

Market-Based Administrative Enforcement

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In administrative law, the market paradigm has led to revolution, as policymakers have followed commentators in turning from command-and-control regulation to incentives. This reconceptualization, however, has left one aspect of administrative law untouched: administrative adjudication. This neglect is unjustified, as the Article shows that adjudication itself could be accomplished through market processes. In an administrative market, the government would auction off rights to a fraction of any judgment award that an administrative agency might ultimately win against a given corporation. Such a market would reward third-party efforts to gather relevant information by allowing those possessing private information to trade on it. With further refinement, the government could use this market to determine what the final judgment against the corporation should be, thus supplanting traditional adjudication.

At first glance the proposal might seem likely to lead to inaccurate judgments. The Article, however, explains that the government could give traders incentives to price securities accurately by adjudicating a small percentage of randomly selected claims. Traders who overvalue securities would lose enough money in these randomly selected cases that traders ex ante would always act as if every claim will be adjudicated. Thus, the government would tether the market to traditional adjudicative norms, ensuring that it gives litigants due process even when their cases are not selected for traditional adjudication.

The Article demonstrates that the resulting “partially supplanting administrative market” helps to economize on judicial process. The market, though, does more than that: It can serve as an alternative to qui tam litigation, and it encourages regulators to craft regulations at higher levels of generality. The Article concludes by suggesting that the vast information-processing power of capital markets could shrink administrative agencies while improving their functioning.

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Introduction

Administrative agencies are beset by a triad of scarcity problems. First, when investigating potential regulatory breaches, agencies often cannot deploy an adequate number of investigators.¹ Second, once disputes lead to

1. See *infra* notes 36, 187 and accompanying text; see also Christen Carlson White, *Regulation of Leaky Underground Fuel Tanks: An Anatomy of Regulatory Failure*, 14 UCLA J. ENVTL. L. & POL'Y 105, 170 (1995-96) (providing an example of how the underfunding of enforcement of a regulatory program can undermine the program as a whole); cf. SUSAN ROSE-ACKERMAN, *RETHINKING THE*

administrative adjudication, both agency attorneys and administrative law judges (ALJs) are often swamped by their caseloads.² Finally, in the informal rulemaking process, a shortage of expert personnel may limit rulemaking activities,³ cause delay,⁴ and prevent an agency from drafting rules that produce desired results when applied to all species of idiosyncratic circumstance.⁵ Together, these scarcity problems hamper agencies' ability to regulate effectively at each stage of the regulatory process.

The simplest solution to the various problems of administrative scarcity would be to increase agency size: hire more experts to draft regulations, place more investigators on the trail of regulatory outlaws, and increase the number of lawyers and judges.⁶ The effectiveness of a bureaucracy, however, may

PROGRESSIVE AGENDA: THE REFORM OF THE AMERICAN REGULATORY STATE 63-64, 70 (1992) (arguing that judges should consider underfunded agency programs as effectively repealed); Melinda R. Kassen, *The Inadequacies of Congressional Attempts to Legislate Federal Facility Compliance with Environmental Requirements*, 54 MD. L. REV. 1475, 1487-91 (1995) (describing how the underfunding of compliance efforts by federal agencies has led to a failure by such agencies to adhere to environmental laws).

2. See A. Leo Levin & Michael E. Kunz, *Thinking About Judgeships*, 44 AM. U. L. REV. 1627, 1649 (1995) (noting "the sheer volume of cases that [ALJs] decide—approaching 700,000 a year—and the variety of matters that they handle"); see also Alan W. Heifetz, *ALIS, ADR, and ADP: The Future of Administrative Adjudication*, 1 WIDENER J. PUB. L. 13, 13 (1992) (predicting that the "most dramatic effect" on administrative adjudication "will come from efforts to manage that caseload efficient and expeditiously"); Paul R. Verkuil, *Reflections upon the Federal Administrative Judiciary*, 39 UCLA L. REV. 1341, 1343 (1992) ("[T]he ALJs probably decide more 'cases' each year than do their federal judicial counterparts."); cf. Jerry L. Mashaw, *Organizing Adjudication: Reflections on the Prospects for Artisans in the Age of Robots*, 39 UCLA L. REV. 1055, 1056 (1992) ("Adjudication not only breaks down hierarchy and decentralizes agency discretion, it is also notoriously slow and expensive. . . . From the administrative perspective, therefore, adjudication is work better performed by robots than by artisans.").

3. See, e.g., Thomas O. McGarity, *Some Thoughts on "Deossifying" the Rulemaking Process*, 41 DUKE L.J. 1385, 1396 (1992) ("Certainly, if more resources were plowed into rulemaking initiatives, the agencies would be less reluctant to undertake controversial rulemaking projects, to revisit old rules, and to write more flexible rules in the first place."); Emerson H. Tiller, *Controlling Policy by Controlling Process: Judicial Influence on Regulatory Decision Making*, 14 J.L. ECON. & ORG. (forthcoming 1998) (manuscript at 9) (providing an economic model that shows how "a change in agency resources can affect policy discretion," given the imposition of process requirements by courts as a means of controlling regulatory decisionmaking); see also Steven J. Groseclose, *Reinventing the Regulatory Agenda: Conclusions from an Empirical Study of EPA Clean Air Act Rulemaking Projections*, 53 MD. L. REV. 521, 533-34 (1994) (citing inadequate funding as one factor that "prevents realistic agenda setting and deadline compliance").

4. See McGarity, *supra* note 3, at 1396-436 (discussing various factors that may delay or derail rulemaking processes).

5. See generally Louis Kaplow, *Rules Versus Standards: An Economic Analysis*, 42 DUKE L.J. 557 (1992) (showing that the cost of drafting detailed regulations may counsel toward elaboration of regulations through adjudication).

6. Cf. Arthur Schlesinger, Jr. *Government Isn't the Root of All Evil*, WALL ST. J., Jan. 30, 1998, at A14 ("[I]t is increasingly evident that laissez-faire is not a cure-all."). But see PHILIP K. HOWARD, *THE DEATH OF COMMON SENSE: HOW LAW IS SUFFOCATING AMERICA* (1994) (arguing for a smaller federal government); Richard Rahn, *Cutting the Government to Size*, WASH. TIMES, May 11, 1995, at A19 (arguing that historical evidence indicates smaller government size is conducive to economic growth).

decrease with size.⁷ Further, given an electorate that favors small government, increasing the size of an administrative agency is often not politically feasible. A variety of other proposals and initiatives have, directly or indirectly, aimed at the scarcity problem. Among salient options, with varying degrees of effectiveness, are simplification of the administrative rulemaking process,⁸ increased delegation of regulatory tasks to states,⁹ regulatory negotiation,¹⁰ promulgation of nonacquiescence policies,¹¹ regulatory moratoria,¹² use of

See generally J. Stephen Ferris & Edwin G. West, *Testing Theories of Government Size: U.S. Experience, 1959-89*, 62 S. ECON. J. 537 (1996); Georgios Karras, *The Optimal Government Size: Further International Evidence on the Productivity of Government Services*, 34 ECON. INQ. 193 (1996).

7. See Joel D. Schwartz, *Liberty, Democracy, and the Origins of American Bureaucracy*, 97 HARV. L. REV. 815, 815 (1984) (book review) ("Bureaucracy fragments power, routinizes decision making, institutionalizes the influence of client interest groups, and, above all, insulates public policy from the shifting concerns of democratic majorities."). But cf. William V. Roth, Jr., *The "Malmanagement" Problem: Finding the Roots of Government Waste, Fraud, and Abuse*, 58 NOTRE DAME L. REV. 961, 967 (1983) (noting that measures of government size may understate the influence of the federal government, which relies on third parties such as states to carry out many of its regulatory mandates).

8. See, e.g., Ronald M. Levin, *Direct Final Rulemaking*, 64 GEO. WASH. L. REV. 1 (1995) (advocating a procedure allowing an agency to propose a rule that will become effective absent adverse comment); cf. Michael Asimow, *Nonlegislative Rulemaking and Regulatory Reform*, 1985 DUKE L.J. 381 (arguing against proposals to make nonlegislative rulemaking more like notice-and-comment informal rulemaking).

9. See, e.g., Surface Transportation and Transit Empowerment Act, S. 1494, 105th Cong. (1997) (providing for devolution of federal transportation programs to state governments); Peter H. Schuck, *Introduction: Some Reflections on the Federalism Debate*, YALE J. ON REG.-YALE L. & POL'Y REV., Symposium Issue, 1996, at 1, 4 ("Federalism now serves both as an instrument of the modern administrative state and as a rather flexible institutional accommodation to the extraordinary diversity of American society and to the challenges that this diversity poses for national unity."); cf. Arthur Earl Bonfield, *State Law in the Teaching of Administrative Law: A Critical Analysis of the Status Quo*, 61 TEX. L. REV. 95, 100-01 (1982) (arguing that state administrative law rivals federal administrative law in importance).

10. See Recommendations of the Administrative Conference, 47 Fed. Reg. 30,701, 30,708-09 (proposed July 15, 1982) (providing the Administrative Conference of the United States's recommendations for negotiated rulemaking); see also Negotiated Rulemaking Act of 1990, 5 U.S.C.A. §§ 561-570 (West 1997). But see Susan Rose-Ackerman, *Consensus Versus Incentives: A Skeptical Look at Regulatory Negotiation*, 43 DUKE L.J. 1206 (1994) (arguing that the case for regulatory negotiation has been overstated and that agencies should look toward creating market incentives instead). See generally Lawrence Susskind & Gerald McMahon, *The Theory and Practice of Negotiated Rulemaking*, 3 YALE J. ON REG. 133 (1985) (arguing that negotiated rulemaking could alleviate concerns about agency accountability and legitimacy).

11. See, e.g., Application by the Social Security Administration (SSA) of Federal Circuit Court and District Court Decisions, 61 Fed. Reg. 34,470, 34,470-71 (1996) (requiring social security adjudicators not to acquiesce to court rulings); Samuel Estreicher & Richard L. Revesz, *Nonacquiescence by Federal Administrative Agencies*, 98 YALE L.J. 679, 748-49 (1989) (arguing that acquiescence to inconsistent circuit court rulings by administrative agencies could impose significant social costs). See generally Dan T. Coenen, *The Constitutional Case Against Intracircuit Nonacquiescence*, 75 MINN. L. REV. 1339 (1991); Samuel Figler, *Executive Agency Nonacquiescence to Judicial Opinions*, 61 GEO. WASH. L. REV. 1664, 1674 (1993); Joshua I. Schwartz, *Nonacquiescence, Crowell v. Benson, and Administrative Adjudication*, 77 GEO. L.J. 1815 (1989).

12. See, e.g., Regulatory Transition Act of 1995, H.R. 450, 104th Cong. (1995).

statistical adjudication to resolve large numbers of claims,¹³ reduction of procedural rights for litigants in administrative adjudications,¹⁴ incorporation of alternative dispute resolution (ADR) procedures into the regulatory process,¹⁵ and heavier reliance on whistleblower suits¹⁶ and “citizen suits.”¹⁷

The red tape of government process exacerbates the scarcity problems that beset administrative agencies to such a degree that two commentators have even suggested privatizing agencies altogether.¹⁸ As long as the objectives of an administrative agency are clearly defined,¹⁹ the reasoning goes, the right to

13. See Kenneth S. Abraham & Glen O. Robinson, *Aggregative Valuation of Mass Tort Claims*, LAW & CONTEMP. PROBS., Autumn 1990, at 137; Robert G. Bone, *Statistical Adjudication: Rights, Justice, and Utility in a World of Process Scarcity*, 46 VAND. L. REV. 561 (1993); Michael J. Saks & Peter D. Blanck, *Justice Improved: The Unrecognized Benefit of Aggregation and Sampling in the Trial of Mass Torts*, 44 STAN. L. REV. 815 (1992).

14. See A.C. Pritchard, Note, *Government Promises and Due Process: An Economic Analysis of the “New Property,”* 77 VA. L. REV. 1053, 1053-54 (1991) (“[T]he time has come to rethink the justification for procedural protection of government benefits and to ask whether the current doctrine is consistent with those justifications.”); see also Jon C. Dubin, *Torquemada Meets Kafka: The Misapplication of the Issue Exhaustion Doctrine to Inquisitorial Administrative Proceedings*, 97 COLUM. L. REV. 1289, 1290-91 (1997) (“[A]gencies have often eschewed fully judicialized procedure in adjudication from sheer bureaucratic necessity, due to the imposing volume of cases adjudicated.”).

15. See Administrative Dispute Resolution Act, Pub. L. No. 101-552, 104 Stat. 2736 (1990) (allowing agencies to submit voluntarily to ADR proceedings); see also Administrative Dispute Resolution Act of 1996, Pub. L. No. 104-320, 110 Stat. 3870 (codified as amended at 5 U.S.C.A. §§ 571-584 (West Supp. 1997)) (providing several improvements on the original act). See generally Senator Charles E. Grassley & Charles Pou, Jr., *Congress, the Executive Branch and the Dispute Resolution Process*, 1992 J. DISPUTE RESOL. 1; Cynthia B. Dauber, Note & Comment, *The Ties That Do Not Bind: Nonbinding Arbitration in Federal Administrative Agencies*, 9 ADMIN. L.J. AM. U. 165 (1995); Margaret Ward, Legislative Development, *Public Fuss in a Private Forum*, 2 HARV. NEGOTIATION L. REV. 217 (1997) (discussing the reenactment of the Administrative Dispute Resolution Act).

16. See, e.g., Elletta Sangrey Callahan & Terry Morehead Dworkin, *Do Good and Get Rich: Financial Incentives for Whistleblowing and the False Claims Act*, 37 VILL. L. REV. 273 (1992). See generally Evan Caminker, *The Constitutionality of Qui Tam Actions*, 99 YALE L.J. 341, 341-44 (1989) (offering a concise history of qui tam litigation); John C. Coffee, Jr., *Rescuing the Private Attorney General: Why the Model of the Lawyer as Bounty Hunter Is Not Working*, 42 MD. L. REV. 215 (1983) (assessing incentives provided by qui tam suits); William E. Kovacic, *Whistleblower Bounty Lawsuits as Monitoring Devices in Government Contracting*, 29 LOY. L.A. L. REV. 1799 (1996) (assessing the success of the False Claims Act). The classic economic works on the private enforcement of law are Gary S. Becker & George J. Stigler, *Law Enforcement, Malfeasance, and Compensation of Enforcers*, 3 J. LEGAL STUD. 1 (1974); and William L. Landes & Richard A. Posner, *The Private Enforcement of Law*, 4 J. LEGAL STUD. 1 (1975).

17. See, e.g., 42 U.S.C. § 7604 (1994) (authorizing environmental citizen suits). For a thoughtful overview and critique of such suits, see Frank B. Cross, *Rethinking Environmental Citizen Suits*, 8 TEMPLE ENVTL. L. & TECH. J. 55 (1989). See also Stephen Fotis, Comment, *Private Enforcement of the Clean Air Act and the Clean Water Act*, 35 AM. U. L. REV. 127 (1985).

18. See Mark A. Cohen & Paul H. Rubin, *Private Enforcement of Public Policy*, 3 YALE J. ON REG. 167, 168 (1985) (noting that “private firms are generally more efficiently operated than public agencies”).

19. See *id.* at 176 (“An institution will be said to be privately enforceable when it includes mechanisms that make it in the self-interest of enforcement agents to perform according to the desires of the policymaker.”).

act as the administrative agency could be auctioned off to the highest bidder.²⁰ If the privatized agency is rewarded for accomplishing the regulatory goals, or punished for failing to meet them, it will have every incentive to create an efficient regulatory structure.²¹ This solution is unabashedly radical—it presents the risk that a single private firm might believe that it has found the best method for accomplishing regulation and thus bid the most, yet prove dead wrong.²²

My approach to the problem of process scarcity is different. Although it retains a confidence in the power of markets, it would leave regulatory decisions to legislators and administrative agencies. The solution is not to privatize administrative agencies lock, stock, and barrel, but to privatize the process of administrative adjudication, with safeguards designed to ensure that the privatization could achieve the same results as traditional administrative adjudication. I do not, however, write in praise of ADR.²³ Though arguably more efficient than traditional administrative adjudication, ADR ultimately addresses only one of the three prongs of the administrative agency scarcity

20. See *id.* at 178 (“[T]he government would auction off the right to enforce . . . regulations to an enforcement agent in the private sector.”).

21. See *id.* at 189 (“A private enforcer . . . will have the correct incentives to enable the evolution of efficient rules governing the implementation of public policy, since its incentives are purely economic and are structured to reflect the social costs and benefits of implementation.”).

22. If markets for corporate control are efficient and the privatized agency is publicly held, then control of the agency would always flow to the owners thought by the market to be best able to maximize the firm’s value, and thus indirectly the policymaker’s objectives. See Gregg A. Jarrell, *State Anti-Takeover Laws and the Efficient Allocation of Corporate Control: An Economic Analysis of Edgar v. MITE*, 2 SUP. CT. ECON. REV. 111, 112 (1983) (“[A] well-functioning market for corporate control, using tender offers and mergers, ensures that the most efficient teams manage publicly-held firms.”); cf. Frank H. Easterbrook & Daniel R. Fischel, *The Proper Role of a Target’s Management in Responding to a Tender Offer*, 94 HARV. L. REV. 1161 (1981) (arguing that passivity by managers of target firms should be legally required to provide a constraint on unfaithful management). There are two problems, however, with relying on the market after the initial auction to ensure that the owners of the firm are always value-maximizing. First, markets for corporate control may not be efficient, so the market may fail to correct for small policymaking inefficiencies. See Zohar Goshen, *Shareholder Dividend Options*, 104 YALE L.J. 881, 893 (1995) (“Managers are free to deviate from efficient performance as long as they do not cause a price decline that exceeds the costs of a takeover.”). Second, the privatized agency may not place enough weight on the variance of possible outcomes. That is, the agency’s shareholders are likely to have diversified portfolios and thus to be relatively unconcerned about the variance in the expected value of the agency. See generally Harry M. Markowitz, *Portfolio Selection*, 7 J. FIN. 77 (1952) (introducing modern portfolio theory). Thus, if the government were to reward a privatized motor vehicle safety agency (to take an example from Cohen & Rubin, *supra* note 18, at 177-81) by paying the agency for each life saved, the privatized agency might adopt a regulatory program with a slightly higher expected number of lives saved but a high variance. For example, some safety regulation might, with a very small probability, be expected to save a large number of lives, but with a very large probability cost lives. This uncertainty might be a large cost to the governmental policymaker. Since the government’s reward to the privatized agency depends on the ultimate success of its projects, however, the policymaker would be unable to induce the agency to take this ex ante uncertainty cost into account.

23. A criticism of ADR from another perspective is Eric K. Yamamoto, *ADR: Where Have All the Critics Gone?*, 36 SANTA CLARA L. REV. 1055 (1996).

problem—overwhelming caseloads—and it differs from traditional adjudication primarily in procedural and evidentiary details. Instead, the proposal that I offer would accomplish the task of administrative adjudication through a capital market structure: It would rely on traders to buy and sell securities corresponding to various legal claims, and judgments would ultimately depend on the prices at which such securities are exchanged.

This proposal draws a parallel between markets and courts. In recent years, commentators have noted the information-processing capabilities of capital markets.²⁴ Courts process information too, with judges and juries considering law and facts in reaching judgments. Perhaps recognizing the similarity, scholars have suggested capital-market approaches to torts,²⁵ mass torts,²⁶ and bankruptcy.²⁷ A non-legal writer has even trumpeted an “idea futures” market.²⁸ In all of these cases, markets provide complements to traditional adjudicative processes, but in none of them does a market save judges and juries the trouble of deciding cases and delivering verdicts.²⁹

24. For an overview of how capital markets process information, see Ronald J. Gilson & Reinier H. Kraakman, *The Mechanisms of Market Efficiency*, 70 VA. L. REV. 549 (1984).

25. See Peter Charles Choharis, *A Comprehensive Market Strategy for Tort Reform*, 12 YALE J. ON REG. 435 (1995) (arguing that tort victims and others should be allowed to buy and sell tort claims to create a secondary market in such claims).

26. See Thomas A. Smith, *A Capital Markets Approach to Mass Tort Bankruptcy*, 104 YALE L.J. 367 (1994) (urging that mass tort judgments be distributed among present and future claimants through a market mechanism).

27. See Mark J. Roe, *Bankruptcy and Debt: A New Model for Corporate Reorganization*, 83 COLUM. L. REV. 527 (1983) (arguing that the best way of valuing a bankrupt firm is for an underwriter to sell a percentage of its shares); see also David A. Skeel, Jr., *Markets, Courts, and the Brave New World of Bankruptcy Theory*, 1993 WIS. L. REV. 465 (evaluating different market-based approaches to bankruptcy).

28. See Robin Hanson, *Idea Futures: Encouraging an Honest Consensus* (visited Feb. 19, 1997) <<http://www.lucifer.com/~sean/IF/Exi8-IF.html>> (arguing for the creation of a market in which scientists could invest in and trade claims that would ultimately be judged true or false); see also ROBIN HANSON, COULD GAMBLING SAVE SCIENCE? ENCOURAGING AN HONEST CONSENSUS (8th Int'l Conf. on Risk and Gambling 1990) (same); Robin Hanson, *How Making Wagers on the Future Can Make It Happen Faster*, WIRED, Sept. 1995, at 125 (same). An Internet web site has implemented Hanson's vision. See *The Foresight Exchange* (last visited Mar. 24, 1998) <<http://www.ideosphere.com/fx/main.html>>. Alas, because of concerns about securities regulations, the site uses play cyber-money.

29. Mr. Choharis's proposal would allow tort victims to receive payment faster and would encourage claim settlement. See Choharis, *supra* note 25, at 444-45. The courts, however, would adjudicate claims that did not settle, and “victims will retain the right to proceed as they would under the current system.” *Id.* at 445. By contrast, my logic implies that a tort market could conceivably supplant the courts in most cases by placing a value on each victim's claims.

Smith's scheme provides a means of balancing the interests of present and future victims of mass torts when the tortfeasor will be unable to pay all claims. See *generally* Amchem Products, Inc. v. Windsor, 117 S. Ct. 2231 (1997) (addressing rights of future claimants in the context of certification under Federal Rule of Civil Procedure 23). A court would invest a judgment against the tortfeasor in government bonds, see Smith, *supra* note 26, at 401, and after enough time has passed for all victims to be identified, it would distribute the proceeds pro rata to holders of “trust shares.” A victim would receive trust shares with face value equal to the injury whenever a court adjudicated that an injury had occurred. The victim could sell the shares on the open market, and market participants would value the

If legal claims can be exchanged in capital markets,³⁰ then the prices at which such claims are traded serve as predictors of the expected value of judgments. Assuming that the capital markets in which legal claims trade are efficient, traders will base their purchasing decisions on the facts and law of particular cases, so that a strong legal claim will trade for more than a weak one.³¹ As long as traders believe that a particular legal claim will be resolved in court, then the price at which the claim has been traded could be used to enter a judgment, saving the government the trouble of using the court at all. Moreover, there is no reason that an entire legal claim needs to be traded for this mechanism to function; the government could establish a market in portions of legal claims. Traders would purchase at auction the rights to shares in a small percentage of each legal claim. The legal claimant (the government itself in the case of administrative enforcement actions) would receive the auction proceeds and retain rights to the rest of the claim. The value of this remainder would be determined not by judges or juries, but by the price at which traders exchange the portion of the claim initially auctioned.

