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TIRESIAS AND THE JUSTICES: USING INFORMATION MARKETS TO PREDICT SUPREME COURT DECISIONS

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"The prophecies of what the courts will do in fact, and nothing more pretentious, are what I mean by the law."

—Oliver Wendell Holmes[1]

In ancient Greek mythology, oracles and seers could foretell the actions of gods and kings. With these predictions, ordinary citizens could

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[1] Oliver Wendell Holmes, *The Path of the Law*, 10 HARV. L. REV. 457, 461 (1897).

glimpse the future actions of their rulers, and the recipients treasured those insights.

Such knowledge may be more than myth. This Article explores the power of the information market, an economic instrument that allows groups of participants to merge their collective knowledge to make predictions. Specifically, we discuss the application of information markets to predicting Supreme Court decisions. The implications are significant: Supreme Court rulings determine issues critical to American politics and business, ranging from the Fifth Amendment rights of property owners, to abortion and affirmative action, to claims of securities fraud. The ability to know a probable Supreme Court outcome in advance can potentially create monetary value for practitioners, provide guidance for lower courts, and perhaps even influence the Supreme Court itself.

Applying information markets to the Supreme Court offers a new way of understanding its rulings. Current prediction efforts centered in legal methodology are largely bound up in individual normative argument, while formal theoretical models of decisionmaking grounded in political science are postdictive and tend to concentrate heavily on political ideology.[2] Information markets offer an alternative, one that will aggregate the predictions of those who are knowledgeable about the Court's decisionmaking into an information market that rewards correct analysis.[3] An information market of this kind, which we propose naming Tiresias,[4] should lead to more accurate forecasts of Supreme Court decisions and further demonstrate the potential of information markets.

To date, the intersection of law and information markets has been largely unexplored. The most extensive discussion has concerned applying information markets not to courts, but to administrative agencies.[5] Other potential legal applications of information markets, such as application to the judiciary, have yet to be discussed. Similarly, theories of Supreme Court prediction could be developed further. Current theories of Supreme Court prediction tend to focus on precedent-based models (legal theory) or to rely on the political ideology of the Justices (political or attitudinal the-

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[2] *See infra* Part II.A.

[3] The intent is to aggregate the knowledge of the community that follows the Supreme Court most carefully and closely. To this end, the information market we propose here will have participation from professors, the Supreme Court bar, students taking courses on constitutional law, members of the media, and others who are knowledgeable about Supreme Court decisionmaking. For more on the issue of participation, see *infra* Part III.B.

[4] The most famous soothsayer in Ancient Greek mythology, Tiresias appears as a character in Sophocles's tragedy *Oedipus Rex* as well as in *Antigone*. Tiresias also features in the Odyssey, where he continues to make predictions from Hades. *See* THOMAS BULFINCH, BULFINCH'S MYTHOLOGY 215 (1979).

[5] Michael Abramowicz, *Information Markets, Administrative Decisionmaking, and Predictive Cost-Benefit Analysis*, 71 U. CHI. L. REV. 933 (2004) [hereinafter Abramowicz, *Administrative Decisionmaking*]; *see also infra* note 8 (describing legal scholarship that draws on the Condorcet Jury Theorem).

ory).[6] Although researchers at Washington University in St. Louis designed empirical studies based on these two models for the 2002 Supreme Court Term, the studies did not aggregate the opinions of experts in the way an information market would, and they must be revised to reflect new personnel on the Court.[7]

Therefore, this Article presents the first extended discussion of how information markets might be used to predict Supreme Court outcomes. Part I introduces the nascent field of information markets and describes its underpinnings in economic theory. Part II describes the existing models used to predict Supreme Court decisions, discusses their limitations, and explains why a Supreme Court information market should provide more accurate results. Part III analyzes possible design models for Tiresias, including an open market with tradable securities and a proposal based on polling in cyberspace that would use alternative incentives. It also discusses how Tiresias could offer competing market structures, which would allow for the comparison of the relative accuracy of different information market designs. Part IV deals with the implications of establishing an information market in the Supreme Court, examining the potential financial benefits to practitioners, the effect on the Court itself, and the further development of information markets.

I. INTRODUCTION TO INFORMATION MARKETS

Information markets organize and aggregate individual knowledge into a collective result. Although information markets are a new idea, their central insight—that the collective judgment of many can be wiser than the conclusions of one—are embedded in many of our legal institutions. At trial, the legal system frequently entrusts determinations of guilt, innocence, and liability to a collective, the jury.[8] On the appellate level, federal judges

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[6] See *infra* Part II.A for further discussion of these models.

[7] Andrew D. Martin et al., *Competing Approaches to Predicting Supreme Court Decision Making*, 2 PERSP. ON POL. 761, 761–66 (2004) (describing results of Washington University study); Theodore W. Ruger et al., *The Supreme Court Forecasting Project: Legal and Political Science Approaches to Predicting Supreme Court Decisionmaking*, 104 COLUM. L. REV. 1150, 1150 (2004) (same). See *infra* Part II.A for further discussion of this study.

