. CONCLUSION

The power of myth has always fascinated the human mind and spirit. Throughout the ages, myths of all kinds have given meaning to existence by providing reasons to live for and by illuminating the mysteries of nature and mankind.[403] Their durability and pervasiveness suggest that myths appeal to fundamental needs of humanity, including that of validating and supporting the specific social and moral order in which a person lives.[404]

Like the myths of gods and creation, the common myths of economic analysis of law explain phenomena and puzzles and prophesy future events. And like the ancient myths, economic myths are imbued with a religious fervor, helpful to the true believer in justifying strongly held values, beliefs, and ideologies.[405]

There is nothing improper about the use of value judgments. We need them to formulate policies and to make decisions. We need them to tell us what is right and what is wrong. They measure the importance of different costs and benefits and determine under what conditions—market or otherwise—problems are to be solved. But it is important to disclose what our values are rather than masking subjective views of the world behind economic myths that purportedly supply objective and disinterested analyses. Obviously, a largely subjective process like economic analysis of law cannot be transformed into an objective one by the mere use of technical economic jargon. And if values are divulged, we can at least judge their merit.

The debate has to be changed, from whether an economic myth tells us an answer, to whether particular values ought to be promoted—because economic myths are only vehicles for values. Sometimes it seems that proponents of law and economics desire an impossible certitude and precision in analyzing legal issues.

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402. *See* Lawrence, *supra* note 303, at 331-36.

403. *See* J. CAMPBELL, THE POWER OF MYTH 4, 22-23, 31, 40, 54-55, 138-39 (1988); J. CAMPBELL, MYTHS TO LIVE BY 8-12, 221-22 (1972).

404. J. CAMPBELL, THE POWER OF MYTH, *supra* note 403, at 31; J. CAMPBELL, MYTHS TO LIVE BY, *supra* 403, at 221-22.

405. *See* Reuter, *supra* note 1, at 869.

But a heavy price can be exacted when common myths are used to fulfill that desire. As an economist once remarked about one common myth, "[r]ationality also seems capable of leading to conclusions flatly contrary to observation. . . . including the well-known proposition that there cannot be any money lying in the street, because someone else would have picked it up already."[406]

406. ARROW, *Rationality of Self and Others in an Economic System*, in RATIONAL CHOICE, *supra* note 12, at 214.