There is, of course, a complication, easily seen in a sentence from the previous paragraph: "As long as traders believe that a particular legal claim *will be resolved in court*, then the price at which the claim has been traded could be used to enter a judgment, *saving the government the trouble of using the court at all.*" If the government does not ultimately use courts to resolve cases, then traders no longer have any reason to believe that claims will be resolved in court. Their incentive to value legal claims accurately thus disappears. Traders, of course, are not easily tricked. The challenge, then, is to give traders incentives to act as if all claims will ultimately be adjudicated without actually adjudicating all claims. How might this be done?

shares based on market perceptions of how many victims would receive trust shares in the future. My approach, in contrast, suggests that courts need not be used to award trust shares in all cases.

In Roe's market solution to bankruptcy, the court oversees the underwriting of a portion of the bankrupt corporation's shares to determine a valuation for the firm that the judge can then use to make decisions in subsequent proceedings. See Roe, *supra* note 27, at 559-60. An alternative market approach, analogous to my hypothetical supplanting administrative market, would be for markets to substitute for courts in judging individual disputes among bankrupt corporations and their creditors.

Even the high-tech idea futures market relies on judges ultimately to determine whether claims have come true. Many claims on the *Foresight Exchange*, however, cannot be judged for many years, and yet trading continues. That market participants appear to take long-term claims seriously even though they are unlikely to care about their play money investments by the time claims are actually judged suggests that adjudication may not be the primary constraint on prices of idea futures.

30. See generally Ari Dobner, Comment, *Litigation for Sale*, 144 U. PA. L. REV. 1529 (1996).

31. Cf. A.C. Pritchard, *Auctioning Justice: Legal and Market Mechanisms for Allocating Criminal Appellate Counsel*, 34 AM. CRIM. L. REV. 1161, 1174-75 (1997) (arguing for the auctioning off of rights to serve as government-paid contingent fee appellate counsel, and noting that clients with the best legal claims would be most likely to benefit); *id.* at 1162 ("The market, therefore, would allocate the largest share of legal resources to those criminal defendants with the most meritorious claims.").

The following mechanism would provide one means of giving traders appropriate incentives: Courts (or an institution like them) would be used to resolve a small percentage of claims selected at random. For that small subset of cases, the government would use the results of the traditional adjudication to fine traders enough for overvaluing securities (or give them bonuses for undervaluing them) to ensure that risk-averse traders would always act *ex ante* as if all cases would be adjudicated. This is not the only possible mechanism of disciplining traders' pricing.³² For present purposes, though, the penalty/bonus mechanism, which produces a version of what I will call an "administrative market," will be sufficient to show how the information-processing capabilities of capital markets can simulate the outcomes of legal proceedings.

I will explore how administrative markets can address the various scarcity problems described above in the context of levying fines on companies engaged in specified activities. For example, the administrative market could be used to discourage pollution, to deter government contracting fraud, to fine corporations whose workplaces are unsafe, to penalize corporations hiring illegal aliens, or to provide incentives against misleading advertising of consumer goods. The government would start the market for a particular period by auctioning off "administrative market securities"³³ corresponding to each corporation possibly subject to a particular fine. The government would deem each security to be worth a percentage of the amount by which the corporation had underpaid the fine. After a specified period, the government would calculate the value at which market participants were trading the securities, and it would redeem the securities at this value. Then, the corporation would be liable to the government for the fine corresponding to the value of the securities.

My argument is structured as follows: Each part sketches a more powerful vision of the administrative market than its predecessor, as I gradually build a full-fledged administrative market and then apply it. This organization emphasizes how progressively more developed versions of the administrative

32. In future work, I plan to sketch out a separate mechanism that does not rely on courts at all. See Michael Abramowicz, *Trial by Market* (1998) (unpublished manuscript, on file with author).

33. By using the word "security," I do not necessarily mean to imply that administrative market securities would be deemed securities for all purposes of the federal securities laws. See generally 15 U.S.C. § 77b(a)(1) (1994) (defining a "security"); *Landreth Timber Co. v. Landreth*, 471 U.S. 681, 686 (1985) (noting that labels applied to instruments by their issuers do not determine the reach of the federal securities laws) (citing *United Housing Found., Inc. v. Forman*, 421 U.S. 837, 851 (1975)); 1 LOUIS LOSS & JOEL SELIGMAN, *SECURITIES REGULATION* § 3A.1 (3d ed. 1989 & Ann. Supp. 1996); Lewis D. Lowenfels & Alan R. Bromberg, *What Is a Security Under the Federal Securities Laws?*, 56 ALB. L. REV. 473 (1993); Philip F. Franklin, Note, *Definition of a Security: Landreth Timber Co. v. Landreth*, 40 Sw. L.J. 879 (1986).

market increasingly accomplish the tasks that administrative agencies currently perform.³⁴

Part I introduces the administrative market as a supplement to a traditional administrative fine assessment apparatus, in which the enforcement agency can sue individual corporations that refuse to concede the agency's assessments of their fine liability. This part discusses some key benefits of administrative markets: harnessing private information, encouraging disclosure, and promoting settlement of administrative agency claims.

Part II introduces the "partially supplanting administrative market," which takes advantage of the penalty/bonus mechanism to adjudicate claims in the market. This part explains how variations on this mechanism could provide incentives for traders to value securities accurately without imposing burdensome risks on the traders. It also briefly considers four important objections to administrative markets: that they might be inefficient or uncompetitive and thus inaccurate; that they would represent compromises unfair to the party that would have fared better under traditional adjudication; that they would be jurisprudentially unsatisfactory; and that they would deny adequate process to litigants.

Part III illustrates how the adjudication of claims in administrative markets could change the incentives of regulators. This part explains how administrative markets, unlike courts, can process general legal standards as easily as detailed rules. An administrative market effectively adjudicates all cases, eliminating the strategic bargaining that in traditional adjudication under general legal standards can derail the settlement process. In addition, while judges and courts typically make binary decisions when confronted with legal standards, traders would evaluate corporate compliance along a continuum. The possibility of creating administrative markets driven entirely by general standards could empower policymakers to intervene efficiently in areas where detailed regulation is impractical. Part III concludes by applying this logic to show how an administrative market could smooth legal transitions and thus make legal change more feasible.

Part IV briefly compares administrative markets with existing market-oriented regulatory tools and provides some preliminary theoretical assessment of the choice between administrative markets and these more conventional approaches. In some cases, traditional market incentives are likely to be superior to administrative markets, because such regulatory regimes directly affect the incentives of actors in primary markets.

34. "Modern administrative agencies perform functions characteristic of all three branches of the federal government. That is, a single agency often adjudicates individual cases, formulates rules having the effect of law, and performs such executive functions as prosecuting actions in court and investigating." GLEN O. ROBINSON ET AL., *THE ADMINISTRATIVE PROCESS* 35 (4th ed. 1993). The full-fledged administrative market either performs or provides a substitute for each of these functions.

Administrative markets, however, may be more flexible than traditional market incentives and are particularly useful where agencies face massive enforcement problems.

I. Harnessing Private Information: The Supplemental Administrative Market

This part introduces the supplemental administrative market. By “supplemental,” I mean that the administrative market would operate in tandem with existing legal mechanisms by which agencies collect corporate fines. Agency attorneys would continue to pursue corporations who have underpaid their fine liability and either seek settlements with those corporations or ultimately resolve disputes with them in court. The supplemental market, then, does not relieve agency attorneys or administrative law judges of their duties. It does, however, provide a substitute for agency investigators; the goal of the supplemental market is to help the government harness private information relevant to assessing individual corporations’ fine liabilities and to encourage private actors to invest resources in finding such information.

The supplemental administrative market could be used in conjunction with any type of fine levied against corporations where third parties may have information useful to agency attorneys or be able to obtain it. For example, the Environmental Protection Agency might impose a fine to discourage emission of a certain chemical and use an administrative market to help determine which corporations have emitted the chemical and how much of it they have emitted.³⁵ Or, the government might replace its current elaborate scheme for preventing government contracting fraud³⁶ with a market-based approach that would give private individuals incentives to determine whether a company was overbilling the government.

Of course, the usefulness of such markets depends on the desirability of harnessing private information. If it is not normatively desirable to give private individuals incentives to investigate whether corporations are hiring illegal aliens, then the government should not create an administrative market

35. The Environmental Protection Agency has faced criticism for inadequately identifying and pursuing environmental offenders. *See, e.g.*, GENERAL ACCT. OFFICE, WASTEWATER DISCHARGERS ARE NOT COMPLYING WITH EPA POLLUTION CONTROL PERMITS 7 (1983) (reporting that only about 18 percent of relevant companies were in full compliance with agency requirements); William L. Andreen, *Beyond Words of Exhortation: The Congressional Prescription for Vigorous Federal Enforcement of the Clean Water Act*, 55 GEO. WASH. L. REV. 202 (1987). *But see EPA Set Record in '96 of 262 Criminal Cases on Pollution Charges*, WALL ST. J., Feb. 26, 1997, at B5.

36. While the Justice Department and other administrative agencies, like the Defense Contracting Audit Agency, are primarily responsible for preventing fraud, the government has turned to whistleblower (or *qui tam*) suits as a way of giving individuals a role in ensuring compliance. *See, e.g.*, False Claims Amendments Act of 1986, Pub. L. No. 99-562, 100 Stat. 3153 (codified as amended at 31 U.S.C. § 3730 (1994)) (increasing *qui tam* penalties for civil fraud).

to stimulate collection of such fines. My analysis does not consider the difficult question of desirability, but simply assumes that the harnessing of private information is beneficial in the context in which the administrative market is being used.

Section I.A describes the mechanism that undergirds the supplemental market and explores the incentives that this mechanism will give to traders. Section I.B describes the incentives it gives to other parties, particularly the government and the corporations whose fine liability the market is predicting.

A. *How the Supplemental Market Works*

A supplemental administrative market is simply a capital market in which traders buy and sell rights to portions of legal claims that the government has against regulated entities. After a corporation has had an opportunity to pay any fees it believes that it owes, the relevant administrative agency would tell market participants how much the corporation paid. To launch the market, the agency would auction off a certain number of "administrative market securities" corresponding to each corporation possibly subject to a fine. For example, the agency might promise that an administrative market security will be worth 0.1% of any judgment the government ultimately obtains against a corporation, and there might be 100 such securities auctioned.

After the auction, the agency would allow market participants to exploit any private information they obtain by buying the securities and then revealing the information. When the agency finally reaches a settlement with a corporation or obtains a judgment in an administrative or other court, the agency redeems the securities; the total redemption amount equals the product of the originally unpaid fine liability and some "reward percentage," 10% in the above example (0.1% times 100). By "unpaid fine liability," I mean the difference between what the corporation initially paid and what it is finally deemed to owe. The market is thus used merely to estimate the amount by which the corporation has underpaid.³⁷

The market would encourage private parties to obtain and release information about corporate liability. For example, suppose someone learns

37. Some might argue that corporations should not be able to pay any portion of what they owe in advance. A danger of the market may be that it routinizes corporations' payment of money and thus eliminates the stigma associated with fines. See, e.g., Michael J. Sandel, *It's Immoral to Buy the Right to Pollute*, N.Y. TIMES, Dec. 15, 1997, at A23 ("If a company or a country is fined for spewing excessive pollutants into the air, the community conveys its judgment that the polluter has done something wrong. A fee, on the other hand, makes pollution just another cost of doing business, like wages, benefits and rent."). Of course, I generally use the word "fine" rather than "fee," and have thus chosen a word that would impose a stigmatic injury regardless of whether the money were paid in advance or after market detection. In any case, the market would work just as effectively if corporations were not allowed to make any initial down payments. In addition, the market could be used to assess "fees" as well as "fines."

that the market has underestimated a corporation's liability. She can buy the corporation's administrative market securities at their current, low price. Then, she can make a profit by revealing the information and selling the securities to other traders, who are now willing to pay a higher price. Her incentive is to trade on any information that she obtains as quickly as possible, lest someone else acquire the same information and reveal it before she can do so.

Establishing such a market would thus serve as an alternative to *qui tam* or whistleblower suits. The whistleblower mechanism analogously encourages private parties to accumulate information and then to bring suit against those parties.³⁸ An advantage of the supplemental administrative market is that, in contrast to *qui tam* litigation,³⁹ it provides no way for private individuals to profiteer off public information. This is because any public information will be incorporated into the price of securities at the government's initial auction.⁴⁰

There is, however, a separate justification for *qui tam* suits: Private attorneys general may be more efficient litigators than the government.⁴¹ If this were true, however, the government could obtain the benefits of both mechanisms by establishing a supplemental market whose result would depend on the outcome of any *qui tam* litigation that occurs. That is, the government would run the supplemental market and then, after trading on the market closed, allow private parties to bring *qui tam* suits. Indeed, the government could even estimate the litigation cost it would incur for suits it would bring and then auction off rights of action using these calculations as a floor; this would ensure that the most efficient litigator would prosecute *qui tam* suits.

Assuming the reward from the administrative market was comparable to the profit that could be obtained in a *qui tam* suit, investigators would have incentives to trade on information in the supplemental market, to prevent anyone else from profiting on the information.⁴² The point of this section is

38. See sources cited *supra* note 16.

39. See, e.g., Coffee, *supra* note 16, at 222 (“[A] recurring pattern is evident under which the private attorney general simply piggybacks on the efforts of public agencies . . . in order to reap the gains from the investigative work undertaken by these agencies.”). Where a *qui tam* suit under the False Claims Act relies on exclusively public information, the Department of Justice may seek to have the claim dismissed. See Kovacic, *supra* note 16, at 1818 (noting that reliance on publicly available information is one of a few reasons that the Department of Justice will seek dismissal of claim).

40. See *infra* Subsection I.A.1.

41. Indeed, there may be a stronger case for providing incentives for private parties to litigate cases than for providing information-releasing incentives. See, e.g., Coffee, *supra* note 16, at 224-25 (“[I]t often may be more efficient for public agencies to concentrate on detection (an area where they have the comparative advantage because of their superior investigative resources) and leave the actual litigation of the case to private enforcers, who are frequently more experienced in litigation tactics.”).

42. A caveat is that an investigator might first buy up all the shares in the supplemental market, not release information, and then try to profit on that information by buying the rights to the *qui tam* suit

that qui tam suits are not needed to create optimal incentives for the production and release of private information. Administrative markets can also provide such incentives, and so there is no need to confound an efficiency evaluation of private prosecution and an assessment of supplemental administrative markets.

For analytic simplicity, the following subsections thus assume a regime of governmental prosecution in describing the supplemental administrative market. Subsection I.A.1 explains how the reward percentage ultimately controls total investment in the market. Subsection I.A.2 discusses how traders can profit by showing that the market has underestimated a corporation's liability. This subsection assumes that traders never attempt to profit by showing that the market has overestimated a corporation's liability, an assumption that Subsection I.A.3 relaxes.

In addition to providing concrete examples of traders' incentives, each of these subsections illustrates two key points. First, if traders cannot fully profit on their information by buying up all existing securities (or selling short the same number), the government can compensate by raising the reward percentage without losing money. Second, the government rewards the provision of information in the market by receiving less in auction revenues than it pays out when the market closes.

1. *Investing in the Market*

The reward percentage determines the amount of money at which securities will be redeemed and thus directly affects the amount that bidders will be willing to pay for securities at the initial auction. For example, if the reward percentage were 25% and the rights against a particular corporation were divided into 100 securities, then each security would ultimately be redeemed at 0.25% of the corporation's total fine liability. So, if the corporation eventually settled with the government for \$100,000, the securities in total would be worth \$25,000, and each individual security would be worth \$250.

Of course, if it were entirely clear before the auction that the corporation would ultimately pay the government this amount of money, the government would reap in auction revenues the same \$25,000 that it would pay out in redeeming the securities. Thus, the government pays for private information

for a low price at auction. This strategy, however, would likely be ineffective. The investigator's refusal to sell securities at prices higher than the price initially offered would lead others to suspect that the investigator had inside information and thus attempt to outbid the investigator at the qui tam auction. An artificial remedy to prevent such behavior would be to exclude any evidence that an investigator obtained but did not release before the close of the supplemental market. Cf. FED. R. CIV. P. 37(c)(1) (providing for the exclusion of evidence requested during a discovery request but withheld).

only when the initial auction revenues are less than the ultimate auction payout. The total reward to the market will be equal to the reward percentage multiplied by the portion of the unpaid fine liability for all corporations that the government obtains above the level the market originally predicted. The government thus can set the reward percentage to a level that balances the need for investigative activity with its cost.⁴³ If investigators expect to receive 25% of any increase in liability attributable to information they obtain, then they will invest in uncovering information until they project that the cost of obtaining a marginal bit of information will lead to the collection of an unpaid fine four times as great.⁴⁴ Assuming that investigators' expectations are on average accurate, the total amount of investment in the market would be equal to 25% of the ultimate increase in liability.⁴⁵

In setting the reward percentage, the government must consider how many cents it makes sense to spend to recover one dollar of fine liability that the government otherwise would not recover.⁴⁶ For example, the government

43. This does not necessarily exclude the possibility that the optimal reward percentage is zero. This might be the case if the administrative agency is already so good at investigation that it does not need any private help, or if market inefficiencies would make the administrative market ineffective.

44. If the administrative agency releases information about ongoing investigations, then it can prevent private parties from profiting on this investigative work by buying and selling securities before and after revealing information. The administrative agency's incentives to buy and sell securities may differ from those of private investigators, however, because the administrative agency will ultimately keep all but the reward portion of any recovery.

45. The supply of investigating firms will adjust to ensure an equilibrium. If the total investment in the market were less than 25% of the liability increase, firms would have an incentive to enter until economic profit fell to zero. If the total investment were greater than 25%, firms would earn negative economic profit, and firms would thus leave the industry until economic profit rose to zero. This stems from the conventional economic assumption that firms earn zero economic profit in the market. See, e.g., Ian Ayres & Robert Gertner, *Filling Gaps in Incomplete Contracts: An Economic Theory of Default Rules*, 99 YALE L.J. 87, 108 n.99 (1989) ("Economic profits are the residual earnings after all implicit and opportunity costs are accounted for.").

46. The reward percentage helps to overcome a problem first identified by William Landes and Richard Posner. They worried about the possibility that private enforcement of law might lead to overenforcement. Their argument is well explained by A. Mitchell Polinsky:

Under public enforcement, if the probability of enforcement is unity, the fine should be set equal to the external damage caused by the activity. By raising the fine and lowering the probability, the same level of deterrence can be achieved at less cost. Under private enforcement, however, they argued that raising the fine would lead to a *higher* probability since profit-maximizing enforcers would be induced to invest more in enforcement. From this they concluded that there would be private overenforcement.

A. Mitchell Polinsky, *Private Versus Public Enforcement of Fines*, 9 J. LEGAL STUD. 105, 106 (1980) (discussing Landes & Posner, *supra* note 16). Analogously, with the supplemental administrative market, a reward percentage of 100% (with fines calculated at exactly the cost of activities being regulated, adjusted by the probability of detection) might lead to overenforcement, because it might be cheaper to investigate only half as many companies and double the relevant fines. As Polinsky notes, however, "Regulating private enforcers by paying them something different [from] the fine for each violator detected can achieve the socially most preferred outcome in the competitive case . . ." *Id.* at 108 (emphasis omitted). The reward percentage does just that, paying investigators only a portion of the

might determine that it makes sense to spend a quarter to recover an unpaid dollar, but no more. While the quarter is a lost transactions cost, the dollar is merely an income transfer.⁴⁷ A quarter might seem high, but it is important to keep in mind that this would not result in administrative expenses one-fourth as great as total fees collected; when the market expects the government to recover against a particular corporation, that expectation will increase the government's auction revenues.

Assuming that a quarter were the optimal amount of social resources to expend in recovering an unpaid dollar provides a starting point of 25% for determining the reward percentage. From this starting point, the government would need to subtract to take into account costs incurred by parties other than the investigator on account of the investigator's activities.⁴⁸ More importantly, the government would then need to increase the reward percentage above this level, because attempts to trade on private information would change the price of securities and thus prevent an investigator from receiving the full reward-percentage-adjusted value of information provided to the market. The next subsection elaborates on this problem in more detail.

finer they collect. Thus, if there is too much investigation for any level of fines, the reward percentage can be lowered so that there is no overenforcement.

47. See generally Jack Hirshleifer, *The Private and Social Value of Information and the Reward to Inventive Activity*, 61 AM. ECON. REV. 561 (1977). Hirshleifer notes that the private value of information may exceed its social value. See also JULES COLEMAN, RISKS AND WRONGS 151 (1992) ("From an individual's perspective, the value of new information, and hence of investing in generating it, derives from *technology*, gains from allocating resources more efficiently, and *distribution*, wealth transfers that follow from price change."). The reward percentage described here provides a way for the government to discount the reward from obtaining information and thus align individuals' incentives to obtain information with the social interest. Information about unpaid fees may have both distributional and technological benefits from a social perspective. The distributional benefit exists because it is (presumably) fair for a corporation to pay the fees assessed on it. The technological benefit exists because if certain companies could get away with not paying fees, more of society's resources would flow to those companies, thus diminishing allocational efficiency. There is no way to calculate the sum of these benefits a priori. Indeed, it would be theoretically possible that the benefits would exceed a dollar (for example, if the government viewed the distributional goal as particularly important). Nonetheless, we should expect that, in general, the government will want to spend somewhat less than a dollar to recover a dollar in unpaid fine liability.

48. In setting the reward percentage, the government would need to consider the expected costs incurred by the corporation and by the courts. A 15% reward might reflect an expectation that costs not incurred by the investigator would add up to 10% of the expected recovery. In other words, the government might offer 15% rewards if it believed in this example that the social welfare benefits from collecting unpaid fees would generally be worth 25% of the collected amount. This would mean that it would be in the social interest for the government successfully to pursue a \$100 fine deficiency when the total social costs of the pursuit were \$24, but not when these costs were \$26. Because they can thus be easily accounted for, costs not incurred by the investigator are not problematic for my analysis and will not be considered further.

2. *Profiting on Undervaluation of Securities*

To see how traders can make money by showing that the market has undervalued a particular corporation's fine liability, consider the following example: Suppose that when the government first holds an auction, information that the government has released indicates that the expected recovery against a specific corporation will be \$50,000. If the government auctions off 100 securities corresponding to this corporation⁴⁹ and promises a reward percentage of 25%, then market participants will buy the securities at close to \$125 each. Now, suppose an investigator uncovers information indicating that the expected recovery will actually be \$100,000. The investigator buys up all the securities, releases the information publicly, and then sells each security at \$250. If the investigator is able to buy each security at \$125, the investigator has thus profited \$12,500, which is equal to the product of the reward percentage and the change in expected recovery.

Of course, investigators will often be unable to buy up all the securities at their current price. After all, attempts to execute large volume transactions would lead to suspicion that the investigator has some relevant information.⁵⁰ Such suspicion would be more prominent in the supplemental administrative market, which encourages insider trading, than in other capital markets, which criminalize it. Thus, security holders will demand more to sell a security than their prior expected value of that security. To the extent this is true, however, the government can compensate by increasing the reward percentage.

Suppose, for example, that the government would choose a reward percentage of 25% if large volume purchases of securities never had an effect on price. Let us call this the *ideal reward percentage* and the imagined world in which trading had no effect on prices the *ideal trading conditions*. In this world, security holders are foolish. They do not realize that when someone seeks to buy their securities, this person might have information indicating that the securities are undervalued. Thus, they will sell the securities at the price corresponding to existing public information and not take into account

49. The number of shares is arbitrary, because the sum of the shares' values will be equal to the reward. In considering how many shares to offer, the government would balance the transactions costs of issuing additional shares with the benefits of making available shares in small denominations. Cf. James J. Hanks, Jr. & David F. Hannan, *Dividing and Combining Stock: Stock Splits, Reverse Stock Splits, and Stock Dividends*, INSIGHTS, July 1996, at 2 (discussing the purposes and effects of stock splits).