[8] *E.g.*, U.S. CONST. amend. VI. The jury's role is, at least in part, premised on the idea that a group will be able to assess facts more accurately than an individual fact-finder. The premise has mathematical support; the Condorcet Jury Theorem suggests that when choosing between two alternatives, one of which is correct, juries will reach the correct result more often than a single factfinder. *See* Richard A. Posner, *An Economic Approach to the Law of Evidence*, 51 STAN. L. REV. 1477, 1498 (1999) (listing Condorcet Jury Theorem as one factor that improves juries' ability to assess facts with accuracy). Of course, additional process-oriented justifications for the jury abound, including the idea that the jury is representative of diversity in society. *See, e.g.*, Kim Forde-Mazrui, *Jural Districting: Selecting Impartial Juries Through Community Representation*, 52 VAND. L. REV. 353, 355, 358 (1999) (asserting importance of jury that is representative cross-section of the community and discussing proposal for generating more inclusive juries). *But see* Eric L. Muller, *The Hobgoblin of Little Minds?: Our Foolish*

hear cases on three-judge panels, reducing the possibility of error and perhaps tempering ideological leanings, and those same appellate judges sit en banc to eliminate intracircuit conflict or to state a position in a controversial case.[9] States follow similar approaches in employing multimember appellate courts.

Information markets take the idea of group decisionmaking much further, greatly expanding the number of participants.[10] Instead of a twelve-member jury or a three-judge panel evaluating and weighing a factual assessment about a past event, information markets allow thousands of people to join together to predict events, such as the outcome of a presidential election.[11] The following section first provides a general description of how information markets work to predict future events; it then describes successfully operating information markets.

A. Harnessing Group Knowledge: The Information Market

Information markets[12] pool individual knowledge and in the process produce remarkably accurate predictions.[13] The economic literature has defined an information market as a setting where "participants trade in contracts whose payoff depends on unknown future events."[14] Each individual

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Law of Inconsistent Verdicts, 111 HARV. L. REV. 771, 777–86 (1998) (criticizing juries for mistakes and confusion that lead to inconsistent verdicts).

[9] *See* Michael Abramowicz, *En Banc Revisited*, 100 COLUM. L. REV. 1600, 1602, 1632 (2000) [hereinafter Abramowicz, *En Banc*] (proposing, innovatively, use of visiting panels from across circuits to sit en banc, and basing this proposal in part on Condorcet Jury Theorem); Jonathan Remy Nash, *A Context-Sensitive Voting Protocol Paradigm for Multimember Courts*, 56 STAN. L. REV. 75, 76–77 (2003) (discussing voting patterns on multimember courts as well as game theory and the doctrinal paradoxes that can accompany voting on such courts).

[10] Juries and multimember courts engage in a deliberative function, which is valued as helping to achieve more accurate outcomes as well as for process reasons. Information markets, however, are not deliberative, and information markets employ incentives for correct predictions. Although there are these significant differences, we mention juries and multimember courts to emphasize that group decisionmaking is commonly accepted in our legal system.

[11] *See infra* notes 35–41 and accompanying text (discussing how Iowa Electronic Markets have been predicting the outcomes of elections since 1988).

[12] Information markets are also known in the economic literature as "prediction markets," "artificial markets," or "idea futures." Robin Hanson, Impolite Innovation: The Technology and Politics of 'Terrorism Futures' and Other Decision Markets 5 (Nov. 16, 2004) (unpublished manuscript), *available at* http://hanson.gmu.edu/impolite.pdf [hereinafter Hanson, Impolite Innovation].

[13] *Id.* at 4 ("Orange Juice futures improve on National Weather Service forecasts, horse race markets beat horse race experts, Oscar markets beat columnist forecasts, gas demand markets beat gas demand experts, stock markets beat the official NASA panel at fingering the guilty company in the Challenger accident, election markets beat national opinion polls, and corporate sales markets beat official corporate forecasts.").

[14] Justin Wolfers & Eric Zitzewitz, *Prediction Markets*, J. ECON. PERSP., May 2004, at 107, 108, *available at* http://www.aei-brookings.org/admin/authorpdfs/page.php?id=1027. Note that the term "information market" has had a wide variety of meanings among various legal commentators. Until recently, this term was used in legal settings to denote a number of different concepts. The term was used to describe new types of financial opportunities that the advent of the internet created. *See, e.g.*, Ruth L.

participating in the information market is motivated by self-interest to assert what he or she believes is the most likely outcome. Those with little knowledge risk loss—economic, reputational, or merely wasted time. As a result, these uninformed participants will be less willing to participate in the market.[15] In contrast, those who have been able to obtain information or who are able to apply advanced modes of analysis to information will realize financial or reputational gains, and they will therefore have incentives to continue their participation in the information market.

The point of a particular information market, however, is not to provide financial or reputational incentives randomly to the participants.[16] The organizers structure the market to gather information that will aid in determining the outcome of a future event.[17] Each individual acts to maximize his or her own reward. At the same time, the organizers of the market assemble the results and in turn may receive rewards from harvesting the information generated.

The theory behind information markets is loosely related to the semi-strong version of the efficient market hypothesis ("EMH"), which holds that, in a properly functioning capital market, the prices of securities will reflect all relevant publicly available information.[18] The price of a security on the market contains and encodes a significant amount of information, including beliefs about the efficacy of management, the potential for future products, and the possibility of market expansions.[19] In other words, most markets have a "price discovery" function, aggregating information and predictions into the current price of that security.[20] In traditional capital

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Okediji, *Trading Posts in Cyberspace: Information Markets and the Construction of Proprietary Rights*, 44 B.C. L. REV. 545, 547 (2003). The term has also been used to describe the practices of companies that collect information about individuals surfing the Internet and then resell that information. *See, e.g.*, Paul M. Schwartz, *Property, Privacy, and Personal Data*, 117 HARV. L. REV. 2055, 2082 (2004) (using "information market" in the context of personal data). Interesting as these concepts and areas are, they are not the same type of "information market" described and analyzed here.

[15] *See* Hanson, Impolite Innovation, *supra* note 12, at 5.

[16] To say that there is an overarching "point" to a market beyond gains or losses of individual traders is not a novel concept. After all, the justification for stock markets is that they readily raise capital for business, and therefore fund all sorts of technological innovation. *See, e.g.*, Claudio Michelacci & Javier Suarez, *Business Creation and the Stock Market*, 71 REV. ECON. STUD. 459, 459 (2004) (discussing how the stock market "encourages business creation, innovation, and growth by allowing the recycling of 'informed capital'").

[17] It is the deliberate structure, the intention to capture information, which differentiates information markets from typical capital markets. Capital markets also generate a level of prediction through the process of price discovery, but this is a secondary effect, not the primary goal of such markets.

[18] Eugene F. Fama, *Efficient Capital Markets: A Review of Theory and Empirical Work*, 25 J. FIN. 383, 383 (1970); Ronald J. Gilson & Reinier H. Kraakman, *The Mechanisms of Market Efficiency*, 70 VA. L. REV. 549, 552–53 (1984).

[19] *See* Fama, *supra* note 18, at 383.

[20] *See generally* Michael T. Chng, *A Model of Price Discovery and Market Design: Theory and Empirical Theory*, 24 J. FUTURE MARKETS 1107, 1108–10 (2004) (describing price discovery function performed by derivatives markets).

markets, however, the information-seeking aspects are, to a certain degree, by-products of trading and raising capital. In contrast, this information-seeking is the sole reason for the information market's existence.

Two examples of information pooling can be found in a familiar environment—the law school. All law students and professors are intimately familiar with law school final examinations, which typically include at least one "issue spotter" question.[21] The "issue spotter" requires students to read a complicated hypothetical fact pattern, extract the legal issues, analyze the issues based on legal precedents studied in the course, and present a conclusion.[22] The issues, however, are buried within the fact pattern. A large portion of the examination is based on the individual student's ability to "spot" the salient issues.

As those of us who have graded a set of law school exams know, no one student is ever able to spot every issue that is present on the exam.[23] Even the best answer in the class omits issues and resolves some of the issues incorrectly. When the student examinations are aggregated, however, they cover all of the issues present in the fact pattern, and even though individual papers make mistakes, overall the majority of the class reaches the correct legal conclusion. Taken as a whole, the student papers often spot issues in addition to the ones that the professor deliberately included in the question. The law school class, in the aggregate, possesses more information than the student who had the best performance on the examination.

Another example of information pooling in law school involves the use of new technology to "poll" the class for answers. The Classroom Performance System ("CPS") allows the instructor to pose a multiple-choice question to the class.[24] Students view the question on an overhead screen, and then choose the answer that they believe is correct by keying an answer into their individual pads. An infrared receiver records and tallies the responses, allowing the instructor to view, instantly, the number of students who choose a particular answer.[25] In so doing, the CPS system provides an instant mechanism for aggregating the knowledge of the class. By counting

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[21] In many law school courses, final examinations often count for one hundred percent of the grade and are the subject of much anxiety, especially during the first year. *See* SCOTT TUROW, ONE L (reissue ed. 1988).

[22] RICHARD MICHAEL FISCHL & JEREMY PAUL, GETTING TO MAYBE: HOW TO EXCEL ON LAW SCHOOL EXAMS 117–49 (1999) (describing methods for spotting issues successfully).

[23] This individual perception was corroborated by an informal questioning of the Cumberland Law School faculty.

[24] For more on the use of the classroom performance system, see Paul L. Caron & Rafael Gely, *Taking back the Law School Classroom: Using Technology to Foster Active Student Learning*, 54 J. LEGAL EDUC. 551 (2004).

[25] A benefit of CPS is that, by requiring periodic student input, it stimulates active learning. In addition, CPS also gives students practice with the type of questions they will encounter on the multistate bar examination. Students enjoy CPS because they receive immediate feedback on their performance. It is useful for an instructor, who can determine whether more time is needed on a particular topic depending on the outcome of the poll.

correct answers toward class participation, a professor can offer positive incentives to students to come to class prepared.[26] Even though one particular student may not have read the assignment, because of these incentives, the majority of the class will have. The class as a whole tends to do well, and typically selects the right answer, despite the presence of a few unprepared individuals.[27]

In his recent popular book, *The Wisdom of Crowds*, James Surowiecki explains numerous ways in which such collective knowledge can be employed.[28] Surowiecki describes an experiment in which individuals tried to guess the correct number of jelly beans in a jar, for which they would win a prize.[29] The experimenter took the individual guesses and averaged them, resulting in a number only a few away from the actual number of jelly beans.[30] The average of all the guesses was extremely accurate.[31] Whether individuals are asked to estimate the location of a sunken submarine,[32] to guess the weight of an ox,[33] or to help a contestant on the game show *Who Wants to Be a Millionaire*,[34] groups provide accurate answers to questions that most individuals would not be able to answer on their own. The next section of this Article examines currently operating information markets in further depth so that the reader can appreciate the predictive power of information markets and their potential for the Supreme Court.