50. See, e.g., Lewis D. Solomon & Louise Corso, *The Impact of Technology on the Trading of Securities: The Emerging Global Market and the Implications for Regulation*, 24 J. MARSHALL L. REV. 299, 319 & n.137 (1991) (noting that with non-liquid securities, large transactions cause substantial changes in price). But see William J. Carney, *Signalling and Causation in Insider Trading*, 36 CATH. U. L. REV. 863, 886-88 (1987) (arguing that volume buying may not have a significant effect on the security price); Lynn A. Stout, *Are Takeover Premiums Really Premiums? Market Price, Fair Value, and Corporate Law*, 99 YALE L.J. 1235, 1278 (1990) ("[I]n the absence of price pressure there is no reason for an insider's transactions to move prices significantly.").

that in some cases new information will arise indicating that the securities are undervalued. Such traders might be better off holding onto their securities, because any information traders would develop might ultimately be revealed to the market, but they sell their securities anyway. To be sure, this is not a realistic world.

Suppose, therefore, that because volume trading increases the prices of securities, security traders are consistently able to make only one-third as much off their information as they would be able to make if volume transactions had no price effects. In this more plausible world, someone who acquires information about undervaluation might initially be able to purchase securities at a level not too far above the securities' expected value. But as this trader attempts to buy more and more securities, suspicion increases. The trader thus may be unable to acquire some securities and be able to acquire many others only at a substantial premium over the prior price. Different security holders would thus make out differently; some would obtain all of the value of a trader's information by not selling at all, while others would obtain only a small premium. The assumption is that, although security holders are affected differently, the trader who has found new information is able to obtain one-third of the value of the resulting price increase.

By tripling the reward percentage to 75%, the government could encourage just as much investigation as in the ideal world. Moreover, this compensating increase in the reward percentage would have no effect on the total amount of money that the government has to pay to reward information acquisition, relative to the world without price effects from volume transactions. To understand how this can be, recall that bidders at the initial auction pay an amount equal to the expected value that they anticipate receiving for the securities, less some amount to compensate for the risk of holding them. If security holders expect that those developing new information will be able to obtain one-third of the value of that information, the security holders will expect that they will be able to keep on average two-thirds. They will thus be willing to pay more for the securities initially in anticipation of being able to keep two-thirds of the value of others' labor. Thus, auction participants will bid enough extra to compensate the government for the needed increase in the reward percentage.

Let us consider a specific numeric example, which Table 1 summarizes. Suppose that existing public information indicates that a corporation owes just \$100,000, but auction bidders expect that there is a one-tenth chance that evidence will surface indicating that the corporation in fact owes \$200,000. First, let us assume ideal trading conditions (middle column). With the ideal 25% reward percentage (Row (4)), the reward payment if new information surfaces will be \$50,000 (Row (6)), and \$25,000 otherwise (Row (7)).

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Given the ideal trading conditions, the security holders are foolish, so they will be willing to part with the securities for \$25,000 (Row (8)), even if the person attempting to buy them appears to be trying to corner the market. Recognizing that they will thus receive \$25,000 regardless of whether information surfaces, auction bidders will be willing to pay \$25,000 for the securities (less some amount to compensate for the risk of holding them). This will produce auction revenues of \$25,000 (Row (9)). The government, meanwhile, will end up paying out \$27,500 on average (Row (10)), for an expected cost to the government of \$2500 (Row (11)).

If the reward percentage increases to 75% in the world in which investigators generally obtain only one-third the value of their information (right column, Rows (4)-(5)), the government will pay \$150,000 when new information arises (Row (6)) and \$75,000 the rest of the time (Row (7)). Security holders will expect that one-tenth of the time, they will receive an average of \$125,500 (two-thirds of the way between \$75,000 and \$150,000) (Row (8)), though some will do better than this and some will do worse. Auction bidders thus will now bid \$80,000 in all (again less compensation for risk) (Row (9)). Because the government's expected payout is now \$82,500 (Row (10)), the government once again can expect to spend \$2500 (Row (11)).⁵¹

The \$2500 the government ultimately expects to spend may seem like a large amount. The difference between auction revenues and ultimate payouts, however, is effectively the mechanism by which the government rewards the market. The market's expectation is that there is a one-tenth chance that the corporations' securities will rise in value from \$100,000 to \$200,000. Thus, the expected increase in the securities' value is one-tenth of the difference, or \$10,000, and 25% of this increase is \$2500.

This does not, of course, mean that the government will spend \$2500 each time in such a situation. If it turns out that the corporation did owe \$200,000, the government would end up spending, under ideal trading conditions, \$25,000 (the \$50,000 ultimate payout less \$25,000 in initial auction receipts), while the other nine-tenths of the time, the government will spend nothing. And under nonideal trading conditions, the government would end up,

51. This does not mean that the government should be indifferent between ideal trading conditions and those in which traders can obtain on average only half the value of their information. The problem is that even if traders obtain on average half the value of their information, they might sometimes obtain more than that and sometimes obtain less. There is thus some additional increased risk to acquiring information. Likewise, security holders will not be sure that they will be able to obtain exactly half the value of traders' information every time. Though this will not increase the expected returns from holding the securities, it will increase the variance in outcomes and thus the risk of holding them. The government will pay for this risk in the form of lower auction revenues.

\$70,000 (\$150,000 minus \$80,000) one-tenth of the time, and would profit by \$5000 the remaining portion of the time.

TABLE 1

Trading on Information About Undervaluation (Assuming 100 Securities)

VARIABLE	IDEAL TRADING CONDITIONS	NONIDEAL TRADING CONDITIONS
(1) EXPECTED LIABILITY BASED ON CURRENT PUBLIC INFORMATION	\$100,000	\$100,000
(2) PROBABILITY OF NEW INFORMATION'S ARISING	0.10	0.10
(3) EXPECTED LIABILITY IF NEW INFORMATION ARISES	\$200,000	\$200,000
(4) REWARD PERCENTAGE	0.25	0.75
(5) PROPORTION OF INCREASE IN VALUE SECURITY HOLDERS RETAIN	0	2/3
(6) REWARD PAYMENT WHEN NEW INFORMATION ARISES = (3) × (4)	\$50,000 (\$500 per security)	\$150,000 (\$1500 per security)
(7) REWARD PAYMENT WHEN NO NEW INFORMATION ARISES = (1) × (4)	\$25,000 (\$250 per security)	\$75,000 (\$750 per security)
(8) AMOUNT AT WHICH SECURITY HOLDERS WILL SELL SECURITY ON AVERAGE WHEN NEW INFORMATION ARISES = (7) + (5) × [(6) - (7)]	\$25,000 (\$250 per security)	\$125,000 (\$1250 per security)

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(9) AUCTION REVENUES (IGNORING RISK) = (8) × (2) + (7) × [1.0 - (2)]	\$25,000 (\$250 per security)	\$80,000 (\$800 per security)
(10) EXPECTED GOVERNMENT PAYOUT = (6) × (2) + (7) × [1.0 - (2)]	\$27,500 (\$275 per security)	\$82,500 (\$825 per security)
(11) EXPECTED COST TO GOVERNMENT = (10) - (9)	\$2500 (\$25 per security)	\$2500 (\$25 per security)

The important point is that over the long haul, the amount of money the government ends up spending will be equal to the product of the reward percentage and the increased corporate fees paid. And when traders expect to be able to profit from other investigators' information, the government can simply increase the reward percentage without additional cost. To do so, the government would multiply the ideal reward percentage by the inverse of the proportion of security value increases that an investigator will be able to capture. Of course, determining this value is not easy, but the government could arrive at a satisfactory value over time.

It might seem that there is a problem with this story, and indeed there is a nuance I have set aside because it ultimately does not change the conclusion. The problem can be seen most clearly by comparing Rows (9) and (10) in Table 1. If the expected government payout is higher than the auction revenues, doesn't a trader have an incentive to bid up the auction revenues to just below the expected payout and hold onto the securities? Indeed, why is a security holder willing to sell securities for the amount in Row (8)? Of course in the case of ideal trading conditions, the answer is that we have posited irrational security holders. But even under nonideal trading conditions, one might argue that it is unrealistic to assume that traders will obtain anything less than all of the value of new information, because traders will not have incentives to sell their securities under any circumstances.

The problem, it might seem, only gets worse. Why should people ever trade securities after the initial auction? After all, the supplemental administrative market, in contrast to a stock market, has no long term trend. Thus, trading securities may seem like a zero sum game. Some traders will make money, but their winnings will be offset exactly by other traders' losses. Given that the trading industry's total expected profit will be zero dollars, no one would intelligently go into the industry. Or, at least, for any firm

intelligently entering the industry, there is another firm foolishly entering the industry, and after suffering initial losses, that firm will exit.

There are three replies to this argument. First, the example I have used is stylized to make the analysis simpler. In real cases, there will rarely be a one-in-ten chance of a smoking gun that will lead to additional liability. Instead, the amount a corporation owes will typically be approximately known, though of course with some uncertainty. Investors will often want to engage in trades because doing so will help them manage their portfolios. Moreover, information over time will decrease the variance of securities' values, so the value of securities will rise over time, even if not in expected value terms. Thus, security holders may well demand high premiums for securities purchased at auction, but at some price less than the maximum conceivable future security price, they (at least some of them) will be willing to sell. And that is enough to validate the above analysis.

Second, and more significantly, the problem is a coordination problem among security holders, but it is a coordination problem that can be easily overcome. If one individual owns all the securities, the individual would have an incentive to make a credible promise to sell the securities at a pre-specified price.⁵² Otherwise, no one else would have any incentive to produce the relevant information, and new information increasing the value of the securities would never be produced. The optimal selling price to promise will be somewhere between the securities' value based on available public information and the securities' maximum value if new information should arise.⁵³

52. One might argue that such a promise could not be credible, because there would be no consideration and it would, therefore, be unenforceable. The promise would be an offer, but the security holder might have an incentive to revoke the offer just before acceptance. This argument is weak, however, given the doctrine of promissory estoppel. See, e.g., BLACK'S LAW DICTIONARY 1214 (6th ed. 1990) (defining "promissory estoppel" as "[t]hat which arises when there is a promise which promisor should *reasonably* expect to induce *action or forbearance* of a *definite and substantial* character on part of promisee, and which does induce such action or forbearance, and such promise is binding if injustice can be avoided only by enforcement") (emphasis added). Here, the promise to sell the securities for some price to the first taker induces traders to undertake investigative work, and the security holder in fact intends this result. In any case, if the government were to set up a supplanting administrative market, it could provide for the enforceability of such promises.

53. Consider the example of Table 1. If the security holder credibly promised a selling price of \$75,000, then he would receive none of the benefit of the new information and would be willing to bid only \$75,000 for the securities in the first place. Therefore, someone else would have an incentive to bid more for the securities and credibly promise a higher selling price. On the other hand, if the security holder credibly promised a selling price of \$150,000, then no one would perform any investigation, and the security holder would make nothing. Thus, the security holder will seek to find the amount in between these two extremes. There is nothing to guarantee that the number selected will be \$125,000, of course. The point of the above analysis, however, is that whatever the security holder's optimization calculus with selecting an optimal price offer, the government can raise the reward percentage enough to produce conditions comparable to ideal trading conditions.

When security holdings are diffuse, by contrast, any one security holder will not have an incentive to offer such a promise. Because the securities are thus likely to be most valuable if owned initially by a single owner, such an owner is likely to win them at auction. That owner might subsequently sell the securities to others, provided that all buyers agree to coordinate to determine a joint, credible price at which they will sell their securities. Thus, the story is different from that told above, but the conclusion is the same: Security holders capture some percentage of the value of investigators' information not because they sense an investigator trying to corner the market, but because they have made *ex ante* promises to such investigators that prevent them from capturing the entire value of the information.

Third, even if security holders had no incentives to sell their securities, that does not mean that the mechanism I have described would not work at all. It would still work, but all the action would be at the auction stage instead of the market stage. That is, investigators would have incentives to do all their investigative work prior to the beginning of the auction. This is not ideal, because different auction bidders might have redundantly acquired the same information. The government will pay for this redundancy by receiving lower auction bids.⁵⁴ The market allows for more cooperative informational production over time, but the auction provides additional insurance that the mechanism I have described will give incentives to private parties to identify circumstances in which corporations owe more than originally expected.

3. *Profiting on Overvaluation of Securities*

Thus far, it has been assumed that no trader would ever find information that the market was overpricing a corporation's liability. This assumption is relatively unproblematic, because a corporation would presumably release any information favorable to it, but it can be easily relaxed. To profit on information about market overvaluation,⁵⁵ a market participant may sell securities short.⁵⁶ To continue the above example, suppose an investigator

54. See Randall S. Thomas & Robert G. Hansen, *Auctioning Class Action and Derivative Lawsuits: A Critical Analysis*, 87 NW. U. L. REV. 423, 450-52 (1993) (noting the standard axiom of auction theory that the auctioneer effectively pays all bidders' research costs).

55. Not all information suggests market undervaluation or market overvaluation; information could provide affirmative evidence that a security is already priced correctly. Restricted to purchases and short sales, the trader has no incentive to trade on and reveal such information immediately; instead, the trader hopes that other evidence arises indicating that a security has been priced incorrectly before trading on and revealing the information. A trader could, however, profit on such information with option contracts. For a brief and accessible discussion of options contracts, see Bernard J. Karol, *An Overview of Derivatives As Risk Management Tools*, 1 STAN. J.L. BUS. & FIN. 195, 195-96 (1995).

56. A short sale is a promise to deliver a security that the seller does not own in the future at a specified price. See, e.g., David C. Worley, *The Regulation of Short Sales: The Long and Short of It*, 55 BROOK. L. REV. 1255, 1257-59 (1990) (explaining the SEC's definition of short sale).

uncovers new information indicating that the corporation really owed \$100,000 rather than \$200,000. Before releasing the information, the investigator executes short contracts, agreeing to sell the securities at a later date.

Initially, assuming a 25% reward percentage, some traders will be willing to enter into short contracts at some relatively small premium under \$500, but as the investigator executes more and more short contracts, this premium will increase. The investigator will continue to execute short contracts as long as there are traders willing to buy for \$250 or more. After the investigator releases the information, the market price plummets to \$250. The investigator buys up shares at this price⁵⁷ and then sells them under the short contracts at the agreed-to prices. The investigator thus earns as much as \$25,000, the product of the reward percentage and the amount by which securities were overvalued.

This scenario may seem more speculative than the original. After all, wouldn't security holders be particularly suspicious of someone offering to sell them short contracts? Traders, however, would be no more suspicious of someone offering to sell short contracts than they would be of someone offering to purchase securities. Because the supplemental administrative market has no natural long-term trend, predictions of fine liability are no more likely to go up than to go down. Thus, market participants should be just as willing (and existing security holders should be almost as willing)⁵⁸ to go short on a security as to go long on it.⁵⁹

An important difference, though, is that security holders have no incentive to encourage investigators to produce information about security overvaluation by agreeing to buy securities in the future. They, after all, are better off if information that the corporation's liability is being overestimated never comes to light. The corporations whose securities are being traded,

57. A shareholder might ultimately refuse to sell at \$250 to the holder of the short contract because she knows that the short contract makes the investigator's demand for the share completely inelastic. To compensate for this problem, the government should agree to sell shares when the market closes at the redemption price. The short seller could thus buy the share from the government when the market closes for \$250, and sell it for \$500 to the short buyer, who would then sell it back to the government for \$250.

58. The caveat is that because of diversification, a security holder who owns a security may be less willing to buy another share of the same security at its expected value less an adjustment for remaining risk than to sell the security owned at that same price. That is, entering into a short contract to buy a security in the future will decrease slightly the diversification of the portfolio of one who already owns the security. See Markowitz, *supra* note 22, *passim*. There is no reason, however, that investigators who obtain information about market overvaluation can sell short only to current security holders; they might also sell short to other traders.

59. More technically put, the bid-ask spread should be no higher for short contracts than for long ones. See Note, *Insider Trading in Junk Bonds*, 105 HARV. L. REV. 1720, 1722-23 (1992) (explaining bid-ask spreads).

however, might similarly stimulate investigation. For example, a corporation might credibly promise to buy securities from any market participant at the prevailing market price.⁶⁰ By making such a credible promise, the corporation itself would be rewarding the acquisition of information that the market was overvaluing its securities.⁶¹

Allowing corporations to bind themselves to buying short contracts, however, might encourage socially excessive searches for information about security overvaluation. Regardless of the reward percentage, a corporation achieves the full benefit of the decrease in liability it enjoys because of information indicating that its securities were overvalued. Because the reward percentage is designed to achieve some balance between transactions costs and equity, a corporation that agrees, for example, to buy four times as many short contracts as existing securities might encourage too much production of information about security overvaluation from a social point of view.

Corporations would not necessarily make such exorbitant promises, however. After all, investigators looking into a corporation's fine liability hoping to find information about security overvaluation might instead find information about undervaluation. Such an investigator would then have an incentive to trade on that information, even if it were not as profitable as information about overvaluation would have been. This would not necessarily be a problem, though. Investigation into certain areas, such as legal defenses that the corporation could offer, might not lead to much spillover.

In any event, ensuring that traders can profit from security overvaluation is not integral to the market's success. Corporations have adequate incentives already to provide evidence showing that the market has overestimated its fine liability.⁶² The government thus might reasonably choose to ban short

60. The corporation would need to specify how many securities a trader could sell short to the corporation. One logistical problem that such a rule would need to overcome is that it would need to specify whether one trader's sale of short securities would preclude other traders from similarly selling short to the corporation. There are two possible solutions. First, the corporation might provide that once a certain number of securities are sold short to the corporation, no more shares could be sold short, but the short contracts could themselves be exchanged. Second, and probably more attractively, the corporation might provide that it could choose, once securities are sold short to it, whether to bind itself to buying more securities short.

61. If a corporation did choose to so bind itself, then traders finding information about market overvaluation would be able to obtain the full benefit of such information by forcing the corporation to buy securities short. Traders would thus have a greater incentive to obtain such information than to obtain information about undervaluation. One way to compensate for this is to limit the number of securities that investigators can sell short to a corporation. For example, if the reward percentage is tripled above the ideal level, investigators might be allowed to sell only one-third the number of securities to a corporation. On the other hand, a corporation might be able to control *ex ante* how many securities investigators may force it to buy short, and thus affect the extent to which it rewards acquisition of information by third parties.

62. See *infra* Subsection I.B.2.

transactions.⁶³ I do not mean to suggest, however, that the government necessarily should ban such transactions. Indeed, the argument that corporations will spend too much to prove that the market has overestimated its liability cuts both ways. If corporations will have incentives to spend socially excessive amounts of money hiring their own investigators, why not let them at least take advantage of the efficient mechanism that the market offers?

This policy discussion, in any case, is a digression from the principal point of this section—that the government can set the reward percentage to a level that provides appropriate incentives for investigators without costing the government extra money. For example, the government might require corporations to enter into short contracts to buy in the future from any trader one-third of all outstanding securities at the prevailing market price at any time⁶⁴ and prevent corporations from entering into additional short contracts. If the reward percentage were 75%, this would mean that investigators would be able to obtain an effective reward percentage of 25% on information about security overvaluation. Thus, if the government's goal is to simulate some ideal reward percentage, it can do so by: (1) multiplying the reward percentage by the inverse of the portion of security-value changes that traders are able to capture for information about undervaluation; and (2) imposing a requirement on corporations that they buy short the same fraction (i.e., the portion of security-value changes traders capture) of outstanding securities. In short, by controlling two variables—the reward percentage and the portion of outstanding securities that a corporation must be willing to buy short—the government can precisely control the amount of investigative activity that occurs.

B. *Incentives in the Administrative Market*

This section assesses how the administrative market would change the behavior of the administrative agency and of corporations subject to the market. Subsection I.B.1 shows that a byproduct of the market is that the government could check market price to determine the market's expectation of different corporations' fine liabilities. This information could help direct the administrative agency's enforcement efforts. While security prices will reflect only available information, corporations would have strong incentives to provide information to markets. Paul Milgrom and John Roberts have

63. In an electronic market, the government could accomplish this by simply not providing a mechanism for entering in short transactions. In a nonelectronic market, the government could simply refuse to enforce short contracts. For a discussion of electronic markets, see Solomon & Corso, *supra* note 50.

64. See *supra* note 61.

demonstrated that interested parties have incentives to release information to markets if failure to release such information would lead to market punishment.⁶⁵ Subsection I.B.2 incorporates this insight by noting that corporations will want to ward off unwarranted prosecution by the administrative agency and thus will try to submit information to lower their security prices. Corporations whose securities are overvalued would have incentives to submit to impartial audits and supply the results of such audits to the market. Similar reasoning explains why malevolent traders will be unable to wreak havoc by releasing false information about corporate underpayment. Finally, Subsection I.B.3 notes that the objectivity of the market indicator will provide corporations with a partial incentive to settle disputes at the market price.

1. *The Pricing Mechanism*

If market transactions are public, then the administrative agency can use market prices to help determine which corporations to target for further investigation and prosecution. The value at which a security trades is a function of the ultimate amount that market participants expect a corporation to pay. This, in turn, depends on market information about the corporation and predictions about how the administrative agency and the courts will respond to information about factual and legal ambiguity.⁶⁶ For example, if traders disbelieved a company's claims that the release of a chemical was exempt from a tax, the securities corresponding to that company's liability for emission of that chemical would be relatively high in value. The administrative agency would know to be suspicious of the company's position without even checking any legal arguments that the traders offer in an effort to increase the value of their shares. The market price in effect summarizes

65. See Paul Milgrom & John Roberts, *Relying on the Information of Interested Parties*, 17 RAND J. ECON. 18 (1986). Milgrom and Roberts write:

[E]ven if the parties do not have access to all information, or if they cannot report all that they know, rational skepticism by a decisionmaker can lead to a full-information decision by inducing one party to reveal information that is damaging to its interests. The party reveals this information for fear that withholding it will lead to an *even more unfavorable supposition* by the skeptical decisionmaker.

Id. at 30-31; cf. Frank H. Easterbrook, *Plea Bargaining as Compromise*, 101 YALE L.J. 1969, 1972 (1992) ("Revelation and assessment by sophisticated parties lead to astute inferences even when the penalties for fraud are weak. This effect is especially powerful when the information is assessed comparatively.").

66. For example, available information might indicate that there is a 50% chance that a corporation has failed to pay a fine. At the same time, market participants might judge from available legal evidence that assuming the corporation did not make the payment, 75% of courts would hold that there was no requirement to do so. Assuming the market expects the administrative agency to prosecute the case, the market price of the securities would reflect the prediction that there is a 12.5% chance that the corporation has underpaid.

information. If the market works effectively, then the administrative agency might usefully rely on market prices in determining which corporations to prosecute.