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[26] Positive incentives for being prepared can be provided rather than penalizing unprepared students through the embarrassment of the traditional Socratic method. *See* Miriam A. Cherry, *A Tyrannosaurus Rex Aptly Named "Sue": Using a Disputed Dinosaur to Teach Contract Defenses*, 81 N.D. L. REV. 295 (2005) (arguing for substitution of innovative teaching methods in lieu of Socratic method).

[27] *See* Results for Contracts I Students, Fall 2004 (unpublished data, on file with authors). Unlike traditional polls, where the instructor asks the students to raise their hands to indicate which answer they choose, with CPS, each student votes on her keypad independently. Asking the students to raise their hands could trigger an "information cascade"; that is, the students look around the room before raising their hands, and might change their answer if they perceive that the answer they chose will put them in the minority. On information cascades, see *infra* notes 149–152 and accompanying text.

[28] JAMES SUROWIECKI, THE WISDOM OF CROWDS xiv, 3–4 (2004).

[29] *Id.* at 5; Jack L. Treynor, *Market Efficiency and the Bean Jar Experiment*, FIN. ANALYSTS J., May–June 1987, at 50.

[30] Treynor, *supra* note 29, at 50.

[31] In Treynor's experiment, the jar had 850 jelly beans. The average of the group's guesses was 871, and of the fifty-six who made guesses, only one was more accurate than the group average. *Id.*

[32] SUROWIECKI, *supra* note 28, at xx–xxi.

[33] *Id.* at xi–xiii.

[34] On the television program *Who Wants to Be a Millionaire* contestants had to answer trivia questions in multiple-choice format. Each contestant had several "lifelines" that they could use, including narrowing the options, telephoning a friend, and polling the audience. Although the first two options were often helpful, the audience for the television program was the most helpful of all, achieving a ninety-one percent success rate. *Cf.* Saul Levmore, *Conjunction and Aggregation*, 99 MICH. L. REV. 723, 734 n.22 (2001) (providing *Who Wants to Be a Millionaire* poll of the audience as illustration of the Condorcet Jury Theorem).

B. *Successfully Functioning Information Markets*

At present, numerous information markets are successfully at work. Perhaps most notably, especially during the past two hotly contested presidential elections, is the Iowa Electronic Markets ("IEM").[35] Since 1988, the IEM, started by academics at the University of Iowa Business School, has been predicting the outcomes of various elections.[36] An individual trader is limited to a $500 investment, so although the financial stake of any one person in the outcome is modest, each still has a financial incentive for making a correct prediction.[37]

The IEM has predicted the outcomes of elections more accurately than most polls, beating the polls seventy-six percent of the time.[38] This accuracy occurs despite the fact that researchers at the University of Iowa have concluded that many of the market participants exhibit a strong political bias.[39] Apparently, the market is able to correct for these biases through arbitrage.[40] Sensing an opportunity for profit, arbitrageurs temper the ideological biases that some of the participants bring with them when they make their initial investment in the IEM.[41]

Another successfully functioning information market is the Hollywood Stock Exchange ("HSX"), which has more than 400,000 registered ac-

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[35] *See, e.g.*, Jordan Erin, *Iowa Electronic Markets Yield Near-Accurate Result*, DES MOINES REG., Nov. 10, 2004, at B5, *available at* 2004 WL 90800910. The IEM trades at http://www.biz.uiowa.edu/iem/ (last visited Mar. 5, 2006).

[36] Joyce Berg et al., *Results from a Dozen Years of Election Futures Markets Research*, *in* HANDBOOK OF RESULTS IN EXPERIMENTAL ECONOMICS (Charles Plott & Vernon L. Smith eds., forthcoming 2006), *available at* http://www.biz.uiowa.edu/iem/archive/BFNR_2000.pdf [hereinafter Berg et al., *Results*]. The IEM has also expanded into predictions further afield from its base of political predictions. *Id.* at 7 n.10; Jordan Erin, *U of I Markets Tapped to Predict Flu Activity*, DES MOINES REG., Nov. 22, 2004, at B1, *available at* 2004 WL 100489665.

[37] *See* Saul Levmore, *Simply Efficient Markets and the Role of Regulation: Lessons from the Iowa Electronic Markets and the Hollywood Stock Exchange*, 28 J. CORP. L. 589, 589 (2003) [hereinafter Levmore, *Simply Efficient Markets*].

[38] Joyce Berg et al., Accuracy and Forecast Standard Error of Prediction Markets 12–13, 33 tbl.3 (July 2003) (unpublished manuscript), *available at* http://www.biz.uiowa.edu/iem/archive/forecasting.pdf [hereinafter Berg et al., *Accuracy*].

[39] Berg et al., *Results*, *supra* note 36, at 5. The average trader is younger, more likely to be a white male, Republican, and of a higher socioeconomic status than the average voter. Berg et al., *Accuracy*, *supra* note 38, at 10.

[40] *See, e.g.*, Donald C. Langevoort, *Taming the Animal Spirits of the Stock Markets: A Behavioral Approach to Securities Regulation*, 97 NW. U. L. REV. 135, 140 n.15 (2002) ("[Arbitrage is] the "process by which informed traders buy or sell in such a way as to eliminate any mispricing caused by uninformed trading. For example, when a stock becomes overvalued because uninformed traders are bidding it up, informed traders would sell, hence moving the price back to its rational expectations equilibrium.").