To some extent, market price will merely reinforce the administrative agency's choice of whom to prosecute, but if the agency pays attention to the market price, traders will be less concerned with assessing how the agency would respond to different types of evidence. If the agency pursues all corporations that the market judges to have underpaid, then security prices will reflect traders' assessments of facts and law, as well as factual and legal ambiguity and the courts' anticipated response to such ambiguity.⁶⁷

2. *Voluntary Auditing*

Administrative agency reliance on market price will encourage corporations to provide information to the market supporting their fine self-assessments. If a corporation can convince the market that it has overvalued the corporation's fine liability, then it not only avoids the hassle of governmental pursuit, but also can make a profit by selling short the securities corresponding to it. One way the corporation might try to move the market price would be to provide information directly to the market.⁶⁸ Similarly, a corporation might produce a legal brief to support its interpretation of the law. Because traders might not find it cost-effective to analyze reams of evidence and partisan legal assessments, however, a corporation might instead submit to voluntary audit by an independent accountant or hire an independent legal analyst. The market could process conclusory audit and legal information at a low transactions cost.

By announcing in advance the intent to submit to such an audit and then releasing the results, the corporation could assure the market that it has not cherry-picked auditors. Auditors, meanwhile, would have an incentive to

67. Some indeterminacy may result, however, when the administrative agency relies on market price, and market participants are predicting to some extent the market price itself. If the administrative agency cannot pursue all corporations believed to have underpaid, then part of the market's challenge is to predict what the agency will do, which depends in turn on how the market prices the securities. For a statement of an analogous circularity problem, see Frank Michelman, *Property, Utility, and Fairness: Comments on the Ethical Foundations of "Just Compensation" Law*, 80 HARV. L. REV. 1165, 1229-34 (1967), which discusses the problem of using "investment-backed expectations" to determine compensation for takings. If, however, we assume that no single trader of securities has market power, then security prices will not systematically affect which corporations the agency pursues. Nonetheless, there is likely to be a drastic dropoff in security prices past the point at which the agency is expected to be able to pursue delinquent corporations.

68. There are obvious analogies to current administrative practice. In the existing tax system, for example, taxpayers may provide additional information to the IRS when they find out that the Service questions their returns. See James E. Merritt, *How to Handle a Tax Controversy at the IRS and in Court*, SC24 A.L.I.-A.B.A. 5, 11 (1997) (noting types of information usually given to IRS at audit).

preserve their reputations by conducting honest audits.⁶⁹ If an auditor did not have a reputation for honesty, then the market would discount that auditor's findings and corporations would look elsewhere. Similarly, the market will place the most weight on the opinions of legal analysts who best predict how the courts actually decide legal questions. Auditors and legal analysts might even have incentives to subject their own operations to audit and random double-checking by private organizations ranking the integrity of auditors.⁷⁰ This system is not perfect, as auditors might have an incentive to create a reputation for honesty and then sell it at the end of their careers or to a particularly large client. Market participants, however, would have incentives to try to identify such sales.

Adverse selection will contribute to the incentives that corporations have to submit to audits.⁷¹ The first corporations to submit will be those who know that the market has overestimated their fine liabilities. If the market price initially indicates that the market expects payment of additional fees and the corporation fails to submit to an audit, the market price will rise further, because traders will see this failure as partial confirmation of their original suspicions.⁷² This phenomenon increases the incentive that innocent corporations have to submit to audits.⁷³ Similar dynamics will encourage those

69. Cf. Mindy Jaffe Smolevitz, Note, *The Opinion Shopping Phenomenon: Corporate America's Search for the Perfect Auditor*, 52 BROOK. L. REV. 1077, 1104-05 (1987) (noting that shopping for auditors currently occurs despite auditors' incentives to preserve reputations). The market's discounting of unreliable audit opinions should improve auditors' incentives to deliver honest assessments. Corporations would also have some incentive to be honest. See generally Joel Sobel, *A Theory of Credibility*, 52 REV. ECON. STUD. 557 (1985).

70. Besides reputation, the primary control on auditors is the prospect of liability for fraud. See generally Jan S. Blaising, Note, *Are the Accountants Accountable? Auditor Liability in the Savings and Loan Crisis*, 25 IND. L. REV. 475 (1991).

71. "Adverse selection occurs when the expected accident costs of new entrants into an insurance pool exceed those of the average pool member and therefore exceed the premium charged to all members." Steven P. Croley & Jon D. Hanson, *What Liability Crisis? An Alternative Explanation for Recent Events in Products Liability*, 8 YALE J. ON REG. 1, 23 (1991). Here, the "insurance pool" consists of all those corporations who refuse auditing and thus are treated without regard to information that such audits would produce. Because corporations who have the most to gain will exit the insurance pool, the market is likely to be skeptical of those in it and thus charge them a high price for remaining.

72. Milgrom and Roberts develop this intuition in the context of their formal model. See Milgrom & Roberts, *supra* note 65, at 28.

73. This does not necessarily mean that every corporation will submit to an audit, however, and whether voluntary disclosure will work as well as mandatory disclosure is a difficult question. The securities literature has debated whether voluntary transactions would provide an adequate substitute for SEC mandatory disclosure requirements. Compare, e.g., John C. Coffee, Jr., *Market Failure and the Economic Case for a Mandatory Disclosure System*, 70 VA. L. REV. 717 (1984) (arguing that mandatory disclosure may move parties' incentives to release information toward the social optimum), with Frank H. Easterbrook & Daniel R. Fischel, *Mandatory Disclosure and the Protection of Investors*, 70 VA. L. REV. 669 (1984) (arguing that voluntary disclosure might be sufficient absent state shareholder protection legislation). See generally Roger J. Dennis, *Mandatory Disclosure Theory and Management Projections: A Law and Economics Perspective*, 46 MD. L. REV. 1197, 1205-11 (1986) (summarizing the debate). Recent technological advances that allow easy information distribution over the Internet

providing information that corporations have underpaid fees to present that information to an independent auditor. The market will place the most faith in evidence submitted by those with sound reputations for providing accurate data. Making unsupported accusations without evidence is thus unlikely to be profitable. In short, because those who resist auditing face adverse selection, moral hazard problems are reduced.⁷⁴

Auditing is costly, of course. A corporation that believes that an audit will result in \$50,000 of decreased fine liability will be willing to spend up to that amount on an audit, even though this cost might be excessive from a social perspective.⁷⁵ On the other hand, it may be cheaper for corporations to self-audit than it is for the administrative agency to audit corporations. How the balance tips is an empirical question, but self-auditing is likely to be an improvement. Currently, corporations may be willing to pay \$49,000 to hire accountants to find technical ways of evading regulations to reduce fine liability by \$50,000. But this technique may not be as successful if market traders rather than the government assess accountants' reports and discount the reports of accountants known to stretch the rules.

While market pricing will be determined by many different traders' assessments of information, the existence of auditors means that each trader need not reinvent the wheel by scrutinizing all evidence. Moreover, traders would be likely to defer partially to other traders and analysts with reputations for pricing securities accurately.⁷⁶ Just as analysts of particular companies

may make deregulation more palatable. See Stephen Choi, *The Deregulation of Cyber-Securities Markets* (1997) (unpublished manuscript, on file with the *Yale Journal on Regulation*) (arguing that the World Wide Web decreases transactions costs enough so that third-party services verifying voluntarily released corporate data would provide adequate information to capital markets). Of course, if voluntary disclosure is insufficient in the administrative market, the market could still be useful in a mandatory disclosure regime.

74. Specifically, both corporations and information providers will have reduced incentives to release false information when adverse selection pressures cause many other corporations and information providers to submit to neutral audits. This conclusion is consistent with Rose's recent observation that adverse selection and moral hazard are inversely related. See Carol M. Rose, *The Shadow of The Cathedral*, 106 *YALE L.J.* 2175, 2199 (1997) (noting the tension in the selection of property or liability rules between the adverse selection problem of withholding information and the moral hazard problem of failing to invest in resources).

75. One solution would be to have an additional administrative market to charge corporations for socially excessive self-auditing. Cf. *infra* Subsection III.A.2 (discussing the possibility of creating an administrative market to charge corporations for socially excessive tax avoidance).

76. Cf. Coffee, *supra* note 73, at 723 (noting that, particularly as information distribution becomes increasingly electronic, "the analyst seems likely to become the critical mechanism of market efficiency"). Coffee notes that analyst services may be underprovided, because non-customers will free ride off their research. See *id.* at 726 ("[T]he public goods-like character of securities research implies that the analyst cannot obtain the full economic value of his discovery . . ."). Coffee's other criticism is that markets might encourage too much trading. See *id.* at 733 & n.45 (citing Hirshleifer, *supra* note 47). This would not be a problem for the administrative market, in which the reward percentage provides appropriate incentives for information accumulation. See *supra* notes 43-44 and accompanying text.

produce reports that help guide the stock market, so too would traders in the supplemental administrative market have incentives to specialize.

3. *Settlement Incentives*

Once corporations have had time to submit to voluntary audits, market prices will depend on public information, the results of audits, and the openness that corporations have shown by agreeing to or refusing auditing. Any corporation whose officers believe that the security's market price reflects these factors has an incentive to settle with the administrative agency for the amount corresponding to the security price if the corporation believes the agency would otherwise prosecute the claim.⁷⁷ Even a corporation whose directors believe that the initial market price ignores some favorable evidence might want to settle. They will consider the costs and benefits of conveying information to the market through, for example, an audit. Assuming that litigation is at least as expensive as voluntary auditing—a reasonable assumption given that the corporation will have to present evidence to the court—the corporation will want to settle with the administrative agency when the private costs of obtaining an audit exceed the private benefits.⁷⁸

Some corporate directors may not trust the market. First, a director might have private information that the market has not obtained. But if this were so, he would have every incentive to release that information, make money by trading on it, and ward off the administrative agency, unless it is cheaper to settle. If, for example, the corporation had information that an auditor made an error that the courts would recognize, the corporation would have incentives to present this evidence to a second auditor.⁷⁹ Second, a corporation might simply believe that the market has mispriced the information about it. Such claims would be particularly reasonable if the market's reward percentage

77. Suppose that after a corporation submits to an audit, the market prices its liability at \$100,000. If the administrative agency credibly threatens this corporation with litigation and its officers think the market is right, then they would think that the average expected result of such litigation would be \$100,000 plus legal expenses. Even if legal expenses were zero, a risk averse corporation would benefit by hedging risk and settling for \$100,000, since the actual judgment might be higher or lower than this amount. *See, e.g.,* Amy Farmer & Paul Pecorino, *Pretrial Negotiations with Asymmetric Information on Risk Preferences*, 14 INT'L REV. L. & ECON. 273, 279 (1994) (noting how risk aversion increases a party's incentives to settle and decreases the party's success in negotiation).

78. Indeed, even in traditional litigation, corporations and others are often eager to settle. *See, e.g.,* Russell Korobkin & Chris Guthrie, *Psychology, Economics, and Settlement: A New Look at the Role of the Lawyer*, 76 TEX. L. REV. 77 (1997) (trying to explain the puzzle of high settlement by noting that lawyers are likely to urge their clients to maximize wealth); George Loewenstein et al., *Self-Serving Assessments of Fairness and Pretrial Bargaining*, 22 J. LEGAL STUD. 135, 135 (1993) (estimating that 95% of civil suits settle prior to trial).

79. The corporation might simply want to hide the information to protect its secrets. But if court proceedings are public record, then the corporation will also not want to present this favorable information in litigation, and therefore will still want to settle.

were very small and market participants had very little incentive to scrutinize available evidence. This story is hard to believe, however, because, as I will discuss later, the market could cheaply consider audit information.⁸⁰ If the market does price administrative market securities efficiently—or if it prices them at least as accurately as a corporation could—then the corporation's distrust in the market is misplaced. Over time, corporations might come to trust the market more than themselves—or, at least, more than they trust their accountants and lawyers—and might settle at the price the market indicates.

In sum, if the administrative agency offers to settle with corporations at the market price and threatens to litigate against those corporations that refuse, then corporations will have incentives to settle. As more corporations settle, the administrative agency's threats to litigate become more credible, and other corporations' incentives to settle increase further. The administrative agency adopting such a strategy would thus be able to pursue a larger number of corporations than is currently possible. Of course, some recalcitrant corporations would still refuse to settle, at least until litigation seems inevitable, because they will realize that the administrative agency does not have the resources to pursue everyone. Moreover, the market price will take into account the existence of such corporations, and the administrative agency will not recover as much as if it fully prosecuted every case. Administrative agencies, however, are too busy to accomplish such full prosecution. Capital markets, though, are never too busy to take on some additional work.

II. Deciding Cases: The Partially Supplanting Administrative Market

Part I assumed that while the fine collection agency might rely on the administrative market to guide its decision making, the agency's administrative courts would continue to make independent assessments of underlying factual and legal ambiguity. But if the market's assessments of ambiguity are reliable, the legislature could economize by providing that a corporation shall pay whatever fine the market says it owes.⁸¹ The role of the courts would then be limited to entering and enforcing judgments. In effect, the partially supplanting market forces settlement at the market-determined

80. See *infra* text following note 103 (explaining why market processing of information need not be expensive).

81. The legislature might require only corporations whose securities' values exceed some de minimis threshold to pay anything at all. Because there is always some possibility that unknown facts will indicate that a corporation has underpaid, all security values will be somewhat greater than zero. (This would not be the case, however, if the market were also used to provide refunds for corporations that overpaid.) To prevent corporations that have filed correctly from having to pay based on ungrounded suspicions, the administrative agency could collect only when the market's estimation of underpayment exceeds a percentage of the amount paid. This may be particularly appropriate if having to pay fines induces corporate embarrassment.

price.⁸² Such a change would thwart those corporations who refuse to settle simply because they know that the administrative agency cannot pursue everyone. The partially supplanting administrative market adjudicates all claims and thus serves to alleviate the problem of process scarcity.

The mechanism proposed here thus provides an improvement upon recent proposals for “statistical adjudication,” in which only a few cases are selected for adjudication and the remainder are decided purely via statistical tools like regression analyses.⁸³ While such adjudication may be a viable solution to the problem of process scarcity,⁸⁴ its primary defect is that the cases not selected for actual adjudication are resolved based on their alleged similarity to cases that are tried, even though each case may present unique factual issues, including unique credibility and evidentiary determinations.⁸⁵ The partially supplanting administrative market would give traders incentives to identify such unique features. Thus, justice would still be individualized, with the size of the reward percentage determining the amount of individualization, but without the expense of adjudicating every case in court.

This part considers various objections to the supplanting administrative market, including concerns that the market might be inaccurate or in some other way unjust. Before this part can consider these objections directly, it must address a vital related question: What determines the market-clearing price? After all, if the agency will repurchase securities when the market closes at the value at which the securities have been trading, no set of anticipated future cash flows disciplines trading. That is, if traders exchange a certain security at \$50, then that security will be worth \$50, while if traders exchange a security at \$100, then that security will be worth \$100. For the market to work, the system must make traders act as if every case is still being adjudicated in the traditional manner, as in the supplemental administrative market of Part I. This part begins by proposing a mechanism that leads traders to act as if every case will be adjudicated as usual, even though in fact only a small percentage of cases will be.

82. Many potential litigants would find this to be a relief. *See, e.g.*, David Luban, *Settlements and the Erosion of the Public Realm*, 83 GEO. L.J. 2619, 2621 (1995) (“Lawsuits are expensive, terrifying, frustrating, infuriating, humiliating, time-consuming, perhaps all-consuming. Small wonder, then, that both judges and litigants prefer settlements, which are cheaper, quicker, less public, and less all-or-nothing than adjudications.”).

83. *See* sources cited *supra* note 13.

84. *See, e.g.*, *Cimino v. Raymark Indus., Inc.*, 751 F. Supp. 649 (E.D. Tex. 1990) (using statistical adjudication to resolve a large number of asbestos cases).

85. *But see* Saks & Blanck, *supra* note 13, at 834-37 (arguing that sample case verdicts are likely to be more accurate than individual trial verdicts).

A. *How the Partially Supplanting Market Works*

The market would work like the supplemental market, with the following additional rules. When the market closes, each holder of a security would be required to announce the expected value of the security, assuming that the price of the security would be determined by traditional adjudication. To keep such valuations honest, some small percentage of cases subsequently would be randomly selected for traditional adjudication.⁸⁶ After the conclusion of adjudication of such a case, those who held the securities at the moment of the lottery announcement (in addition to receiving an amount equal to the valuations they specified) either would pay a fine or receive a bonus, depending on whether they had overvalued or undervalued the relevant security.⁸⁷ Specifically, the security holders would be required to pay (or receive) an amount equal to the product of the inverse of the proportion of cases selected for traditional adjudication and the amount by which the security price at the moment of the lottery exceeded (or fell short of) the court-determined price.⁸⁸ Because traders would not know in advance which cases would be adjudicated, this system would give them incentives to price all securities accurately.⁸⁹

86. For a thoughtful defense of random lottery-based selection of the cases to be adjudicated in an analogous context, see Bone, *supra* note 13, at 638-51. Bone concludes that each litigant "should accept the fairness of a random lottery as a way to satisfy her process-oriented participation right." *Id.* at 650.

87. For an analogous approach using ex post fines to induce honest ex ante assessments, see Ian Ayres & Joel Waldfogel, *A Market Test for Race Discrimination in Bail Setting*, 46 STAN. L. REV. 987, 1037 (1994), which considers a scheme in which bail bonders bid for the rights to offer bail bonds. In this scheme, a bail bonder would be fined when a defendant failed to appear by an amount equal to the product of the bail bond and the inverse of an acceptable flight percentage set by the government.

88. For example, suppose 1 in 100 cases is selected for traditional adjudication, and a particular security holder valued a security at \$500, but the court awards a judgment corresponding to a security value of \$400. The security holder would then owe $100 \times 100 = \$10,000$ (but would still receive the initial valuation of \$500). On the other hand, if the judgment corresponded to a security value of \$600, the security holder would receive \$10,000 (plus the \$500). Naturally, the high risk inherent in such a system might discourage small players from participating in the market, particularly since the market's effectiveness would depend on ensuring that all shareholders could pay potentially large fees.

89. Suppose as above that the partially supplanting market uses traditional adjudication for 1% of cases and a trader owns a security that he expects courts would value at \$500. If the trader announced a valuation of \$400, then he could expect to receive \$10,400 1% of the time and \$400 the other 99%. With a valuation of \$500, the expected return would be \$500 100% of the time. A \$600 valuation would lead to an expected return of $-\$9,400$ 1% of the time and \$600 99% of the time. In all cases, the expected value is \$500. Any risk-averse trader would choose the \$500 valuation strategy. For an explanation of why the assumption of risk aversion is not problematic, particularly when the market mechanism is modified, see *infra* text accompanying note 101.

1. *Reducing the Mechanism's Risk Cost*

This penalty/bonus mechanism, of course, increases the risk that security holders bear.⁹⁰ While traders might decrease risk by purchasing insurance, it is also possible to alter this mechanism in ways that would eliminate much of this excess risk. First, and most significantly, the penalty or bonus might be based not on the ultimate judgement, but solely on the change in the value of securities immediately after the announcement that a case was selected for traditional adjudication (but before any announcement about which judge or judges would hear the case). Security holders would be required to auction off their securities (and would be prohibited from bidding on the securities they were auctioning off). The penalty or bonus that security holders would need to pay or receive would then be determined by the difference between their valuations and the auction revenues, instead of the difference between their valuations and the result of actual adjudication. This alteration would preserve traders' incentives to price securities accurately: Once a case is selected for traditional adjudication, no one has any incentive to bid on securities for that case more or less than their actual value; anticipating this, traders will reveal their true valuations before the lottery announcement. Because the lottery announcement would in itself convey no information about the inherent value of securities, prices would typically not change much after the announcement, thus making the risk associated with the penalty/bonus system quite manageable.⁹¹

Second, the courts could consist of judges who hear only claims arising from market activity, and these judges could be required to identify the price that the market should have selected, rather than finding entirely for either the government or the corporation.⁹² For example, if there were a contested factual issue, the market judges would be required to estimate what percentage

90. The government thus faces a tradeoff in determining the percentage of cases to adjudicate. The more cases adjudicated, the smaller will be the risk to traders, because the penalty/bonus multiple will be smaller. On the other hand, adjudicating more cases will require the government to fund more judges.

91. A caveat is that bidders at the final auction would offer somewhat less than the securities' expected value, because of the uncertainty associated with traditional adjudication. That is, if traders believed there were a one-tenth chance that a corporation would be subject to \$100,000 in liability and a nine-tenths chance that the corporation would face no liability, securities would be exchanged at somewhat less than \$10,000. Anticipating this, the strategy of risk-averse traders valuing securities before the lottery announcement would be to reduce their valuations to account for this effect. This will result in a small decrease in corporations' fine liability. To compensate for the decreased liability, the government could multiply the value at which bidders purchase securities by some factor; it could compute this factor by considering the difference between final security valuations and actual adjudication results over a large number of adjudications. This product would then be used to set penalties and bonuses.

92. See *infra* Subsection II.B.2 (discussing why it is unproblematic for market prices to reflect compromise on each contested legal or factual issue, instead of identifying an allegedly correct position).

of real judges would find for one side or the other. On close issues, the judges would essentially be splitting the difference; with more persuasive evidence, the judges would be siding more for one side than for the other. The important point for now is that this change in judging strategy would produce no change in how traders priced claims. At the same time, it would reduce the amount by which ultimate judgments would differ from expected judgments and thus reduce market risk.⁹³

Third, the court could simply evaluate all information that was revealed to the market and thus not require adversarial presentation of evidence. Recall that the market already gives incentives for the production of information and that the purpose of the adjudication is to ensure that traders assess such information honestly. Information that traders could not have known is irrelevant to making sure that traders assess evidence fairly. Moreover, the exclusion of information not released to the market means that traders will have already had an opportunity to make arguments about the existing evidence, thus making expensive, adversarial presentation unnecessary at the adjudication stage.

Fourth, market judges might be required to apply a deferential standard,⁹⁴ but it would be important to structure such a standard carefully. For example, a requirement that judges defer to reasonable interpretations of the law and the facts could be interpreted as either an objective or a subjective standard. An objective deference standard would mean that any interpretation that was in fact reasonable would be upheld; a subjective standard would demand deference to any security price that traders believed to be a reasonable prediction, i.e. that traders made in good faith. The former is inappropriate for the market, because it provides for a range of prices that market judges would need to defer to, which would lead traders always to price securities at the top of this range. The latter, however, would be acceptable, because as long as traders are in good faith trying to predict as closely as they can the judgments that real judges would enter, any mistakes they make are as likely to lead to errors in one direction as in the other. Penalizing such innocent errors increases risk without affecting traders' pricing decisions.⁹⁵

93. Of course, the first reform would greatly mitigate the need for the second. That is, if the penalty/bonus mechanism were based on the difference between traders' valuations and an auction, the idiosyncrasies of individual judges would not lead to hundredfold fines or bonuses. At the same time, however, having judges enter probabilistic judgments would reduce the risk of those who buy securities at auction from traders. This risk is relatively small, of course, because these purchasers would not be subject to hundredfold fines or bonuses, but it would still reduce auction receipts somewhat.

94. Such deference would be analogous to judicial deference to administrative rulemaking. See *Chevron U.S.A. Inc. v. Natural Resources Defense Council, Inc.*, 467 U.S. 837 (1984) (requiring deference to any reasonable agency interpretation of a statute).

95. A counterargument to the subjective deference standard is that market judges might have trouble distinguishing objective reasonableness from subjective reasonableness. That is, judges might

2. *Improving the Market Mechanism*

The next section considers various normative objections to administrative markets. Before replying to those objections, however, three preliminary objections to the mechanism that makes the market work should be considered, because the answer to each of these objections is to improve the market mechanism.