[41] Berg et al., *Results*, *supra* note 36, at 6.

counts.[42] The HSX is a "fantasy stock market," allowing trades in "virtual" money, and is successful in predicting which movies will be blockbusters and which will be box office bombs.[43] Although traders set the market price for shares of a movie's stock, the price is tied to the movie's financial performance.[44] One month after the film's release, the stock "delists" and the shareholders are cashed out.[45] Shareholders receive an amount of virtual money pegged to the amount of real money that the movie made during that period. Traders may also sell their stocks short if they believe that a movie's stock values are overpriced.[46] In addition, the HSX allows traders to guess the outcomes of the Academy Awards, and these aggregated predictions have proved to be startlingly accurate.[47]

Other successful information markets are smaller, limiting participation to a particular organization. For example, Hewlett Packard ("HP") used an internal information market to predict monthly sales volumes.[48]

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[42] The Hollywood Stock Exchange, http://www.hsx.com (last visited Mar. 3, 2006); *see also* DAVID M. PENNOCK ET AL., THE POWER OF PLAY: EFFICIENCY AND FORECAST ACCURACY IN WEB MARKET GAMES 5 (2001), *available at* http://artificialmarkets.com/am/pennock-neci-tr-2000-168.pdf.

[43] Jack M. Balkin, *Virtual Liberty: Freedom to Design and Freedom to Play in Virtual Worlds*, 90 VA. L. REV. 2043, 2070 (2004) (discussing the creation of "virtual" property in online games); Norm Alster, *It's Just a Game, but Hollywood Is Paying Attention*, N.Y. TIMES, Nov. 23, 2003, § 3, at 34, *available at* http://www.hsx.com/about/press/15709.pdf; *see* Levmore, *Simply Efficient Markets*, *supra* note 37, at 593 ("HSX offers good predictions of a film's gross receipts before release and, relatively speaking, even better predictions after opening weekend—when a large number of traders have some information in the form of (or at least the possibility of) observing the finished film on screen, along with audience reactions. Apparently, studios have begun relying on these estimates to structure the distribution of their films."); *see also* Russ Ray, *Prediction Markets: Betting on Risk Management*, RISK MGMT., Apr. 1, 2004, at 58, *available at* 2004 WL 66261967.

[44] *See* Hollywood Stock Exchange, http://www.hsx.com (last visited Mar. 3, 2006); *see also* PENNOCK ET AL., *supra* note 42 at 6.

[45] PENNOCK ET AL., *supra* note 42 at 6. Delisting refers to the cessation of trading.

[46] *Id.* In traditional financial markets, a short sale is defined as the

sale of borrowed shares by an investor who expects the stock's price to decline. If it does, the investor profits on the difference between the amount realized when the shares were sold and the lower price paid to "cover" the short position. If, however, the stock goes up, the investor's loss is limited only by how quickly the short sale is covered.

Priscilla Ann Smith, *Short-Sale Data Can Signal More than Pessimism*, WALL ST. J., Dec. 17, 1986, § 1, at 125, *available at* 1986 WL-WSJ 240163. For further discussion of short-selling as well as financial derivatives, and their importance for the study of corporate law, see Frank Partnoy, *Adding Derivatives to the Corporate Law Mix*, 34 GA. L. REV. 599, 604–05 (2000).

[47] In a widely publicized story in 2000, *The Wall Street Journal* queried members of the Academy in order to formulate predictions and publish a story touting the winners in advance of the awards show. Despite obtaining this inside information, the newspaper underperformed against the HSX, which predicted more accurately which nominees would win academy awards. *See* Levmore, *Simply Efficient Markets*, *supra* note 37, at 594; Lisa Gubernick, *And the Winner Is*, WALL ST. J., Mar. 24, 2000, at W1, *available at* 2000 WL-WSJ 3022872; *see also* Justin Lahart, *Trading the Oscars*, CNN/MONEY, Mar. 11, 2003, http://www.hsx.com/about/press/030311_1.htm.

[48] Kay-Yut Chen & Charles R. Plott, *Information Aggregation Mechanisms: Concept, Design and Implementation for a Sales Forecasting Problem* 6 (Cal. Inst. of Tech., Working Paper No. 1131, 2002), *available at* http:// www.hpl.hp.com/personal/Kay-Yut_Chen/paper/ms020408.pdf.

The information market in this case was thin; that is, it encompassed a relatively small number of participants, only twenty to thirty.[49] The market encompassed participants from across departments, and these participants remained anonymous.[50] Despite the small numbers of participants, the information market produced more accurate forecasts than those that the company had put forward officially.[51] And these markets have not been alone in their predictive successes.[52]

II. PREDICTING SUPREME COURT DECISIONS: THEORIES IN NEED OF A MARKET

Having discussed the accuracy of information markets in other contexts, the Article now turns to Supreme Court predictions. This Part begins by identifying the current methods of predicting Supreme Court decisions and analyzing the limitations of these models. It then discusses the factors that lead information markets to operate successfully and why an information market like Tiresias will have those factors. We also identify potential political and structural problems that could lead to market failure and discuss how an information market might overcome those obstacles.

A. The Limitations of Existing Prediction Models

Before turning to the specific issue of predicting Supreme Court outcomes, we wish briefly to place such predictions and their limitations in their larger legal context. Decisionmakers in our justice system often use predictive or probabilistic reasoning to arrive at conclusions.[53] For example, criminal sentencing decisions are, at least implicitly, determined by assessments of how dangerous particular defendants will be in the future,[54]

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[49] *Id.* at 5, 10.

[50] *Id.* at 10.