First, is this mechanism unfair because some cases will be adjudicated by the market itself, while others will be determined by traditional adjudication? This criticism does not claim that the market adjudication of the bulk of cases is inherently unfair and inaccurate, but merely that it is unfair for different litigants to be treated differently on the basis of a lottery. A full analysis of this fairness question is beyond the scope of my analysis here, but there is an easy fix: Even though a small percentage of cases would be adjudicated in the traditional manner, there is no reason that the corporations subject to adjudication should not have their fine liability determined by the market-clearing price of the securities, just like all other corporations. The purpose of the traditional adjudication would then be solely to determine what penalty or bonus to assign to traders, with the court considering all evidence that had become publicly available. Of course, if one believes that traditional adjudication produces better results than administrative markets but favors administrative markets on efficiency grounds, one could create a system in which the occasional traditional adjudication directly affected the relevant litigants. But if one is concerned solely about differential treatment and believes that administrative markets are fair and accurate, one should remember that litigants need not be affected by the traditional adjudication.

Second, might some judges be able to effect their policy preferences by entering grossly unrealistic judgments? For example, if just one in a hundred judges believed that fines should be doubled to make some type of social statement, that judge could multiply any fines assessed by two hundred. Because prices are an average of what traders expect judges to do, such action (if expected to be repeated) would double all security prices. One way to work around this problem would be to use three-judge panels, with decisions depending on that of the median judge. In addition, decisions reflecting very large deviations from security prices might automatically be appealed to courts containing large numbers of judges. Perhaps a better solution, however, would be to constrain fines and bonuses, for example to within 25% of final security valuations. This would prevent extreme preferences from having

find good faith simply because the traders' final valuations seemed to be within a range of reasonableness. If judges are likely to use objective reasonableness as a proxy for subjective reasonableness, the costs of a deference standard are likely to exceed the benefits.

undue effects. Traders' pricing would then be some compromise between predicting what the average judge would do and what the median judge would do.

Third, might some corporations be able to manipulate the system and profit by trading on their own securities or even by buying up their own securities and then undervaluing them? One worry is that corporations might obtain windfalls by lying initially, buying up their own securities, and admitting their lies, thus having their initially unpaid fine liability discounted by the reward percentage. If the market is competitive, then corporations will not be able to profit by trading on public information.⁹⁶ Therefore, the concern must be that corporations will be able to profit by trading on private information. This is not problematic when a corporation trades on private information that no other trader would ever find out about, because then the government gains if the corporation admits to having a higher-than-thought fine liability and effectively pays most of what is owed.⁹⁷ If, however, the corporation bids on securities at auction or buys securities on the market before other traders obtain relevant information, then the corporation may be able to profit by raising security valuations before other traders can force the corporation to sell the securities. The advisability of such a scheme from the corporation's standpoint would depend on the strength of criminal and civil penalties.⁹⁸ In any case, traders would have incentives to predict such behavior, especially if corporations tried to be repeat players, and would bid up security prices accordingly.

The more significant worry is that a trader might have an incentive to shade valuations of either its own securities or those of a competitor. For example, a corporation might buy up the securities corresponding to it and claim that they are worth nothing, but nonetheless refuse to sell them. This would not be optimal from the perspective of making money in trading, but

96. For example, if a corporation has understated fine liability by \$100,000 and everyone knows it, then, supposing a 25% reward, the corporation would have to pay the government \$25,000 at a competitive auction for rights to the \$25,000 reward. The corporation thus obtains no net benefit from paying a competitive price at auction.

97. In effect, the administrative market provides a bonus to corporations who admit to having higher fine liability than public information would suggest. This partial fine amnesty is somewhat more generous than tax amnesty provisions, which allow taxpayers to admit to prior tax evasion without penalty. See Leo P. Martinez, *Federal Tax Amnesty: Crime and Punishment Revisited*, 10 VA. TAX REV. 535 (1991); Bonnie G. Ross, *Federal Tax Amnesty: Reflecting on the States' Experiences*, 40 TAX LAW. 145 (1986).

98. A corporation's investing in its own administrative market securities might be evidence that the corporation knowingly filed a false document indicating its fine liability. Cf. I.R.C. § 7207 (1998) (imposing criminal sanctions for filing false income tax documents). In addition, the existence of the supplemental administrative market does not preclude the imposition of sanctions for initially understated fine assessments. If a penalty were set equal to the reward percentage, taxpayers would have no incentive to understate their liability in hopes of trading on it before other traders find out.

might be optimal from the perspective of reducing fine liability. Or, a trader might buy up a competitor's securities and incur the risk of a high valuation. This is an important objection, but it too has an easy answer, or really two alternative easy answers. One approach would be simply to ban self-interested trading and assess large enough fines against violators as to eliminate any *ex ante* incentive to engage in such activity.⁹⁹

The alternative, and probably superior, approach would be to hold not one, but two auctions following the closing of trading. In the first auction, traders would sell their securities to a set of preapproved firms, which would then announce price valuations that would determine judgments. The preapproved firms' valuations would subject them to the penalty/bonus mechanism based on a second auction to an independent set of preapproved firms. Only firms that could not possibly have any self-interest would be preapproved to bid on securities at these auctions; perhaps, for example, the government might require that such firms (along with any related firms) engage in no activity other than such bidding. Before the auction from traders to the preapproved firms, traders would thus attempt to convince such bidders that the securities they held were valuable. Self-interested trading would be pointless, because ultimately the preapproved firms' valuations would determine corporations' liability. Meanwhile, the first set of preapproved firms would seek to sell securities of cases selected for adjudication to the second set for as high a price as possible.¹⁰⁰

There are two side benefits to this alteration in the proposed mechanism. The first is that only the first set of preapproved firms would end up being subject directly to the risks of the penalty/bonus mechanism. The government could more easily regulate such firms to make sure they would be able to pay any penalties incurred. Traders would be subject to the risk that they would not be able to sell their claims for as high a price as they thought, but they would not face the possibility of a hundredfold fine should they misprice their claims. Because of the risk associated with the penalty/bonus mechanism, the first set of preapproved firms would not pay as much to traders as they would

99. Such fines, of course, might themselves be assessed with a partially supplanting administrative market. For example, each trader could be subject to a large enough fine to render *ex ante* unattractive a decision to trade on securities in which one has self interest. *See infra* Subsection III.A.2 (discussing how partially supplanting administrative markets can rely on vague standards). Of course, traders in that market might themselves be subject to such fines, and so on *ad infinitum*.

100. The result then would be a five-stage process. First, the government would auction off securities, and the auction winners and others could trade them. Second, when trading closed, the holders of securities would auction off their securities to the preapproved firms. Third, the preapproved firms who won securities at auction would announce valuations of those securities. Fourth, if a case were selected for traditional adjudication by lottery, the preapproved firms would auction off their holdings to the second set of preapproved firms. Fifth, these auction revenues would determine the penalty or bonus to which the preapproved firms would be subject, and the preapproved firms' earlier valuations would determine the corporation's liability.

expect to obtain from the second set of preapproved firms, and traders in turn would pay less for securities at the initial auction from the government. Thus, the government would ultimately bear the full cost of the risks of the penalty/bonus mechanism; these risks, however, are likely to be manageable because the penalty or bonus will be based on the difference between the first set of preapproved firms' valuations and the revenues in the auction from these firms to the second set.

The second side benefit is that it eliminates any concern that traders might be risk-neutral and thus have no incentive to price securities accurately.¹⁰¹ A risk-neutral trader will be completely indifferent as to all pricing valuations, because the penalty/bonus mechanism has no effect on a trader's expected return, affecting only the variance of returns. Of course, all investors are somewhat risk-averse, and there is thus no need to worry that traders would change their valuations on a whim, especially since the amount of risk that the market would impose on an intentionally incorrect valuation would be quite high. There is, however, a more subtle concern—that determining the prices of securities is expensive, and thus traders who are only slightly risk-averse may not be willing to expend much effort. The preapproved firms solve this problem, because in buying securities from traders at the first auction after trading closes, the first set of preapproved firms will need to determine how much the securities are worth. Typically, such firms would rely simply on the values at which the securities had traded, but would have incentives to find any instances in which such values were unreliable, for example because of collusion among traders.

At the same time, the preapproved firms' investors will be at least moderately risk-averse. After all, investors are generally risk-averse; if they were not, high-risk investments would be preferred to low-risk investments paying the same return. Of course, some individuals may have a taste for risk, but they can indulge that taste more cheaply and directly by ordinary gambling than by investing in a preapproved firm that will randomly deviate from the course that even a slight bit of risk neutrality would dictate. The preapproved firms will thus have no incentive to deviate from their honest valuations in making valuation announcements.

101. See *supra* note 89 and accompanying text (explaining why risk-averse traders will have incentives to value securities accurately).

B. *Objections to the Market*1. *Accuracy*

“The market makes sense only if security prices are accurate,” begins one complaint. “What if there are few traders, or if financial markets are not efficient at pricing securities accurately?”

Of course, if security prices are arbitrary, the supplanting administrative market makes little sense.¹⁰² An administrative market, however, need not be thin or uncompetitive. While the value of securities corresponding to some corporations might be small, it is plausible that the value of those corresponding to large corporations could be large. Moreover, some market participants would likely trade administrative market securities corresponding to large numbers of corporations. Because the total amount of unpaid fine liability is large, firms would have incentives to participate in the market.

The large number of potentially outstanding securities would favor the use of computer-aided trading, especially if the market itself were electronic.¹⁰³ Corporations would have incentives to pick auditors who could make their conclusions easily accessible and digestible; the lower the costs to traders of processing information, the greater the probability that they will choose to consider the information, and thus the greater effect an audit report will have. Traders would compete with each other in developing sound models of fine liability that take into account available evidence and the reputation of auditors.¹⁰⁴ By showing others the soundness of their models—

102. See generally Louis Kaplow, *The Value of Accuracy in Adjudication: An Economic Analysis*, 23 J. LEGAL STUD. 307 (1994) (explaining why it is important for the results of adjudication to be accurate). The concept of accuracy applies to determining law as well as to finding fact. See John R. Allison, *Ideology, Prejudgment, and Process Values*, 28 NEW ENG. L. REV. 657, 674 (1994).

103. See Solomon & Corso, *supra* note 50 (discussing electronic markets); see also Recent Agency Action, *Securities Law—SEC Allows Internet-Based Trading of Securities*, 110 HARV. L. REV. 959, 964 & n.51 (1997) (arguing that electronic markets are inevitable). For a more general discussion of the impact of technology on securities regulation, see Donald C. Langevoort, *Information Technology and the Structure of Securities Regulation*, 98 HARV. L. REV. 747 (1985).

104. Traders would have incentives to develop models overcoming biases in human cognitive processes that lead to misassessment of information. For example, traders would have an incentive to identify systematic biases in auditors' reports. Such information could be profitably traded on, because it could lead to shifts in market prices for large numbers of administrative market securities. If the market works efficiently, it would overcome flaws in how juries assess information. Cf., e.g., Scott Brewer, *Scientific Expert Testimony and Intellectual Due Process*, 107 YALE L.J. 1535 (1998) (arguing that practical reasoners like jurors are not equipped to make sound judgments when deferring epistemically to theoretical reasoners like scientists); George Fisher, *The Jury's Rise as Lie Detector*, 107 YALE L.J. 575 (1997) (claiming that although the legal system places its faith in jurors' abilities to detect lies, there is little evidence that jurors are particularly suited for the task). For a collection of psychological essays on how individual decisionmakers may make systematic mistakes in the assessment of evidence, see JUDGMENT UNDER UNCERTAINTY (Daniel Kahneman et al. eds., 1982). In particular, see Robyn M. Dawes, *The Robust Beauty of Improper Linear Models in Decision Making*, in JUDGMENT UNDER UNCERTAINTY, *supra*, at 391 (noting studies finding that linear regression models usually outperform

or, at least, the soundness of the approaches that they use to develop such models¹⁰⁵—traders could seek to convince other market players that their price evaluations are correct.

Assuming, then, that trading is competitive, there is no reason to suspect that market pricing of securities would be inefficient and, therefore, inaccurate. The Efficient Capital Markets Hypothesis (ECMH) contends that the price of a security at any time reflects all available information.¹⁰⁶ Economists have defined three gradations of efficiency that a market might exhibit: weak, semi-strong, or strong.¹⁰⁷ In a weakly efficient market, future deviations of securities prices from long-term trends cannot be predicted from the past price history alone.¹⁰⁸ In a market that is semi-strong efficient, securities prices reflect all public information.¹⁰⁹ In a strongly efficient market, securities prices reflect all information, public and private.¹¹⁰ The stock market crash of October, 1987, shook many economists' faith in the semi-strong and strong forms of the ECMH,¹¹¹ because there was no information released immediately prior to the crash that could rationally explain so great a drop in stock valuations. Securities' prices, many economists now believe, are not

experts in assessing quantified information); Ward Edwards, *Conservatism in Human Information Processing*, in JUDGMENT UNDER UNCERTAINTY, *supra*, at 359 (noting that people are too conservative in incorporating new information into probability assessments); and Daniel Kahneman & Amos Tversky, *Intuitive Prediction*, in JUDGMENT UNDER UNCERTAINTY, *supra*, at 414 (discussing procedures that can counteract defects in intuitive prediction).

105. Market participants face a tradeoff in determining whether to reveal information about their models. On one hand, by showing the details of models, participants who have invested in developing them are likely to be able to show that the models are sound and thus profit on securities previously purchased using these models. On the other hand, revealing the models makes them susceptible to copying and thus constrains their developers' ability to profit on them. By showing the process by which it develops models—for example, by indicating to the market the prominence of lawyers and economists on its staff—a market participant can persuade the market of the soundness of its pricing strategies without revealing those strategies' underlying logic.

106. The seminal work introducing the ECMH is Eugene F. Fama, *Efficient Capital Markets: A Review of Theory and Empirical Work*, 25 J. FIN. 383 (1970), which is updated in Eugene F. Fama, *Efficient Capital Markets: II*, 46 J. FIN. 1575, 1582-86 (1991).

107. For a useful introduction to the three possible variants of market efficiency, see Lawrence A. Cunningham, *From Random Walks to Chaotic Crashes: The Linear Genealogy of the Efficient Capital Market Hypothesis*, 62 GEO. WASH. L. REV. 546, 559-63 (1994).

108. *See id.* at 560.

109. *See id.*

110. *See id.*

111. For a list of authorities critiquing the hypothesis, see Smith, *supra* note 26, at 411 n.136. Among the critical articles are Werner F.M. De Bondt & Richard H. Thaler, *Does the Stock Market Overreact?*, 40 J. FIN. 793 (1985); Werner F.M. De Bondt & Richard H. Thaler, *Further Evidence on Investor Overreaction and Stock Market Seasonality*, 42 J. FIN. 557 (1987); Wayne Joerding, *Are Stock Prices Excessively Sensitive to Current Information?*, 9 J. ECON. BEHAV. & ORG. 71 (1988); Simon M. Keane, *Paradox in the Current Crisis in Efficient Market Theory*, J. PORTFOLIO MGMT., Winter 1991, at 30; and Robert J. Shiller, *Speculative Prices and Popular Models*, J. ECON. PERSP., Spring 1990, at 55.

necessarily equal to fundamental asset values.¹¹² This conclusion should hardly be a surprise, given the long history of volatility in financial markets.¹¹³

Even if financial markets are not efficient in the strong sense, though, they may exhibit efficiency that is somewhere between weak and semi-strong. While market prices may not be semi-strong in the sense of correctly pricing all public information, market prices probably reflect a “best guess” about market information.¹¹⁴ Therefore, a single trader’s assessment of underlying valuations is no more likely to be correct than the market’s.¹¹⁵ This suggests, for example, that the stock market does a better job at directing investment than a government body could.¹¹⁶

If the administrative agency fully discloses its information, including its best estimate of what corporations really owe, then the market will do at least as well as the administrative agency alone would.¹¹⁷ This is because the

112. For a debate on the question of whether stock prices reflect fundamental values, compare Lawrence H. Summers, *Does the Stock Market Rationally Reflect Fundamental Values?*, 41 J. FIN. 591 (1986), with Eugene F. Fama & Kenneth R. French, *Permanent and Temporary Components of Stock Prices*, 96 J. POL. ECON. 246 (1988).

113. “Casual observation suggests that the market moves up and down much more than can be justified by changes in rationally formed expectations, or in the rates at which they are discounted.” James Tobin, *On the Efficiency of the Financial System*, LLOYD’S BANK REV., July 1984, at 6.

114. Tobin labeled this type of efficiency “information-arbitrage efficiency,” and concluded, “The long-standing judgment of almost all academics in economics and finance is yes, securities markets are efficient in this sense. . . . As a statistical matter actively managed portfolios, allowance made for transaction costs, do not beat the market.” *Id.* at 5. Gilson and Kraakman restate this type of efficiency as follows: “The common definition of market efficiency, that ‘prices at any time ‘fully reflect’ all available information,’ is really a shorthand for the empirical claim that ‘available information’ does not support profitable trading strategies or arbitrage opportunities.” Gilson & Kraakman, *supra* note 24, at 554-55 (footnotes omitted); see also Cunningham, *supra* note 107, at 563-64 (distinguishing fundamental and informational efficiency); Roe, *supra* note 27, at 564 (noting market prices may be “best guess” about underlying fundamentals).

Even economists generally skeptical of market efficiency do not argue against information-arbitrage efficiency. Lawrence Summers, for example, argues, “The standard theoretical argument for market efficiency is that unless securities are priced efficiently, there will be opportunities to earn excess returns. . . . [This] argument does not explain how speculators become aware of profit opportunities.” Summers, *supra* note 112, at 598. In other words, Summers believes that market participants may not be able to obtain some information relevant to fundamental values, but he does not argue that the market ignores publicly available information.

115. If any trader did know the “correct” pricing for securities, the trader could profit on this information. For example, if the trader knows that a company’s earnings will be higher than the market anticipates, then he can invest in the company’s stock and outperform the market. As this trader’s successes mounted, the rest of the market would copy his transactions, and the market would be strong-form efficient. For a discussion of such derivatively informed trading, see Gilson & Kraakman, *supra* note 24, at 573-75, which assesses “trade decoding” and “price decoding.”

116. When government officials purport to know better than the market, traders respond derisively. See, e.g., *Greenspan Ignored: Wall Street Splurge Continues Despite Fed Chairman’s Warning*, BALT. SUN, Dec. 10, 1996, at 20A (noting the stock market’s return to bullishness shortly after the Federal Reserve Chairman’s characterization of traders as exhibiting “irrational exuberance”).

117. The further question is whether the market would do better than judges would. Of course, if judges have experience that is particularly useful to assessing claims, there is no reason that those (now former) judges could not profit from that experience by trading on their abilities. The market would give

market will deviate from the administrative agency's estimate only when it has reason to believe that information, either released by the agency or obtained independently, undercuts that estimate. The administrative market will not necessary arrive at the exact "correct" fine according to the rules the government specifies. But, assuming that administrative markets work as well as other financial markets, the price of securities would likely produce a better estimate of the correct fine than any single judge could.¹¹⁸

2. *Fairness*

"The administrative market never declares a winner or loser in a case but merely achieves some kind of compromise," begins a further complaint. "The results of the market are thus not fair to anyone."

The distinction that this complaint draws is a valid one. If the market consensus is that half of all judges would impose a fine on a corporation, then the market will impose half of it. In traditional adjudication, the judge declares a winner or loser on every legal and factual issue. The distinction, however, need not be troubling. The question is whether in the face of epistemic uncertainty about what justice requires, it is fairer to split the difference or let the winner take all. Suppose that a legal dispute concerns whether a corporation should receive an \$ x refund for overpaying a fine. Suppose that there is a "correct" answer to this dispute, and that this answer is that the corporation should receive the refund.¹¹⁹ Suppose, however, that some portion p of courts would decide for the corporation, with the remaining portion, $1 - p$, deciding against the corporation. Assessing whether the market's compromise approach is superior to the judge's requires assessment of the expected "error costs" of an incorrect decision.¹²⁰

With traditional adjudication, the error cost is that the corporation will receive none of the \$ x deduction $1 - p$ of the time; with an efficient market, the corporation will always receive \$ px , which is \$ $x - $ px or $ $x(1 - p)$ less$

some weight to judges' assessments, because of the judges' experience and because such assessments are evidence of what actual courts would do.

118. This assumes that the total resource investment into the judge's decisionmaking is equal to the quantity of resources that the market uses to adjudicate a taxpayer's liability. If a judge spends more than the market would on assessing a given claim, then the judge might well be able to beat the market.

119. The assessment of the relative justice of the winner-take-all and splitting-the-difference solution does not depend on who one assumes is correct, unless one further assumes that an error in the corporation's favor is more or less consequential for justice than an error in the government's favor.

120. See Richard A. Posner, *An Economic Approach to Legal Procedure and Judicial Administration*, 2 J. LEGAL STUD. 399, 400 (1973) (postulating that legal institutions should be designed to minimize the sum of "error costs" and "direct [litigation] costs"). One need not embrace law and economics to use the phrase "error costs." This is merely a shorthand way of recognizing that decisionmakers may make mistakes, and we must make some normative determination of which mistakes are more serious than others.

than the corporation should receive. The expected value of the refund is, therefore, the same in both regimes, but the variance is higher in traditional adjudication.

Although which system is more just is a normative question,¹²¹ Rawlsian justice, which depends on risk averseness, suggests that the market approach would be the choice made under the veil of ignorance.¹²² Thus, the complaint about the market must either be based on some non-Rawlsian conception of justice or on the assumption that the market would not be able to estimate p .¹²³

If splitting the difference is superior to a winner-takes-all approach, one might ask why courts do not adopt it.¹²⁴ The answer, the above analysis suggests, cannot be that winner-takes-all is more just a priori.¹²⁵

3. *Jurisprudence*

“We do not have judges merely to process cases,” states another complaint. “Judges produce jurisprudence, and written decisions help guide future actions.”

Indeed, a byproduct of adjudication, especially appellate adjudication, is the resolution of legal ambiguities through written decisions,¹²⁶ which

121. Suppose any deviation from the just result imposes as great an error cost as any other. If justice is not achieved in full under this definition, then it does not matter how far from justice we end up. Accepting this premise, or even one not quite so loaded, would imply that the traditional adjudicative approach is more just.

122. See JOHN RAWLS, *A THEORY OF JUSTICE* 153-55 (1971) (arguing that risk averseness is a component of decisionmaking in the original position).

123. If the market were only weak-form efficient, see *supra* Subsection II.B.1, then one might ask two questions. First, how efficient is the market's estimate of p ? Second, is the market's estimate of p biased, and if so, does this bias move the market toward or away from justice? Depending on the answers to these questions, one might still favor the market over the courts.

124. No inherent attribute of courts requires such a binary approach. Judges could proportion liability between two parties based on the relative persuasiveness of legal arguments. See, e.g., John E. Coons, *Approaches to Court Imposed Compromise: The Uses of Doubt and Reason*, 58 NW. U. L. REV. 750 (1964) (arguing for non-binary decisions); Carrie Menkel-Meadow, *Whose Dispute Is It Anyway? A Philosophical and Democratic Defense of Settlement (in Some Cases)*, 83 GEO. L.J. 2663, 2674 (1995) (agreeing that courts “should be allowed to render fifty-fifty or other allocative verdicts when either unresolved factual doubt or legal ambiguities or contradictions make winner-take-all results unjust”).

125. A related question in the law and philosophy literature is the normative acceptability of “checkerboard statutes,” which resolve different conceptions of justice by arbitrarily treating different people differently. See RONALD DWORKIN, *LAW'S EMPIRE* 178-84 (1986) (arguing that the ideal of integrity explains the intuition against such statutes); Christopher J. Peters, *Foolish Consistency: On Equality, Integrity, and Justice in Stare Decisis*, 105 YALE L.J. 2031, 2091-95 (1996) (arguing that concerns of justice may explain preference against checkerboard statutes from the original position, assuming such a preference exists). Splitting the difference may be just even if checkerboard statutes are not, because it approximates justice in every case. Cf. Peters, *supra*, at 2107-08 (noting the effects of checkerboard statutes on probability of justice in particular cases).

126. One might argue for written decisions for reasons other than that they breed certainty. A constitutional scholar, for example, has argued that the writtleness of law may be central to its

settlements and market-based verdicts do not necessarily produce.¹²⁷ Though at times adjudication can create the proverbial mess, particularly in economic contexts to which common-law judges may be ill-suited,¹²⁸ it has the potential to fill a vacuum of uncertainty with settled law. Judicial decisions are protected by stare decisis, and the common-law method provides a reassuring constraint on future judicial decisionmaking.

There is no reason, however, that an administrative market cannot offer the same benefits. Adjudication may be a public good,¹²⁹ but it is a public good that the administrative market provides in a certain percentage of cases. Market judges can be permitted or required to write opinions, in which they explain their assessments of the weight of different legal arguments. Indeed, if stare decisis rules governing judges make sense, then the government could require market judges to follow similar rules. Traders would take stare decisis into account in rendering their decisions in anticipation of judges' doing so.

Moreover, the percentage of cases decided by market judges can be increased to any level desired. Of course, if there were as much adjudication as currently exists, the benefit of the market in terms of economizing on judicial process might be diminished. The administrative agency will thus need to balance resource costs with the benefits of adjudication. For any given resource cost, funds in the market system might support more jurisprudence than with courts, because the market judges would not need to spend time trying cases. Indeed, such judges' entire job would be producing jurisprudence. Judges would need to devote some portion of their written opinions to making factual determinations based on the evidence produced by the market process,¹³⁰ but they would not need to devote any time to creating evidence by hearing witnesses and to dealing with procedural niceties. Judges could thus devote the bulk of their time to pure legal analysis.

legitimacy. See Jed Rubenfeld, *Reading the Constitution as Spoken*, 104 YALE L.J. 1119, 1164-69 (1995) (arguing that writtenness is central aspect of American constitutionalism).

127. See Owen M. Fiss, *Against Settlement*, 93 YALE L.J. 1073, 1085 (1984) ("A settlement will thereby deprive a court of the occasion, and perhaps even the ability, to render an interpretation."); see also Jules Coleman & Charles Silver, *Justice in Settlements*, 4 SOC. PHIL. & POL'Y 102, 114-19 (1986) (noting that settlements do not produce written opinions); Marc Galanter & Mia Cahill, "Most Cases Settle": *Judicial Promotion and Regulation of Settlements*, 46 STAN. L. REV. 1339 (1994) (arguing that settlement may not always be desirable). But see Andrew W. McThenia & Thomas L. Shaffer, *For Reconciliation*, 94 YALE L.J. 1660 (1985) (criticizing Fiss for criticizing ADR).

128. Cf. James S. Eustice, *Tax Complexity and the Tax Practitioner*, 45 TAX L. REV. 7, 15 (1989) ("[A]d hoc answers to specific narrowly defined issues in the context of an adversary proceeding . . . create[] a mess. Thus, it is not surprising that the vast outpouring of tax law cases in certain areas tends eventually to become overwhelming to the point of near meaninglessness.")

129. See William M. Landes & Richard A. Posner, *Adjudication as a Private Good*, 8 J. LEGAL STUD. 235, 238-39 (1979) (arguing that adjudication should perhaps remain a public good because of the positive externality benefit of the rules it produces).

130. See *supra* text in paragraph preceding note 94.

At the same time, the market mechanism itself might produce a sort of jurisprudence of its own.¹³¹ Corporations making business plans would not need to rely only on the small subset of cases that result in published decisions, as they do now. As long as market transactions are public, firms could also look to cases that the market resolved without any adjudication. Corporations would be able to research how traders predicted the ways in which judges would respond to legal issues. Indeed, these corporations could look at the legal arguments that traders offered to support various positions. Although the market effectively forces the settlement of all claims instead of the traditional adjudication of all claims, the prices at which it settles claims could produce useful information.

One counterargument combines the objection about jurisprudence with that about fairness. Jurisprudence, the counterargument goes, is impossible in any system in which judges do not announce winners and losers on every legal issue. This argument, though, is not persuasive. First, the market rules could provide for market judges to announce who the winner would have been on a particular legal issue. Future judges would then be obliged to give full *stare decisis* effect to the legal determination.

Second, like judicial decisions, *stare decisis* need not be a binary decision. Judges could, for example, be required to average their assessments of the weight of evidence with those of prior decisionmakers. Indeed, one could even imagine giving some *stare decisis* weight to the market's assessments of legal issues in cases not ultimately traditionally adjudicated. Potential litigants would realize that market judges might deviate somewhat from past determinations, but the small effect that this would have, given such a rule of *stare decisis*, would provide potential litigants with any needed certainty. Moreover, the possibility that judgments may differ by small amounts in a large percentage of cases may be no worse than in our current system, in which there is always a small chance that a clear legal decision will be overruled.

4. *Process*

“Adjudication is not just about making sure everyone pays the right amount,” according to a fourth complaint. “It is about providing a process in which real people have other real people hear their complaints.”

131. Cf. Luban, *supra* note 82, at 2620 (“Is there a jurisprudence of settlements waiting to be invented?”).

Perhaps there is something about a judge in a black robe and a room with walnut furniture that litigants find comforting.¹³² Even if a party loses, at least a judge has heard its claims, and litigants have received a fair shake.¹³³ If this is so, however, one of two factors must account for it. First, people may feel that courtroom adjudication is fair because it does in fact produce just results. But if this is so, we should expect that they would be equally pleased with the market, assuming, as argued above, that it would likewise produce accurate results. Second, perhaps litigants attribute a majesty, accuracy, and fairness to the legal system beyond what it actually possesses. And perhaps they would be distrustful of the market, even if it were in fact accurate and fair. Alternatively, adjudication may have an “expressive function” that transcends the goals of doing justice in a particular case and setting precedents for future judges.¹³⁴ If this were so, this would ultimately be a factor that we would need to balance with any advantages the market provides.

Independent of people’s perceptions about the legal system, however, there is no reason to think that people would be less likely to be heard in the market than in a traditional adjudicative system. Indeed, the contrary may be true. With traditional adjudication, judges and juries regularly make factual determinations that are effectively unreviewable,¹³⁵ and appellate judges, in the federal judiciary at least, have considerable discretion in reaching legal conclusions because the Supreme Court cannot review every case.¹³⁶ Even when, barring dismissal¹³⁷ or summary judgment,¹³⁸ a judge and a jury must hear a litigant’s claims, there is little that the litigant who feels that the decisionmakers have ignored relevant arguments can do.¹³⁹ In an administrative market, by contrast, traders will have an incentive to seek out and listen to litigants who feel that their meritorious claims and arguments

132. *But cf.* Arthur A. Leff, *Law and*, 87 YALE L.J. 989, 995 (1978) (developing an extended metaphor comparing litigation to a game involving “Trial Champions,” i.e. lawyers, and “quasi-sacred functionaries,” i.e. judges).

133. Civil law protects the “right to be heard.” See 28 U.S.C. § 1654 (1994) (“[P]arties may plead and manage their own cases personally or by counsel”); Helen B. Kim, Note, *Legal Education for the Pro Se Litigant: A Step Towards a Meaningful Right to be Heard*, 96 YALE L.J. 1641, 1641 n.2 (1987) (listing analogous state provisions).

134. See generally Cass R. Sunstein, *On the Expressive Function of Law*, 144 U. PA. L. REV. 2021 (1996).

135. See FED. R. CIV. P. 52(a) (requiring an appellate court to defer to facts found by district court unless clearly erroneous).

136. *Cf.* Sanford Levinson, *Strategy, Jurisprudence, and Certiorari*, 79 VA. L. REV. 717 (1993) (book review) (describing the Supreme Court’s certiorari policy).

137. See FED. R. CIV. P. 12(b)(6).

138. See FED. R. CIV. P. 56.

139. *Cf.* MARVIN FRANKEL, *PARTISAN JUSTICE* 13 (1980) (“The deciders, though commissioned to discover the truth, are passive recipients, not active explorers. They take what they are given. They consider the questions raised by counsel, rarely any others. Issues not joined are not resolved, though they might have led to wiser, fairer dispositions than those reached.”).

have been ignored. Because litigants are uniquely positioned to be able to identify flaws in traders' analysis of their claims, traders will want to listen to them and consider their arguments, particularly where the facts are murky.

Just because an administrative market may involve computerized securities trading does not mean that it is inhuman. The computer and the market are tools, and real people utilize them. Of course, courts might well hold that administrative adjudication violates the Due Process Clauses of the Fifth and Fourteenth Amendments.¹⁴⁰ But as Jerry Mashaw has noted, the clauses are an "interpretive placeholder around which or within which to structure our most general constitutional conversations about the evolution of American government."¹⁴¹ Ultimately, we cannot answer whether administrative markets afford due process by pointing out that they are different from courts; we must explore how they are different, and what these differences will mean for litigants.

III. Changing the Law: Administrative Markets' Dynamic Possibilities

Would we want administrative markets even if they were perfectly competitive as well as semi-strong efficient? The analysis so far has suggested that the answer might be "yes": Administrative markets encourage private individuals to obtain and release information to the market and thus provide a more sophisticated information-harnessing mechanism than *qui tam* suits. An administrative market might be cheaper than traditional adjudication, depending on the value of the reward percentage the government sets. Because the fixed cost of bringing a particular legal claim in administrative markets is low, such markets may be more capable than the courts of handling areas of law involving large numbers of claims but small individual dollar amounts.

So far, however, the analysis has shown only the ways in which administrative markets might prove to be useful procedural tools and has assumed that the advent of administrative markets would have no effect on the substantive law. This part modifies this static analysis, showing that the existence of administrative markets would change regulators' incentives and

140. See U.S. CONST. amend. V; *id.* amend. XIV, § 1.

141. JERRY L. MASHAW, *DUE PROCESS IN THE ADMINISTRATIVE STATE* 8 (1985). Mashaw, of course, is a leading advocate of the position that administrative adjudication is not just about accuracy, but also about preserving individual dignity through process. See, e.g., *id.* at 168-69; Jerry L. Mashaw, *The Supreme Court's Due Process Calculus for Administrative Adjudication in Mathews v. Eldridge: Three Factors in Search of a Theory of Value*, 44 U. CHI. L. REV. 28, 49-56 (1976) ("State coercion must be legitimized, not only by acceptable substantive policies, but also by political processes that respond to a democratic morality's demand for participation in decisions affecting individual and group interests."); see also Allison, *supra* note 102, at 680-82 (discussing "noninstrumental values" of adjudicative process, including individual dignity).

thus would have dynamic benefits. Indeed, it argues that the knowledge that an administrative market will be used to adjudicate claims might make writing regulations easier. Administrative markets are thus responsive to the final scarcity concern that I set out at the beginning of the Introduction,¹⁴² the shortage of experts to conduct rulemaking.

In traditional administrative adjudication, the courts serve as a background decisionmaker, and the administrative agency and the regulated entity negotiate in their shadow.¹⁴³ By contrast, the administrative market fully adjudicates all cases, estimating the expected value of the fine liability that corporations would have to pay if courts adjudicated all cases. This eliminates one party's ability to win concessions from a party with limited resources by threatening litigation. Section III.A shows that a shift to administrative markets would make general legal standards more attractive relative to detailed legal rules. This would enable agencies to promulgate less complex rules and allow administrative law to extend into realms in which traditional administrative regulation would be too inefficient. Building on this analysis, Section III.B explains how vague standards could be used to ease legal transitions and thus make efficient legal change more feasible.

A. *Replacing Rules with Standards*

Consider the strengths and weaknesses of standards in a traditional adjudicative system.¹⁴⁴ Unelaborated standards are useful in traditional adjudication because they prevent corporations from taking advantage of loopholes in rules.¹⁴⁵ Suppose, for example, that the tax code did not use depreciation schedules, instead allowing taxpayers to deduct economic

142. See *supra* text accompanying notes 3-5.

143. Cf. Robert H. Mnookin & Lewis Kornhauser, *Bargaining in the Shadow of the Law: The Case of Divorce*, 88 YALE L.J. 950 (1979) (introducing the concept of negotiations that occur in the law's shadow).

144. See generally Isaac Ehrlich & Richard A. Posner, *An Economic Analysis of Legal Rulemaking*, 3 J. LEGAL STUD. 257 (1974) (assessing the choice between rules and standards); Peter H. Schuck, *Legal Complexity: Some Causes, Consequences, and Cures*, 42 DUKE L.J. 1, 3 (1992) ("Dense rules . . . seek to control a broad range of conduct, which causes them to collide and conflict with their animating policies with some frequency."); *id.* at 4 ("Turning on diverse mixtures of fact and policy, indeterminate [standards] tend to be costly to apply and their outcomes are often hard to predict."); cf. Kathleen M. Sullivan, *The Supreme Court—1991 Term, Foreword: The Justices of Rules and Standards*, 106 HARV. L. REV. 22 (1992) (exporting the rules-standards debate to constitutional law). But cf. Kaplow, *supra* note 5, at 593-96 (arguing that standards are not necessarily more complex than rules). A set of rules that corresponds perfectly with policy objectives may be said to be "congruent" to those objectives. Colin S. Diver, *The Optimal Precision of Administrative Rules*, 93 YALE L.J. 65, 67 (1983). In many contexts, however, such congruence may be very difficult to achieve.

145. A loophole is "[a] way of escaping a difficulty, especially an omission or ambiguity in the wording of a contract or law that provides a means of evading compliance." THE AMERICAN HERITAGE DICTIONARY 1061 (3d ed. 1992) (emphasis added). In other words, a loophole is a rule that allows a regulated entity to escape an obligation that an ideal set of rules or a vague standard would impose.

depreciation¹⁴⁶ and requiring judges to compute such depreciation using general economic principles on a case-by-case basis. Computing economic depreciation depends on a variety of factors, and a model appropriate for some depreciables might be inadequate for others. The advantage of the vague depreciation standard is that judges would be able to make computations of depreciation ex post, and they would not need to set forth in advance all possible ways of classifying depreciables. Recognizing that judges would be making decisions ex post, corporations would no longer have incentives to identify instances where the application of a detailed rule is inconsistent with the general principle it was drafted to implement.¹⁴⁷

Such a standard, however, would be wildly impractical, at least in a traditional adjudicative system. Standards are unpredictable, and unpredictability leads to litigation. Asked to compute economic depreciation case-by-case, different judges might make different assumptions and obtain different results in like cases. Litigation would result if the tax authority and the taxpayer had different predictions about the probability of litigation outcomes, or if strategic bargaining prevented settlement.¹⁴⁸ Recognizing that the administrative agency has limited resources, corporations would interpret the economic depreciation standard quite favorably to themselves. The agency would then have to settle for a lower amount than it could otherwise obtain. Rules, by contrast, do not allow for as much interpretive flexibility, and thus prevent the strategic bargaining that hamstrings administrative agencies.¹⁴⁹

146. See Anthony P. Polito, *Fiddlers on the Tax: Depreciation of Antique Instruments Invites Reexamination of Broader Tax Policy*, 13 AM. J. TAX POL'Y 87, 93-96 (1996) (discussing how current depreciation rules differ from the economic depreciation approach).

147. For example, suppose that a corporation considers purchasing good *A* or good *B*, and assume that both are identical for all the corporation's purposes, but that *A* receives more favorable tax treatment under a fluke in the depreciation rules. The corporation will be willing to pay more for *A*, thus causing an economic distortion. With a vague economic depreciation standard, by contrast, the company would have no reason to anticipate more favorable treatment for *A* and would thus not make a tax-motivated decision. See, e.g., Kevin W. Cunningham, Note, *Which Concept of Depreciation Should Guide Us? Trying to Develop a Consistent Framework for the Federal Income Tax System*, 14 VA. TAX REV. 753, 754 (1995) (discussing an example of the problems that may occur when depreciation rules stray from economic fundamentals).

148. See Robert H. Gertner, *Asymmetric Information, Uncertainty, and Selection Bias in Litigation*, 1993 U. CHI. L. SCHOOL ROUNDTABLE 75, 84-87 (discussing strategic bargaining).

149. Strategic bargaining is more likely given standards than rules. Consider, for example, the following account of the "bilateral monopoly" problem, which similarly can result in strategic behavior during negotiations: "Because there is no competitive pressure from outsiders, each party is likely to bargain 'strategically'—asking much, offering little, bluffing, threatening to walk away from the deal—in an effort to get as much as possible." JESSE DUKEMINIER & JAMES E. KRIER, PROPERTY 137 n.17 (3d ed. 1993). Legal settlement can be seen as a type of bilateral monopoly situation, since both parties would like to settle but may behave strategically in an effort to obtain a greater percentage of the benefits of settlement. With unambiguous legal rules, however, it is more difficult to "bluff" and to "threaten[] to walk away from the deal," because such a threat would not be credible if it were clear that the administrative agency would win in court.

The IRS, recognizing its limited enforcement resources, has thus wisely chosen to administer economic depreciation through rules.¹⁵⁰

An administrative market retains the benefits of standards without their weaknesses. Standards are an even better antidote to loopholes in an administrative market than in a system of traditional adjudication. The benefit of breaking standards down into rules does not exist in an administrative market, because rules would not lower the amount of litigation or otherwise be more administrable than standards. While a judge in a case selected for traditional adjudication in an administrative market might attempt to model a particular standard, if a later case revealed that this model was inadequate, the judge would have an incentive to adjust the model. In other words, the weight of precedent would be lighter in an administrative market than in traditional adjudication, and this would make standards more effective. Traders would anticipate this and dynamically improve their models in order to capture the intuition of a standard, thereby thwarting a corporation that relied on past models as a way of getting around a standard.

At the same time, standards do not cause the problems that rules cause in an administrative market. Because market prices reflect a composite of different ways of implementing a standard,¹⁵¹ the administrative market would

Even with limited enforcement resources, the agency should be able to induce all corporations to settle if liability is unambiguous. As long as the agency can make a credible threat to prosecute certain corporations, those corporations will settle. Because the agency's threat is credible and the law is unambiguous, they would otherwise end up paying the same amount directly to the agency, plus the costs of litigation. After the agency induces one group of corporations to settle, it could move on to the next group. This would ultimately lead to an unraveling that will gradually induce all corporations to settle. Of course, in practice, some corporations might prefer litigation even though it will be more expensive, but these corporations will be few, because such behavior is irrational when the result of litigation is wholly predictable. Where there is an ambiguity in how much corporations owe, however, the agency is less well situated, because it will be unable to distinguish genuine threats not to agree to a settlement (which might stem from asymmetric predictions of litigation outcomes) from bluffing. Thus, even if the agency could credibly commit to insisting on a certain settlement amount, a number of corporations will not settle, thereby preventing the unraveling effect.

150. See I.R.C. § 168 (1998). To be sure, case law would develop and judge-made formulas would gain power through *stare decisis*. See, e.g., Kaplow, *supra* note 5, at 577 & n.46 (noting that precedent may convert standards into rules). Those formulas, however, would reflect a tradeoff between administrability and economic substance. Traditional adjudication breaks difficult-to-administer standards into more easily administered rules, even if this simplification means that the rules sometimes do not correspond to the intuitions that the standards represent. *But see* Jason Scott Johnston, *Uncertainty, Chaos, and the Torts Process: An Economic Analysis of Legal Form*, 76 CORNELL L. REV. 341, 362-66 (1991) (arguing that adjudication may cause chaotic shifts from rules to standards and back).

151. Because market prices reflect an average of a number of traders' views, they provide a solution to a classic problem of politics and adjudication: how to develop an objective measure of the quality of an argument. *Cf.* R.S. MELNICK, *REGULATION AND THE COURTS: THE CASE OF THE CLEAN AIR ACT 18* (1983) ("[C]onsider the differences between national policymaking and the National Pastime. . . . Everyone knows that George Brett is a better hitter than Mark Belanger because Brett's average is higher. . . . In the world of politics, though, batting averages are harder to compile.") By

save the administrative agency and its litigation opponent from the whim of a single judge.¹⁵² In addition, the result of traditional adjudication of randomly selected cases does not directly affect any corporation's fine liability, so a judge faces no tension between *ex ante* and *ex post* justice.¹⁵³ In an administrative market, judicial decisions are neither *ex post* adjudications nor *ex ante* rules. To be sure, such decisions may help unmask judges' thought processes and thus influence market participants trading in their shadow, but their only immediate legal effect is to discipline traders.¹⁵⁴

That standards are more efficient in administrative markets than in traditional administrative adjudication points to two ways in which administrative markets could have a dynamic effect on the law. As Subsection III.A.1 shows, agencies might reduce the complexity of regulations, allowing the markets to fill in details of vague regulations. Subsection III.A.2 argues that the legislature could create administrative schemes that would rest entirely on individual vague standards.

1. *Reducing the Complexity of Regulations*

Because administrative markets make possible the replacement of rules with standards, they allow for reduction of legal complexity. Environmental law, for example, is dauntingly complex.¹⁵⁵ Much of the complexity comes from elaboration of definitions that seem straightforward but require myriad distinctions.¹⁵⁶ Attorneys who specialize in government contracts, meanwhile,

forcing traders to consider and weigh the force of different interpretations, administrative markets provide a partial solution to the problem Melnick identifies.

152. In traditional adjudication, the unpredictability of a legal standard is problematic not only because it leads to litigation, but also because it may impose uncertainty costs on litigants.

153. See, e.g., Abram Chayes, *The Role of the Judge in Public Law Litigation*, 89 HARV. L. REV. 1281, 1282-84 (1976) (explaining how the public law model of litigation focuses on creating *ex ante* just law, while private law litigation seeks to achieve justice *ex post*); Owen M. Fiss, *The Supreme Court, 1978 Term—Foreword: The Forms of Justice*, 93 HARV. L. REV. 1, 36 (1979) (comparing the goals of *ex ante* and *ex post* justice in judicial decisionmaking). For a useful categorization of the literature, see Christopher H. Schroeder, *Corrective Justice and Liability for Increasing Risks*, 37 UCLA L. REV. 439, 455 n.69 (1990).

154. See *supra* Section II.A.

155. See, e.g., Bradley C. Bobertz, *Legitimizing Pollution Through Pollution Control Laws: Reflections on Scapegoating Theory*, 73 TEX. L. REV. 711, 712 (1995) ("Throughout the Gordian passageways of environmental law, one repeatedly confronts the arbitrary, the unintelligible, and the futile. Environmental statutes have been called, among other things, 'hollow,' 'mind-numbing,' and the product of pathological law-making.") (citations omitted); Richard J. Lazarus, *Meeting the Demands of Integration in the Evolution of Environmental Law: Reforming Environmental Criminal Law*, 83 GEO. L.J. 2407, 2428-40 (1995) (suggesting that complexity in environmental law stems from technicality, indeterminacy, obscurity, and differentiation).