[51] *Id.* at 12–16. Part of this difference might be explained by a failure of individuals to share information across departments, but this also might be the result of incentives that skew official sales predictions. For example, there might be extreme pressure from top management to reach a particular sales goal; at the same time, individual salespeople might have incentives to underestimate goals so that they can later "look good" when they exceed the sales quota. *Cf.* Gary F. Goldring, *Mandatory Disclosure of Corporate Projections and the Goals of Securities Regulation*, 81 COLUM. L. REV. 1525, 1535 (1981) (discussing underestimates in corporate projections); William S. Laufer, *Corporate Liability, Risk Shifting, and the Paradox of Compliance*, 52 VAND. L. REV. 1343, 1413, 1413 n.295 (1999) (discussing pressure on employees to meet sales goals).

[52] *See* Miriam A. Cherry & Robert L. Rogers, *Markets for Markets: Origins and Subjects of Information Markets*, 58 RUTGERS L. REV. 339, 372–75 app. A (2006) (appendix listing and describing all currently trading information markets open to the public).

[53] For further discussion of predictive or probabilistic decisionmaking in the legal system, see Barbara D. Underwood, *Law and the Crystal Ball: Predicting Behavior with Statistical Inference and Individualized Judgment*, 88 YALE L.J. 1408, 1434–36 (1979).

[54] *See* Christopher Slobogin, *A Jurisprudence of Dangerousness*, 98 NW. U. L. REV. 1, 1–2 (2003) ("[Determinations of future dangerousness] permeate the government's implementation of its police power. To name a few examples, death penalty determinations, non-capital sentencing, sexual predator

tort law damages may be awarded based on an elevated risk of future ill-ness,[55] and advocates try to anticipate the tactics of opposing counsel as well as the behavior of the judge. Conversations between lawyers often re-volve around predictions of notable trials or the direction that a particular court seems to be leaning.

Despite its pervasiveness in the law, legal academia has largely dele-gated prediction of court decisions to the realm of law review articles,[56] newspaper stories and op-eds,[57] and weblogs[58] devoted to discussing indi-vidual Supreme Court cases and presenting guesses about potential out-comes. In legal scholarship, it appears that law review articles or student notes containing predictions on an individual case are so ubiquitous as to comprise their own "genre" of academic writing.[59] Some pieces contain a straightforward prediction, attempting to guess how the Justices will vote and what the outcome will be. Other writings seem to be more normative than they are predictive, advancing a desired outcome and advocating a po-sition that the Supreme Court should take in future cases.[60] Other articles

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commitment, civil commitment, pretrial detention, and investigative stops by the police often or always depend upon dangerousness assessments.").

[55] *See* Geoffrey C. Hazard, Jr., *The Futures Problem*, 148 U. PA. L. REV. 1901, 1903 (2000) ("[A] 'futures' claim is one where a claimant cannot presently prove a causal connection between an injury and a supposed source of injury, but nevertheless suspects or fears that he or she is suffering injury that has its origin in the suspect source."); Andrew R. Klein, *Fear of Disease and the Puzzle of Futures Cases in Tort*, 35 U.C. DAVIS L. REV. 965, 966–67 (2002) (describing recognition of claims for en-hanced risk of disease due to toxic exposure).

[56] *See, e.g.*, Michael Higginbotham & Kathleen Bergin, *Why the University of Michigan Should Win in* Grutter *and* Gratz, 63 LA. L. REV. 697 (2003) (presenting reasons court should uphold affirmative ac-tion and phrasing such argument in terms of legal brief); Bobbie L. Stratton, Comment, *A Prediction of the United States Supreme Court's Analysis of the Defense of Marriage Act, After* Lawrence v. Texas, 46 S. TEX. L. REV. 361 (2004).

[57] *See* Linda Greenhouse, *Press Room Predictions*, 2 PERSP. ON POL. 781, 782 (2004) (describing how author generally gives the "reader [her] best judgment on what is likely to happen next" after hear-ing oral argument); *see also* William Safire, *Office Pool, 1997*, N.Y. TIMES, Dec. 29, 1996, at 9, *avail-able at* 1996 WLNR 4399470; Leonard B. Simon, *A Surer Way to Achieve Diversity and Fairness*, SAN DIEGO UNION-TRIB., June 4, 2003, at B7, *available at* 2003 WL 6587900.

[58] *See, e.g.*, Ignatz, http://sheldman.blogspot.com/2002_08_01_sheldman_archive.html#80395325 (Aug. 18, 2002, 14:02 EST).

[59] *See supra* note 56. This genre persists despite warnings that articles of this type will become rap-idly outdated. *See* EUGENE VOLOKH, ACADEMIC LEGAL WRITING: LAW REVIEW ARTICLES, STUDENT NOTES, AND SEMINAR PAPERS 30 (2003). Volokh lists, under topics to avoid, "Topics that the Supreme Court or the Congress is likely to visit shortly" and advises "do *not* write on a topic that you think the Court will resolve shortly, in the hope of getting your article published before the Court hears the case . . . . [O]nce the Court acts, your article will be largely ignored, since scholars and lawyers will be looking for articles that consider the new decision, rather than articles that predate it.").