156. See Lazarus, *supra* note 155, at 2431 ("There are rarely clear threshold levels at which environmental pollution becomes unacceptable. The legal system, therefore, draws lines that tend to be based on fairly arbitrary distinctions."); *id.* at 2433 (describing the difficulty of determining whether material is a "hazardous waste").

like to joke about the irony of the singular name of the Federal Acquisition Regulation, which includes hundreds of pages identifying which expenses are “allowable costs” for which the government will reimburse contractors.¹⁵⁷

In these areas and in others, law could be reformed by substituting straightforward definitions for elaborate ones, vague generalities for regulatory minutiae. In assessing how broad standards should be, the government would still need to balance the benefits of certainty with those of succinctness. Without the cost of litigation brooding as an omnipresent factor, though, the optimal level of detail would be less than with traditional administrative rulemaking.

Such a change would not make the law less complex; it would instead shift the task of making fine distinctions from regulation drafters to traders, who would not need to anticipate all contingencies *ex ante*. The sacrifices that judges accept to reduce litigation—such as the creation of rules that are both overinclusive and underinclusive¹⁵⁸ and the maintenance of bad rules for the sake of *stare decisis*¹⁵⁹—are not necessary if traditional litigation no longer dominates the adjudicative process.

2. *Creating Purely Standards-Driven Markets*

Just because administrative markets could lead to simplification of regulations does not necessarily mean that it would be advisable to boil down all administrative programs into single lines like, “Polluters shall pay.” With such a vague rule, corporations would not be able to predict their fine liability easily. In considering whether to adopt such drastic simplification, policymakers would need to balance its benefits against the cost of increased uncertainty. There may, however, be circumstances in which purely standards-driven markets, *i.e.* markets that operate under the guidance of a single general rule, might be useful. In particular, when a standard would be intuitively

157. See, *e.g.*, Robert A. Burton, *Business Combinations: Treatment of Costs on Defense Contracts*, 24 PUB. CONT. L.J. 217 (1995) (providing an illustration of the complexity of allowable costs law).

158. See, *e.g.*, Johnston, *supra* note 150, at 363 (“[T]he more specific a rule, and the more heterogeneous the world it regulates . . . the greater the costs of overinclusion and underinclusion. . . . [B]alancing under a general standard will also involve overinclusion and underinclusion when the legal process is imperfect.”) (citing Ehrlich & Posner, *supra* note 144, at 263-69); Cass R. Sunstein, *Problems with Rules*, 83 CAL. L. REV. 953, 992-93 (1995) (discussing the overinclusiveness and underinclusiveness of rules).

159. A judge who believes that there is a better alternative to an old holding may nonetheless invoke *stare decisis* for one of two reasons. First, litigants may have formed expectations around the existing regime. Second, *stare decisis* makes the outcome of litigation more certain and thus encourages settlement. See, *e.g.*, Peters, *supra* note 125, at 2039 (listing consequentialist justifications for *stare decisis*). The market could take into account the first of these concerns. See *infra* Section III.B. At the same time, the market would minimize the second concern by making outcomes less susceptible to the predilections of individual decision makers.

useful but too vague for traditional adjudication, and that standard cannot easily be approximated by a series of bright-line rules,¹⁶⁰ an administrative market may be a viable alternative.

Consider, for example, the evils of corporate tax avoidance.¹⁶¹ Corporate taxpayers have incentives to structure transactions for tax purposes and to look for loopholes in the tax code. Tax planning may often serve an economically useful purpose; if the legislature wishes to use the tax code to grant breaks for certain types of transactions, then it may be socially desirable to have lawyers and accountants act as economic facilitators by figuring out what those transactions are.¹⁶² Past a certain point, however, the expenditure of resources to determine what breaks a taxpayer could qualify for may not justify the social cost of any improved fairness that results from taxpayers' identifying the lowest tax that they legally must pay (or can get away with paying).¹⁶³ Because a corporate taxpayer receives the full private benefit from its tax planning, the taxpayer will often have an incentive to expend resources beyond this point. While some transactional restructuring may contribute to achievement of the tax code's goals, if the economic cost of the restructuring is almost as great as the tax break, then the social costs may outweigh the social benefits.¹⁶⁴ Indeed, tax litigation may constitute tax avoidance, if the

160. This characteristic is particularly evident in the case of corporations spending money on loopholes, discussed below. After all, if the tax code could unambiguously identify what constitutes a loophole, none would exist.

161. The phrase "tax avoidance" is used in contradistinction to both "tax evasion" and "tax planning." The salient characteristic of "tax avoidance" is the attempted circumvention of legislative intent. See Hoffman Fuller, *The Intent to Avoid Tax*, 70 TUL. L. REV. 2103, 2106 (1996) ("[L]egislative purpose is the avowed key to the distinction between prudent tax planning and tax avoidance."). See generally George Cooper, *The Taming of the Shrewd: Identifying and Controlling Income Tax Avoidance*, 85 COLUM. L. REV. 657 (1985) (attempting to define avoidance and assessing strategies for combating it).

162. For a detailed and careful development of the position that lawyers may serve a useful social role, see Frank B. Cross, *The First Thing We Do, Let's Kill All the Economists: An Empirical Evaluation of the Effect of Lawyers on the United States Economy and Political System*, 70 TEX. L. REV. 645 (1992). Cross argues that lawyers' activities fit in three categories: "redistributive, rent-seeking activities; productive, economically facilitating activities; and creation of nonmarketed social goods." *Id.* at 653. These activities are difficult to distinguish, and it is hard to imagine rules encouraging lawyers to engage in work fitting in the second and third categories but not in the first.

163. Learned Hand famously wrote, "Any one may so arrange his affairs that his taxes shall be as low as possible; he is not bound to choose that pattern which will best pay the Treasury; there is not even a patriotic duty to increase one's taxes." *Helvering v. Gregory*, 69 F.2d 809, 810 (2d Cir. 1934), *aff'd*, 293 U.S. 465 (1935). Judge Hand's assertion, however, ignores the social costs of tax planning.

164. If a tax break is designed solely to compensate a taxpayer for a social benefit, then as long as the value of the social benefit is at least as great as the tax break, taxpayers have no incentive to spend wastefully. However, tax breaks may reflect fairness considerations as well as rewards for socially desirable activity. *Cf., e.g.*, Bernard Wolfman, *Tax Expenditures: From Idea to Ideology*, 99 HARV. L. REV. 491 (1985) (reviewing STANLEY S. SURREY & PAUL R. MCDANIEL, *TAX EXPENDITURES* (1985)) (discussing the history of and debate on tax expenditures). When tax planning exceeds the reward portion of a tax break, this additional spending may or may not be excessive on fairness grounds.

social benefit from the taxpayer's contesting the government's claims is less than the social cost.

Suppose therefore that tax avoidance is defined to include all socially unjustified activities undertaken for tax purposes. The problem with tax avoidance is not a problem with the substantive tax law, though tax simplification and elimination of loopholes could conceivably diminish corporations' incentives to engage in tax evasion. The problem, instead, is better labeled as procedural: that corporations may spend a socially excessive amount of time studying the substantive tax code. There is thus no way to modify the substantive tax law to eliminate corporate tax avoidance under this broad definition, and it would thus be impossible to construct a series of bright-line rules that would unambiguously indicate when a corporation had engaged in tax avoidance. Though one might imagine a brute-force solution, such as imposing a tax on tax planning services, administrative markets offer an alternative.

Imagine an administrative market, relying on the above definition of tax avoidance, that contained one simple provision: "Any corporate taxpayer engaging in tax avoidance shall be fined just enough so that corporate taxpayers will have no ex ante incentive to engage in such behavior." If there were such a standard, traders in the administrative market would develop models to measure tax avoidance and to determine how much such avoidance should be punished. To determine the appropriate tax penalty, the market would likely assess the ex ante probability that a corporation's tax avoidance would succeed.¹⁶⁵ If the market functioned efficiently, taxpayers would have no incentives to engage in tax avoidance. Because challenging the market's fine assessments excessively might itself constitute tax avoidance, taxpayers would similarly have incentives to invest resources in persuading the market that it overestimated liability only when the social benefits of such behavior outweighed the costs.¹⁶⁶

There are at least three possible objections to such a rule. First, measuring tax avoidance is a terribly imprecise business. But that is a strength of the market, not a weakness. Each market participant will attempt to aggregate different approaches to the problem of defining tax avoidance, and the market price (assuming it is efficient) will in turn reflect an aggregate of these

165. To make a taxpayer indifferent about whether to engage in tax avoidance, the taxpayer who is ex ante more likely to succeed should receive a larger fine ex post.

166. For example, while a taxpayer might ordinarily have incentives to pay \$10,000 for an audit the result of which he expects to reduce his tax liability by that amount, such a contract might not be optimal from a social point of view. If the definition of tax avoidance is sufficiently broad, the market would penalize the taxpayer for hiring too expensive an auditor.

aggregations.¹⁶⁷ Of course, market participants will attempt to guess how those who might judge randomly selected cases would model the problem of tax avoidance, and such judicial behavior might become more predictable over time. Nonetheless, without the constraint of precedent, judges' incentives would be to improve on their models to adjust for changing circumstances, and market participants would have incentives to predict such adjustments. Moreover, unlike the result of any single judge's measurement of tax avoidance, the market price will be an estimate of what an average judge would do. So even if each judge decided tax avoidance cases based on kneejerk reactions to the facts of individual cases, the price would reflect a collective attempt to quantify judges' intuitions with respect to tax avoidance behavior. And, unless judges systematically underestimate or overestimate the consequences of tax avoidance, this estimate will reflect the actual costs of such behavior.

Second, the rule might impose penalties that are too large to be justified on fairness grounds, as a few unfortunates would pay for the sins of others whose tax avoidance was not perceived.¹⁶⁸ But this is not an argument against the administrative market; it is just an argument for an even vaguer standard. For example, the standard could be, "The administrative market shall optimally fine taxpayers who engage in tax avoidance." Market participants (and judges in randomly selected cases) would then give content to the word "optimally." Specifically, traders would have to predict the amount by which judges are likely, given this standard, to reduce fines because of fairness considerations.

B. *Smoothing Legal Transitions*

Purely standards-driven administrative markets could help smooth legal transitions and thus make efficient legal change less controversial and more likely to occur. This could happen in two different ways. First, the government could use an administrative market to provide side payments to corporations (and perhaps others) who are hurt by legislation, thus neutralizing groups that would otherwise oppose legislative reforms.

Suppose, for example, that a certain health care reform would harm certain hospitals, even though it would improve overall efficiency. The

167. "[I]n a market with low transactions costs, market prices should serve as a good aggregator of the information possessed by other traders. Indeed, under the right assumptions, no trading at all is required in order for market prices to react to new information." Paul G. Mahoney, *Is There a Cure for "Excessive" Trading?*, 81 VA. L. REV. 713, 723-24 (1995) (citations omitted).

168. Cf. Jonathan Skinner & Joel Slemrod, *An Economic Perspective on Tax Evasion*, 38 NAT'L TAX J. 345, 346 (1985) ("In general, there will be some tradeoff between severe penalties, which impose *ex ante* costs on all risk averse tax evaders, and greater auditing and detection programs, which entail more government resource costs.") (citation omitted).

government could provide that those hurt by the legislation shall “be fully compensated.” Such a standard would be quite difficult to administer within a traditional administrative apparatus, as political factors would likely distort the accuracy of the compensation program. An administrative market, however, could administer the program relatively free of political interference. The hospitals would be required to tell the government how much they were harmed by the legislation, and a purely standards-driven administrative market would then be used to impose fees that effectively reduce the amount that the hospitals would receive.¹⁶⁹ As long as there is no reason to think that the judges of the claims randomly selected for traditional adjudication will systematically overvalue or undervalue the amount to pay hospitals, the market could provide full compensation fairly accurately.

Second, the government could smooth the legal change associated with the introduction of a partially supplanting administrative market. Specifically, a vague standard could be attached to a partially supplanting administrative market requiring that judges take into consideration the benefit of continuity with the regime that existed before the market. With such a “stability standard,” the government could ease the transition to an administrative market in which standards replace existing rules.¹⁷⁰ An alternative approach to smoothing transitions would be to delay the standards’ effective date.¹⁷¹ But judges would respond to the stability standard by considering the costs of transition and balancing appropriately the results under the existing law and under broad standards, and traders would have incentives to figure out what

169. More speculatively, the government could provide a standards-driven market that would fully compensate anyone hurt by a change in legal regimes. Under Kaplow’s analysis, *see infra* notes 172-173 and accompanying text, such full compensation would be undesirable, because without it investors are forced to consider the possibility of changes in governmental policy. The government could, however, offer a standards-driven market for specified purposes not limited to any single legislative act. For example, a standards-driven market might compensate corporate taxpayers for adverse changes in any tax incentive programs. Kyle Logue has argued persuasively that the benefits of governmental precommitment to such tax breaks are likely to exceed the cost. *See* Kyle D. Logue, *Tax Transitions, Opportunistic Retroactivity, and the Benefits of Government Precommitment*, 94 MICH. L. REV. 1129 (1996). While Logue considers various mechanisms to attain precommitment, *see id.* at 1181-94, a standards-based transition-compensation mechanism might be more credible than any he suggests.

170. One type of volatility that the market can create is institutional. Changing from an imperfect but reliable system of courts to an untried market-based system entails considerable uncertainty costs. No market rule can eliminate costs associated with the implementation of the market. Policymakers can smooth the transition by experimenting with gradually more encompassing versions of the administrative market, but an affected corporation accustomed to the traditional system will nonetheless have to pay the price of learning the new one. The purpose of this subsection is not to argue that transition to a market would be costless. Rather, the argument is that the market could ease transitions among legal regimes, including the transition from rules to standards.

171. Transitional clauses are a common means of easing transformation from one political regime to another. *See* Ruti Teitel, *Transitional Jurisprudence: The Role of Law in Political Transformation*, 106 YALE L.J. 2009, 2071-73 & n.259 (1997) (discussing transitional clauses in the U.S. Constitution).

the average transition adjustment would be. Corporations could therefore expect to be able to compute their fees initially using existing formulae and would have time to adjust to the new system.

The administrative market thus provides a means of gradual transition from one regime to another, preventing abrupt changes in policy. One might argue that such gradualism is in fact a problem with the administrative market. In an important article, Louis Kaplow argues against transitional policies that cushion the effects of economic reform.¹⁷² Of course, an efficient market would consider this analysis and perhaps make more abrupt policy shifts. Kaplow's argument, however, does not necessarily apply to the administrative market in any case. One reason that pricing changes in the administrative market would probably not be abrupt even in the absence of a stability standard is that the market weighs different normative positions. The relative appeal of different positions to judges will often change slowly in tandem with evolving approaches to legal thought. Similarly, if a transition from regime *A* to *B* to *A* again would impose some transitional cost, it might be advisable to switch from *A* to *B* gradually, so that switching back becomes more palatable. When policymakers are uncertain about which policy course is best,¹⁷³ perhaps the gradualist, compromise approach exemplified by the administrative market is appropriate.

IV. Comparing Alternatives: Administrative Markets and Other Market Incentives

In sketching out how administrative markets would work and how they would change the incentives of regulators, I do not mean to suggest that administrative markets are the solution to every regulatory problem. Rather, I hope to add the administrative markets to the menu of regulatory approaches that policymakers may consider. In the taxonomy of Susan Rose-Ackerman, regulation can be command-and-control, performance-based, or incentive-based.¹⁷⁴ Properly conceived, administrative markets are not a fourth category to add to this taxonomy, but constitute an alternative to traditional administrative enforcement and adjudication that can be used to complement any of these approaches. A regulatory regime could consist of a command-and-control approach enforced through an administrative market, or it might

172. See Louis Kaplow, *An Economic Analysis of Legal Transitions*, 99 HARV. L. REV. 509 (1986). *But see* Logue, *supra* note 169.

173. Kaplow assumes that a planned change in policy is normatively desirable. See Kaplow, *supra* note 172, at 521. This is a key assumption in any real legislative context, since legislators should perhaps take into account that their successors after the next election might disagree with them.

174. See ROSE-ACKERMAN, *supra* note 1, at 19, 155-56.

consist of an incentive-based approach enforced through traditional administrative processes.

Administrative markets are likely to be most appealing to those who have faith in market incentives generally, and administrative markets may often be used to accomplish the same goals as market incentives that are currently proposed. This part compares administrative market solutions to various regulatory problems with standard approaches relying on market incentives. At the same time, this part attempts to sketch out why an administrative agency might address a given regulatory problem with neither a standard market incentive nor an administrative market, and why it might use both a standard market incentive and an administrative market to address the same problem.

The three market incentives considered are tradeable emissions permits to combat pollution, full insurance requirements to ensure workplace safety, and excise taxes on products like cigarettes that force consumers to internalize externalities. In the case of each of these incentives, the following tentative conclusion is reached: To the extent an administrative market is used merely to give incentives to actors in primary markets, the indirectness of administrative markets is likely to mean that standard market incentives are superior. Administrative markets, however, are useful where a standard market incentive would prevent an agency from considering important noneconomic goals, or where an agency faces a large enforcement problem that a standard market incentive cannot overcome.

A. *Tradeable Permits to Reduce Pollution*

In a tradeable permit system,¹⁷⁵ the government allocates rights to pollute by, for example, auctioning off such rights. A pollution right entitles a firm to emit a specified amount of pollution in a given year, and the government directly controls only the total amount of pollution that will be permitted. Firms are then permitted to trade their rights to pollute on the market. The administrative agency monitors corporate emissions and sues any corporation that pollutes more than it is permitted.

Tradeable permits have two primary benefits over traditional command-and-control environmental regulation. First, the tradeable permit system eases the government's enforcement burden, because it is generally easier to measure emissions than to inspect whether firms comply with best available

175. See generally T.H. TIETENBERG, EMISSIONS TRADINGS: AN EXERCISE IN REFORMING POLLUTION POLICY (1985); Bruce A. Ackerman & Richard B. Stewart, *Reforming Environmental Law: The Democratic Case for Market Incentives*, 13 COLUM. J. ENVTL. L. 171 (1988).

technology requirements.¹⁷⁶ Second, firms will sell their permits when they can reduce pollution for less money than they will receive for the permits. Thus, the reduction in pollution will be borne by those firms that can reduce pollution most cheaply, while the firms that obtain the greatest benefits by polluting will continue to pollute.¹⁷⁷

An administrative market enforcing command-and-control regulations would achieve some of the same goals as the tradeable permit system, but probably not as efficiently. The system would reduce the agency's enforcement burden by giving private parties incentives to produce relevant information about corporations' activities.¹⁷⁸ At the same time, regulators might choose to draft less detailed regulations in an administrative market, perhaps allowing corporations more flexible ways of reducing pollution.¹⁷⁹

Indeed, one might imagine a purely standards-driven pollution administrative market that seeks to achieve the same outcome as does the tradeable permit system. The standard might simply specify: "Corporations shall be fined enough so that their incentive is to emit the same amount of pollution as they would under a tradeable permit system." Such a market, however, would operate only indirectly upon polluters. Suppose, for example, that a corporation knows that for some relatively small amount of money, it could greatly reduce the amount of pollution it emits. It would have no incentive to release that information in the standards-driven market, whereas with tradeable permits, it would then be in the corporation's interests to sell its pollution rights. Of course, traders in the administrative market would have incentives to accumulate such information, but they may not be as well situated as the regulated industry itself to obtain it.

This problem exists, however, only when the goal of the administrative market is to achieve the exact same results as a tradeable permit system. An alternative would be to operate an administrative market around a standard specifying that each firm should pay for the damage it does to any natural resources. To be sure, firms might still have incentives to hide some information about the natural resource damage.¹⁸⁰ But as long as they expect the administrative market's assessment of the natural resources damage to be unbiased, firms would have incentives to reduce pollution whenever the marginal benefits exceed the marginal damage to the resources. Moreover, the

176. See Ackerman & Stewart, *supra* note 175, at 184-85; Richard B. Stewart, *United States Environmental Regulation: A Failing Paradigm*, 15 J.L. & COM. 585, 594 (1996) ("Under pollution fee, tradeable permit, and deposit/refund systems, government officials no longer have to gather information and make numerous decisions regarding complex engineering and economic issues for a myriad of facilities across a vast and diverse nation.").

177. See Ackerman & Stewart, *supra* note 175, at 180.

178. See *supra* Part I.

179. See *supra* Subsection III.A.1.

180. But see *supra* Subsection I.B.2.

administrative market system is more flexible than a tradeable permit system. Suppose, for example, that policy makers would like economic dislocation of workers to be a factor in determining which firms reduce pollution. An appropriately worded administrative market standard could accomplish this. In a tradeable permit system, by contrast, the firms that reduce pollution will be those that can do so most cheaply, regardless of any third-party effects on workers.

An administrative market could, in any case, be used to enforce the limits of a tradeable permit system. Thus, third parties would have incentives to monitor the emissions of corporations to ensure that they stay within the limits of their tradeable permits. Traders could profit by showing that the market had misvalued the amount of fines the corporation owed. Whether an administrative market is a useful addition to a tradeable permit system for a particular type of pollution depends on the empirical challenge that the government faces in monitoring compliance. If measuring emissions is straightforward, then the administrative market would add little. If, by contrast, emissions measurement is a difficult and expensive science,¹⁸¹ or if corporations are able to evade detection of pollution, the benefits of an administrative market might well exceed its costs.

B. *Insurance Requirements for Workplace Safety*

Another market-oriented regulatory tool is a requirement that firms bear adequate insurance for any liability that they might incur. As long as firms or their insurance companies can pay for any torts they cause, for example, the firms will be prodded by their insurance carriers to take all cost-justified measures to reduce liability. For example, in the area of workplace safety and health regulation, government regulation would be unnecessary if all firms were strictly liable for any workplace injuries or illnesses, as long as the firms are not judgment-proof. This section compares such a full insurance requirement and an administrative market approach to each other and to conventional command-and-control regulation.

Before I explore these approaches, however, I should explain the economic justification of why we need workplace safety regulation at all. In a perfectly competitive labor market with fully informed, rational workers and zero transactions costs, wage differentials will compensate workers for different levels of risk.¹⁸² Where these conditions do not exist, however,

181. See, e.g., JOSEPH E. STIGLITZ, *ECONOMICS OF THE PUBLIC SECTOR* 226 (2d ed. 1988) (noting that it may be cheaper to check for installation of pollution-control technology like scrubbers than to measure emissions).

182. See W. Kip Viscusi, *Structuring an Effective Occupational Disease Policy: Victim Compensation and Risk Regulation*, 2 *YALE J. ON REG.* 53, 56 (1984) ("Under ideal conditions of full

workers may be exposed to excess risk for which they are not compensated. For example, workers may be irrational and discount the probability of injury or illness.¹⁸³ Because information is a public good, workers may have inadequate incentives to acquire it and thus may be inadequately informed about the risks they face.¹⁸⁴ Similarly, workplace safety may be a “local public good,” making it difficult for individual employees to negotiate for safety improvements where collective negotiation is impossible.¹⁸⁵ Thus, risk may be too high for any given wage. The goal of efficient regulation, then, is to lower risk so that the marginal benefit of additional risk is equal to the marginal cost.

An administrative agency regulating workplace safety and health via command-and-control regulation¹⁸⁶ faces two critical scarcity problems that market solutions might solve. First, the large number of workplaces means that the regulator faces a massive enforcement problem.¹⁸⁷ Second, the diversity of workplaces means that the regulator cannot develop perfectly tailored safety requirements that motivate employers to achieve safety and health goals at the least possible cost.

An insurance requirement would mandate that employers purchase insurance that would fully compensate workers for the injuries or illnesses

information and voluntary job choice, workers will demand and receive a wage premium for risky jobs.”).