[60] *See, e.g.*, Miriam A. Cherry, *Call the Foul Against Title IX*, LEGAL TIMES, Nov. 29, 2004, at 38 (arguing that Supreme Court should recognize a cause of action for retaliation under Title IX by revers-ing Eleventh Circuit's decision in *Jackson v. Birmingham Board of Education*); Timothy J. Dowling, *Joint Justice: No, Congress Has Banned It*, LEGAL TIMES, Nov. 29, 2004, at 35.

focus on the jurisprudential approach of each specific Justice,[61] and still others discuss the process of coalition building and dissent writing.[62]

At present, the current ways of predicting the outcomes of Supreme Court cases among lawyers and legal scholars is individualized and difficult to assess in terms of accuracy. Legal academic approaches tend to be individualized in the sense that approaches tend to focus on the votes of specific Justices and on individual cases or types of cases rather than on predicting outcomes more generally. At the same time, individual scholars work in isolation, and these individual hunches, guesses, and judgments are never aggregated or integrated. Finally, because they are so decentralized, traditional legal predictions are not verifiable or falsifiable in any statistical sense.[63]

Beyond individual ad hoc predictions, political scientists have developed more comprehensive decisionmaking models. These formal theoretical models, discussed in more detail below, combine prediction with analysis of past patterns and examination of ongoing processes of decisionmaking. As the legal system is precedent based[64] and ostensibly values

consistency,[65] analysis of decisionmaking methods are necessarily interrelated with prediction of future outcomes. Any model that attempts to analyze past decisions necessarily has its explanatory powers tested against actual performance benchmarks (that is, the outcome of Court decisions where the model's explanation could offer a prediction). An explanation of a process of decisionmaking may have little impact if it has no predictive power.

Two existing formal theories of Supreme Court decisionmaking dominate the field: the legal model and the political (or attitudinal) model.[66] The legal model, as its name suggests, focuses on legal argumentation and precedent-based reasoning. In essence, the legal model "postulates that the decisions of the Court are based on the facts of the case in light of the plain meaning of statutes and the Constitution, the intent of the framers, precedent, and in a balancing of societal interests."[67]

According to the legal model, the Justices make decisions by studying the relevant texts and synthesizing the legal arguments, ultimately arriving at the correct conclusion. A Supreme Court justice could be employing a strict constructionist,[68] historical,[69] natural law,[70] or flexible approach[71] to constitutional interpretation and decisionmaking, but these types of inter-

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[65] Of course, there are some instances where the court has suddenly effected a doctrinal reversal. For example, at one time, the Supreme Court did not enforce mandatory arbitration contracts in the context of employee civil rights claims. *See* Alexander v. Gardner-Denver Co., 415 U.S. 36, 48 (1974). However, in 2001, the Supreme Court determined that such claims could be arbitrated. *See* Circuit City Stores, Inc. v. Adams, 532 U.S. 105, 119, 123 (2001); *see also* Miriam A. Cherry, *Whistling in the Dark?: Corporate Fraud, Whistleblowers, and the Implications of the Sarbanes-Oxley Act for Employment Law*, 79 WASH. L. REV. 1029, 1076–79 (2004) (describing Supreme Court as moving from skepticism to support of arbitration).

[66] JEFFREY A. SEGAL & HAROLD J. SPAETH, THE SUPREME COURT AND THE ATTITUDINAL MODEL 32 (1993). Commentators over the years have acknowledged that any model attempting to explain and predict the decisions of the Supreme Court will contain simplifications. *See* Lon L. Fuller, *An Afterword: Science and the Judicial Process*, 79 HARV. L. REV. 1604, 1604 (1996). It is this simplification that is the strength as well as the limitation of theory generally. Steven J. Schulhofer, *The Feminist Challenge in Criminal Law*, 143 U. PA. L. REV. 2151, 2153 (1995) (describing the limits of theory by stating that "broad propositions do not solve concrete cases; or they solve too many cases very poorly"). On the other hand, the more variables that one attempts to include in a theory, the more the theory becomes "a theory of everything," diminishing its explanatory power.

[67] SEGAL & SPAETH, *supra* note 66, at 32.

[68] *See generally* Charles Fried, *Sonnet LXV and the "Black Ink" of the Framers' Intention*, 100 HARV. L. REV. 751 (1987); Caleb Nelson, *Originalism and Interpretive Conventions*, 70 U. CHI. L. REV. 519, 519 (2003).

[69] *See, e.g.*, Kurt T. Lash, *The Lost Original Meaning of the Ninth Amendment*, 83 TEX. L. REV. 331, 338–39 (2004).

[70] *See, e.g.*, Michael S. Moore, *Justifying the Natural Law Theory of Constitutional Interpretation*, 69 FORDHAM L. REV. 2087, 2090–93 (2001).

[71] *See, e.g.*, William J. Brennan, Jr., *Color-Blind, Creed-Blind, Status-Blind, Sex-Blind*, 14 HUM. RTS. 30, 35–36 (1987) ("By design, the great clauses of the Constitution had been broadly phrased to keep their noble principles adaptable to changing conditions and changing concepts of social justice . . . .").

pretation would still conform to the legal model. Similarly, a Supreme Court Justice could be examining original intent,[72] legislative and/or framer's intent,[73] or engaging in a balancing of societal interest.[74] These modes of interpretation would all be part of the legal decisionmaking model.