183. As cognitive psychology reveals, people generally underappreciate the relevance of low-probability, high-cost events. See, e.g., Melvin Aron Eisenberg, *The Limits of Cognition and the Limits of Contract*, 47 STAN. L. REV. 211, 223 (1995) (“[L]aboratory results consistently demonstrate that even when offered subsidized premiums, people prefer to insure against high-probability, low-loss hazards and tend to reject insurance against low-probability, high-loss hazards.”).

184. See Thomas O. McGarity & Sidney A. Shapiro, *OSHA's Critics and Regulatory Reform*, 31 WAKE FOREST L. REV. 587, 606 (1996); Viscusi, *supra* note 182, at 58 (“Even with some information about the hazards of workplace materials, the worker is still in a poor position to assess the health risk he faces and to evaluate that risk in monetary terms.”). One limitation of this economic justification for market intervention is that it does not necessarily explain why workers’ estimates of risk should be biased downward in addition to being inefficient. That is, in the absence of information, rational employees should recognize the absence of such information and be just as likely to overestimate risk as to underestimate risk. There may, however, be an informational asymmetry. That is, the employer may have a better idea of risk levels than employees and release this information to employees only when it indicates that risk is lower than employees would otherwise guess. Cf. Susan Rose-Ackerman, *Progressive Law and Economics—And the New Administrative Law*, 98 YALE L.J. 341, 355 (1988) (“Knowing that they must compensate workers to take risks, employers would like to keep job hazards secret.”).

185. Rose-Ackerman, *supra* note 184, at 356.

186. In the workplace safety context, command-and-control regulation means that the regulator specifies particular safety precautions and standards by which firms must abide, rather than providing performance incentives for firms to improve safety as cost-effectively as possible.

187. See McGarity & Shapiro, *supra* note 184, at 608 (“Unfortunately, the agency lacks adequate resources to be effective in many industries.”); cf. *id.* (suggesting that workers be allowed to bring private enforcement actions to help solve the enforcement problem).

they develop because of work.¹⁸⁸ Such an insurance program, however, would need to compensate employees for more than their lost wages; it would also need to provide compensation for pain and suffering.¹⁸⁹ Ideally, the insurance payoff should be enough to make the worker whole.¹⁹⁰ Employers could be allowed to self-insure, as long as there were no risk that insolvency would prevent the payment of damages.¹⁹¹

Differently stated, making employers strictly liable for damages from workplace-related injuries and illnesses would give such employers incentives to reduce risk whenever the benefit of such a reduction to workers would exceed the cost to the employer.¹⁹² More importantly, insurance companies would have incentives to monitor workplace risk to set actuarially fair premiums. Because individual insurance companies would service many employers, they would also have incentives to invest in information about risk reduction.¹⁹³

Interestingly, the leading academic critic of OSHA regulation, W. Kip Viscusi, does not recommend a market incentive program requiring full

188. More precisely, the insurance would need to compensate workers or their estates for the portion of damages they suffer due to injury, illness, or death that is attributable to work-related conditions.

189. Cf. Steven P. Croley & Jon P. Hanson, *The Nonpecuniary Costs of Accidents: Pain-and-Suffering Damages in Tort Law*, 108 HARV. L. REV. 1785 (1995) (providing a rebuttal to the argument that because there does not appear to be a market for pain-and-suffering insurance, an efficient adjudicative system would not provide pain-and-suffering damages).

190. The calculation is somewhat more complicated in the case of a worker fatality, since presumably no amount of money would make a worker whole. If internalization of costs is the goal, however, the appropriate insurance payoff in the event of an employee's death would be equal to the statistical value of life. See STEPHEN BREYER, *BREAKING THE VICIOUS CIRCLE* 15-16 (1993) (arguing that the concept of "statistical lives" is a useful benchmark for considering policies). Thus, if an employee would accept a known 1/10,000 risk of death only for an additional \$500 in present discounted value, then the insurance policy would pay \$5,000,000 if the employee died. Technically, it is not necessary that such insurance payments actually be made to the employee's estate, if the goal of the insurance program is to reduce risk such that the employer internalizes its cost. Payments could be made, for example, to the government. Consideration of whether the employee's family should receive survivorship benefits depends not just on distributional concerns, but also on enforcement concerns, because the employee's family might be better positioned to file and pursue an insurance claim.

191. *But cf.* Lynn M. LoPucki, *The Death of Liability*, 106 YALE L.J. 1 (1996) (arguing that many potential tortfeasors are effectively judgment-proof or can make themselves judgment-proof).

192. To see that this is so, suppose an employer must choose whether to eliminate a $1/x$ risk of damages y (in present discounted value) for present cost c . If the employer is profit-maximizing, it will choose to eliminate the risk when $c < y/x$.

193. This helps to compensate for the fact that information about risk reduction is a public good. Unless insurance companies develop mechanisms by which they share all information, however, it does not resolve the problem entirely. Some government expenditures might usefully be spent on research into workplace risk. See, e.g., Rose-Ackerman, *supra* note 184, at 359 ("[T]he government should sponsor research designed to discover the level of risk posed by various substances, tools, capital equipment, and generic work practices.").

insurance.¹⁹⁴ In criticizing insurance, however, Viscusi does not appear to recognize the possibility of a mandatory insurance regime.¹⁹⁵ Viscusi does, however, offer several comments that help to establish some properties of a full insurance system that may be undesirable, properties that I will show the administrative market solution would avoid. First, causation may be difficult to prove.¹⁹⁶ Second, some injured parties may fail to bring claims.¹⁹⁷ Third, if employers face strict liability, a moral hazard problem may lead to employee risk taking.¹⁹⁸

Despite these problems, though, a full insurance requirement would substantially address the two primary challenges of workplace safety regulation. By giving private insurers incentives to monitor workplaces, the government would need only to monitor whether firms purchased appropriate insurance. Moreover, the private insurers would have incentives to price-

194. See, e.g., W. Kip Viscusi, *Toward a Diminished Role for Tort Liability: Social Insurance, Government Regulation, and Contemporary Risks to Health and Safety*, 6 YALE J. ON REG. 65, 67-68 (1989). Indeed, Viscusi's solution contains surprisingly little reliance on market forces: "My proposal . . . includes: 1) a compensation system such as the social security disability program, funded primarily by its broad-based payroll tax; 2) a set of informational requirements to inform workers more fully about workplace hazards; and 3) a direct regulation scheme that integrates minimum performance standards and graduated hazard penalties." Viscusi, *supra* note 182, at 79. To be sure, "graduated hazard penalties" would give employers incentives to reduce risk, but such a system would depend on the government's ability to measure hazards.

195. Viscusi notes: "The inadequacy of the insurance market aggravates the effects of the lack of implicit risk markets. A number of factors impede the development of efficient insurance agreements. . . . [A]dverse selection . . . can prevent the emergence of any insurance coverage for important classes of risk . . ." Viscusi, *supra* note 194, at 67-68. Adverse selection, however, would not occur if all employers were required to purchase insurance. In a longer treatment of workplace risk, Viscusi appears to recognize the possibility of a worker's compensation program that would provide more than partial insurance. See W. KIP VISCUSI, RISK BY CHOICE 90 (1983) ("[I]f the market levels of risk are too high, it may be desirable to increase benefits above their efficient level or to levy an additional accident-related tax on firms to promote safety."). He does not explain, however, why he believes private markets—regulated only to the extent that the government would need to assess the adequacy of insurance—would be inefficient. While Viscusi argues that it may be inefficient for workers or their estates to receive full compensation, *see id.* at 89, such full compensation would be efficient in the sense of providing employers with appropriate risk incentives.

196. See Viscusi, *supra* note 194, at 73 ("The greatest inefficiencies occur in the tort system because the claimant must establish liability through an evidentiary showing. The information required is much greater than that for simply assessing a probability distribution for an outcome, as is the case with markets.") (footnotes omitted). As long as juries compensate only the portion of damages attributable to workplace causes, however, the possibility that individual awards may not be perfectly accurate does not change the risk-reducing incentives of insurance. As long as jury awards are not systematically biased up or down, employers and insurers will have appropriate incentives *ex ante*. (If juries were systematically biased in favor of employees, then employers would excessively reduce risk in a full insurance regime.)

197. See *id.* at 83. This would be particularly likely when employees receive full compensation from private health and disability insurance (unless the private insurance carrier can sue the employer's insurance carrier), and when employees die with no heirs.

198. See *id.* at 68. *But see* McGarity & Shapiro, *supra* note 184, at 604 ("[T]he moral hazard theory reflects a bizarre view of human nature under which the prospect of money in the future will persuade people to risk severe pain, hospitalization, dismemberment, and even death in the present.").

discriminate against more risky workplaces, at least where the cost of identifying workplaces as risky is less than the benefits.¹⁹⁹

An administrative market approach, relying on the market to enforce existing (or modified) safety regulations, responds to both aspects of the agency's workplace safety and health conundrum as well. First, the system addresses the enforcement problem by giving workers and third parties incentives to inspect workplaces. Of course, some workers might not have the requisite technical expertise or might not be able to afford to purchase large numbers of securities from other security holders. A third-party inspector, however, would have incentives to provide rewards to employees who come forward with information that the inspector could then verify.²⁰⁰

Second, and more subtly, the system responds indirectly to the problem of customizing workplace safety and health regulations to diverse circumstances.²⁰¹ Detailed workplace safety and health regulations are problematic because the command-and-control standards might not be appropriate for all workplaces.²⁰² The administrative market will give regulators incentives to draft simpler regulations.²⁰³ The agency is still unlikely to choose the simplest regulation imaginable—"each employer shall be fined the optimal amount to encourage efficient elimination of risks"—but regulations might be drafted at a level of specificity between this extreme and the current level of detail.

Ultimately, assessing the success of an administrative market approach to workplace safety and health regulation is an empirical project. The administrative agency would need to consider, among other factors, the costs of adjudicating a small percentage of cases chosen by lottery. The effectiveness of third-party inspections depends in part on how effectively the market can assess the reputations of various inspectors, and on whether the market will be robust enough to encourage formation of a competitive

199. Private monitoring by insurance companies is unlikely to be perfect, of course, particularly with respect to health and safety issues for which the cost to the insurance provider of monitoring insured companies' activities is high.

200. In a perfectly competitive inspection market, inspectors' reward offers would be equal to the expected profit from the information. Of course, the inspection market would not be perfectly competitive, and the expected profit may be lowered by some employees' providing inaccurate information that increases inspectors' costs. Because employees with information about violations would thus be unable to obtain the full value of that information (unless they trade on the information themselves), their incentives to accumulate information would not be as large as the third-party inspectors'.

201. This problem may be greater in the case of workplace safety regulation than in the case of workplace health regulation. *See, e.g.,* Viscusi, *supra* note 182, at 80 (noting that it is relatively easy to measure compliance with performance standards in the context of health regulation, for example by determining "concentrations of cotton dust fibers in the air").

202. *See supra* text accompanying note 187.

203. *See supra* Subsection III.A.1.

inspection industry. The benefits in terms of reduced complexity depend inversely on the extent to which the desire to reduce businesses' uncertainty costs explains the complexity of regulations.

It is possible, however, to make a theoretical comparison between the insurance approach and the administrative market approach. The insurance approach ties the penalty system to a compensation system.²⁰⁴ The desirability of the insurance approach thus depends critically on the acceptability of the compensation system.²⁰⁵ For example, one might or might not deem it normatively unacceptable to make large cash payments to the survivors of workers killed on the job. As long as the compensation system is acceptable, however, the insurance approach is likely to achieve the goal of regulation—efficiently safe and healthy workplaces—at a lower cost than an administrative market could. Employers are in a better position than traders in an administrative market to know which changes will improve safety and how expensive they will be; they will expect to reduce their liability burden (and indirectly, their insurance burden) by making cost-justified safety and health improvements.

By contrast, the administrative market approach acts independently of a compensation system. This approach, accordingly, is more flexible: Because it merely encourages enforcement of safety regulations, the market could be used to implement noneconomic values as easily as economic ones. Suppose a legislature decided, contrary to the advice of economists, that it wanted to equalize risk, to the extent possible, for all workplaces at some preset level. Such a decision might be consistent with a view, for example, that differential safety rates for different social classes promote class tension and are thus damaging in a democratic civil society. An administrative market could accommodate such a judgment by enforcing stricter regulations than economists would recommend. The insurance approach, on the other hand, is not quite so flexible. To use insurance to equalize risk among workplaces, the insurance policies would need to pay amounts not equal to the damages suffered by injured workers. But to determine these amounts, the government would need to be able to calculate the risk of all workplaces, defeating the

204. Consider each of the concerns with the standard market approach discussed above: causation problems, underenforcement, and moral hazard. *See supra* notes 196-198 and accompanying text. That causation would pose a difficult factual question is problematic only because causation would determine whether (or how much) an employee could recover. Underenforcement will exist only to the extent that employees decide not to seek compensation. Moral hazard will occur because the insurance means that insured employers and employees know that they will receive compensation regardless of what risks they take after purchasing insurance.

205. Viscusi, for example, generally favors compensation of victims through “a social insurance fund financed by a general payroll tax.” Viscusi, *supra* note 182, at 77. If national health and disability insurance is desirable, then the government will be unable to implement the standard market approach, since that approach would leave no need for private insurance.

purpose of the insurance approach relative to command-and-control regulation.

The choice, however, is not necessarily between the insurance and administrative market approaches. The government can use both of these approaches or neither, or limited versions of one or both. Thus, if the insurance approach would achieve the optimal outcome, but the administrative agency cannot easily enforce compliance with the insurance requirement, a combination of the two types of incentives might be superior to either type of incentive alone.²⁰⁶ And where the hierarchical structure of a command-and-control regulatory regime itself promotes efficiency,²⁰⁷ a more traditional regulatory program may be superior to both market alternatives, or such a program could be supplemented with moderate versions of both types of market incentives.

C. *Excise Taxes on Dangerous Products*

Another market-oriented approach to regulation is to impose excise taxes on products to force consumers to internalize the costs of those products. A so-called Pigouvian tax,²⁰⁸ if set at an appropriate level, can force consumers to pay for the effects of products on third parties as well as effects on themselves that they might underestimate. For example, in the context of cigarettes, consumers may not take into account the costs that smoking imposes on third parties, such as their families or strangers at the next table in a restaurant.²⁰⁹ A Pigouvian tax represents a form of ex ante regulation responding to such informational externalities, in contrast to an enterprise liability regime that accomplishes regulation through ex post assessments.

206. An administrative market scheme could be used to enforce the rule that employers obtain adequate insurance, with traders obtaining information on the adequacy of employers' insurance coverage. Even if this is a manageable task for an administrative agency, it is possible that traders would achieve better results, particularly if the agency faced political pressures to conclude that employers' insurance coverage was adequate. Cf. Alex M. Azar II, Note, *Firrea: Controlling Savings and Loan Association Credit Risk Through Capital Standards and Asset Restrictions*, 100 YALE L.J. 149, 157 (1990) (noting that agencies may face political pressures to determine that an institution has taken adequate financial precautions).

207. This might be true of workplace safety and health regulation if there are large economies of scale in producing information about risk. Both types of market incentives rely on numerous private parties—insurance companies or security traders—to produce information about risk. On the other hand, private businesses arguably tend to be more efficient than government agencies. As Cohen and Rubin argue: "Profit maximizing firms have incentives to reduce monitoring costs, without necessarily decreasing monitoring ability, by developing new technologies, bargaining for cheaper labor, or eliminating unproductive employee or management practices. The incentives for a budget-maximizing bureaucrat, however, are just the opposite." Cohen & Rubin, *supra* note 18, at 187 n.68.

208. See, e.g., Maureen L. Cropper & Wallace E. Oates, *Environmental Economics: A Survey*, 30 J. ECON. LITERATURE 675, 680 (1992).

209. See, e.g., Jon D. Hanson & Kyle D. Logue, *The Costs of Cigarettes: The Economic Case for Ex Post Incentive-Based Regulation*, 107 YALE L.J. 1163, 1186-88, 1229-32 (1998).

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Jon Hanson and Kyle Logue, however, have recently offered a trenchant critique of Pigouvian taxes in the cigarette context.²¹⁰ The problem with such taxes is that they impose heavy demands on regulators. A regulator must be able to make difficult computations about the total costs of cigarette smoking.²¹¹ Moreover, for the regulatory regime to induce efficient safety improvements on the part of cigarette manufacturers, regulators would need to be able to differentiate among different cigarette brands' safety levels.²¹² Cigarette manufacturers would have incentives to suppress information indicating that their cigarettes were dangerous.

Administrative markets offer an alternative mechanism for accomplishing *ex ante* product regulation. Each manufacturer could be required to pay annually an amount equal to the total costs imposed by its products not taken into account by consumers. Administrative markets could be used to adjudicate manufacturer liability. Any single trader, of course, is no better situated than a regulator to determine how dangerous individual brands of cigarettes are. But the administrative market would create competition among traders to refine models indicating the costs imposed by different brands. In addition, if cigarette smoking by certain individuals were more costly than smoking by others, the market could take into account these differences, and manufacturers would have incentives to respond in their marketing practices. As long as the tobacco companies expect judges who ultimately adjudicate such claims to produce unbiased estimates of the costs of cigarettes, they will have incentives to make efficient safety improvements. Moreover, the manufacturers would raise their prices because of the fines.

This does not, of course, mean that *ex ante* regulation through an administrative market is superior to *ex post* incentive-based regulation, which Hanson and Logue advocate.²¹³ After all, assuming that problems like the possibility of judgment-proof tobacco companies can be overcome,²¹⁴ manufacturers would have incentives to make all efficient safety improvements if they were strictly liable for the costs of cigarettes. This provides another example of how incentives directly on producers are likely to be more efficient than those operating on traders. The argument does, however, make the comparison somewhat closer, particularly given that the administrative market might be a better mechanism for compensating for

210. *See id.* at 1268-71.

211. *See id.* at 1270 ("In sum, with respect to the information that she needs to do her job, the ideal Pigouvian regulator is in essentially the same position as the ideal command-and-control regulator.").

212. *See id.* at 1271-73 (arguing that this would discourage manufacturers from exercising efficient levels of care).

213. *See id.* at 1273-78.

214. *See id.* at 1307-12.

third-party effects.²¹⁵ At the same time, administrative markets could enhance Hanson and Logue's proposal for a "smoker's compensation" system²¹⁶ as a way of administering an ex post regime, thus strengthening their argument for the superiority of ex post, incentive-based regulation even more.

Conclusion

The simple market mechanism that I introduced in Part I has developed over the course of my analysis into one that increasingly subsumed functions of administrative agencies. In Part I, the market served only as a supplement to traditional administrative adjudication. This supplemental market allowed trading of portions of legal claims that the government had against corporations, and it served to encourage the production and release of private information about corporate fine liability. A corporation, however, could still negotiate with an agency and ultimately force the agency to court.

That right was removed in Part II. The partially supplanting market which it introduced allowed only a few randomly selected fine disputes to be adjudicated in courts, but it used that small amount of adjudication as a way to induce traders to price administrative market securities as if all cases would be adjudicated. The security prices thus predicted what the outcome of adjudication would have been and were used as a substitute for adjudication itself.

Finally, in Part III, the content of the law itself changed. Because the partially supplanting administrative market adjudicates all claims, regulators no longer needed to worry that vague provisions would place the agency in a poor negotiating position, given the large volume of potential litigation.

In future work, I will take this project one step further, by showing how even the small amount of adjudication that indirectly powers the partially supplanting market could be eliminated. As Part IV showed, however, this radical step need not be taken to unleash the virtues of administrative markets. The administrative market responds to all three types of scarcity that administrative agencies face. The supplemental market encourages private investigation of corporations until the costs eclipse the benefits, as moderated by the reward percentage. This solves administrative agencies' enforcement problem. The supplemental market also increases corporations' incentives to settle with the agency, and the partially supplanting market builds on this by adjudicating cases without always relying on courts to make decisions when settlement fails. This addresses the scarcity of prosecutorial and adjudicative

215. *See id.* at 1312-13 ("To the extent that the dispersed problem cannot be eliminated through the aggregation of claims, however, some state-initiated regulatory approach may be a useful supplement to a victim-initiated ex post regime.").

216. *Id.* at 1283-96.

resources. Finally, the dynamic benefits of the partially supplanting market make regulations easier to draft, addressing the scarcity problem that limits regulators' ability to draft adequate regulations.

Although I have developed a market-based replacement for adjudication specifically in the context of corporate fine collection, the concept may be generalized. A similar market scheme could be sketched for virtually any area of civil law, whether or not the government is a party. For example, one might create an administrative market mechanism as a substitute for class action litigation.²¹⁷

The goal of law and economics is sometimes seen as the creation of legal rules and processes that mimic the market.²¹⁸ My analysis has flipped this perspective, asking whether a market could mimic the result of legal proceedings.²¹⁹

I have focused on the assessment of corporate fees rather than on some other area of the law for two principal reasons. First, with traditional administrative adjudication, the amount of money corporations end up paying in taxes is the product of the interaction of many different players—legislators, regulation drafters, enforcement investigators, lawyers, and administrative courts. In their most developed form, administrative markets would change the incentives of all these players and take over some of their functions.

Second, and more importantly, the corporate fine administrative market may be less intrusive than other forms of administrative markets, such as a tort liability market or a tax liability market that determines the tax liabilities of all individual tax filers. After all, many corporations are subject to the whims of capital markets already, and administrative markets could target particular types of activities. Moreover, administrative markets give private parties incentives to accumulate and release information concerning individual

217. *Cf. supra* text accompanying notes 83-85 (explaining the advantages of the partially supplanting administrative market over statistical adjudication).

218. *See, e.g.,* Jules L. Coleman, *Efficiency, Exchange, and Auction: Philosophic Aspects of the Economic Approach to Law*, 68 CAL. L. REV. 221, 222 (1980) (characterizing positive law and economics as being concerned "with the capacity of market models to provide a conceptual apparatus within which traditional legal problems may be conceived").

219. My argument thus does not entail the end of adjudication, but to the contrary shows how market processes might provide alternative means of structuring it. As Carrie Menkel-Meadow recently wrote:

Adjudication is necessary to generate rules and norms, and to exist as a final resort when the parties cannot resolve things themselves The interesting question for me, then, is not what we will do when adjudication ends, but when and how should we use adjudication and when should we use something else? And, must adjudication be structured the way it is?

Carrie Menkel-Meadow, *Introduction: What Will We Do When Adjudication Ends? A Brief Intellectual History of ADR*, 44 UCLA L. REV. 1613, 1623 (1997). My analysis has aimed towards addressing these questions.

market litigants. Corporations are not generally thought of as having a right to privacy, and indeed, private monitoring of corporate activity is often something that the government seeks to encourage.

Although our society relies on capital markets to make important decisions about the use of social resources,²²⁰ my proposal may nonetheless seem to take the market mantra to an extreme. I have tried to show, however, that by firmly anchoring the market to traditional administrative adjudicative processes, we can accomplish the goals of adjudication better than traditional administrative adjudication can, without perverting those goals. And while the administrative market itself may require some regulation—agencies would need, for example, to send traders checks or provide them with electronic payments when the market closes—this degree of regulation is trivial relative to the bureaucracy that it has the potential to decrease.

An administrative agency, in short, can be effective even if it is small. Let the market roar, and administrative law will roar with it.

220. See Thomas Lee Hazen, *Rational Investments, Speculation, or Gambling?—Derivative Securities and Financial Futures and Their Effect on the Underlying Capital Markets*, 86 NW. U. L. REV. 987, 987 (1992) (noting that securities regulation depends on the premise that individual investors maximize their own returns, thus maximizing social wealth).