The legal model, and the idea of "discoverable" law in general, however, has its limitations. Fundamentally, the legal model undervalues the fact that the cases that reach the Supreme Court are truly the "hard cases," the cases where there is strong precedent—and strong argument—on both sides. Often a circuit split indicates sound arguments on either side of a particular issue.[75] Further, the legal model fails to account for political influences and the ideological leanings of the President who appointed the Justices. After postmodernism and the critical legal studies movement,[76] the idea of a discoverable and objective "law" has been called into question, if not significantly undermined.[77]

In contrast to the legal model, the political, or attitudinal, model focuses almost exclusively on the political ideology of the Justices.[78] Political affiliation or inclination counts more than any other factor, according to this model. As Jeffrey Segal and Harold Spaeth explain in their book, *The Supreme Court and the Attitudinal Model*,

> [the] model holds that the Supreme Court decides disputes in the light of the facts of the case vis-à-vis the ideological attitudes and values of the justices. Simply put, Rehnquist [voted] the way he [did] because he [was] extremely conservative; Marshall voted the way he did because he [was] extremely liberal.[79]

The limitations of the political or attitudinal model, however, are also apparent. If the Justices voted entirely on the basis of the ideology of the President who appointed them, predicting outcomes would be an extremely easy task. Given the examples of Justices who have changed their ideologi-

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[72] *See, e.g.*, Minnesota v. Carter, 525 U.S. 83, 92–95 (1998) (Scalia, J., concurring).

[73] *See, e.g.*, Vernonia Sch. Dist. 47J v. Acton, 515 U.S. 646, 669–71 (1995) (O'Connor, J., dissenting).

[74] *See, e.g.*, Mathews v. Eldridge, 424 U.S. 319 (1976).

[75] *See e.g.*, Cent. Laborers' Pension Fund v. Heinz, 541 U.S. 739, 743 (2004) (granting certiorari in order to resolve circuit split).

[76] *See generally* Duncan Kennedy & Karl E. Klare, *A Bibliography of Critical Legal Studies*, 94 YALE L.J. 461, 461–62 (1984).

[77] *See, e.g.*, RICHARD H. FALLON, JR., THE DYNAMIC CONSTITUTION, at xix–xxi (2004) (discussing *Bush v. Gore* and describing "worrisome" aspects of political ideology in determining outcomes of cases).

[78] SEGAL & SPAETH, *supra* note 66, at 65.

[79] *Id.*

cal position after their appointment—Justices Earl Warren[80] and David Souter[81] are arguably examples—and those Justices who vote conservatively on some issues and relatively liberally on others—such as Justice Kennedy[82]—this model does not have a complete predictive capacity either.

Scholars have advanced several other formal theoretical models to explain and predict patterns of Supreme Court decisionmaking: the instrumental model, strategic model, and the behavioralist model. We discuss each of these models in turn.

The instrumental model examines the decisionmaking process in light of the Supreme Court's position vis-à-vis the other branches of government. The Supreme Court might be influenced in its interpretation of a statute by the potential fear of reversal from the current legislature,[83] but might also be influenced by other negative reactions from the legislature, such as "threatened impeachment, jurisdiction restrictions, other legislation limiting court powers and reducing the courts' resources."[84]

The strategic model, on the other hand, suggests that judges act in ways that maximize their incentives and their prestige. As Judge Richard Posner has explained, the strategic model examines the decisions of judges in terms of the incentives that are provided to them; judges, especially lower court judges, may seek elevation or other professional advancement or esteem.[85] However, the strategic model loses some force with the Supreme Court because it is fairly difficult to imagine a higher professional zenith for an American judge or legal practitioner.[86]

The behavioralist model attempts to explain Supreme Court decisionmaking on the basis of the personal characteristics of the Justices.[87] Some factors that would be relevant to a behavioralist analysis would be the indi-

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[80] Paul Finkelman, *You Can't Always Get What You Want . . . : Presidential Elections and Supreme Court Appointments*, 35 TULSA L.J. 473, 481 (2000) (describing instances where appointee eventually reached different ideological conclusions from appointing President).

[81] *See, e.g.*, FALLON, *supra* note 77, at 24–25 (describing conservative disappointment with both Justice Souter and Justice Stevens, who "are sometimes regarded as having abandoned their conservative principles").

[82] It is a common perception that Justice Kennedy is a swing vote on the Court, as revealed by a journal search on Westlaw for "Kennedy" and "swing vote," which turned up 330 hits.

[83] Frank B. Cross & Blake J. Nelson, *Strategic Institutional Effects on Supreme Court Decisionmaking*, 95 NW. U. L. REV. 1437, 1450–52 (2001).

[84] *Id.* at 1460.

[85] *See* Richard A. Posner, *What Do Judges and Justices Maximize? (The Same Thing as Everybody Else Does)*, 3 SUP. CT. ECON. REV. 1 (1993).

[86] Although rare, it is by no means impossible for a Justice to aspire to other offices. Justice Charles Evans Hughes became the secretary of state under Presidents Warren G. Harding and Calvin Coolidge, and also unsuccessfully ran for President. *See* William H. Rehnquist, *Remarks of the Chief Justice: My Life in the Law Series*, 52 DUKE L.J. 787, 799–801 (2003) (describing the career of Justice Hughes).

[87] *See, e.g.*, Joel B. Grossman, *Social Backgrounds and Judicial Decisionmaking*, 79 HARV. L. REV. 1551 (1966).

vidual Justice's upbringing, religion,[88] regional identity,[89] and law school training. Other factors to consider would be the individual's practice experiences before being appointed to the bench,[90] or an individual's race, social class, or gender.[91]

Recently, a group of researchers from Washington University in St. Louis ("Wash U") empirically tested the predictive capabilities of these two dominant models, the legal model and the political/attitudinal model, for the 2002 Term.[92] The portion of the study dealing with the legal model asked individual legal experts to make predictions on the cases.[93] The attitudinal political model consisted of a computer program that made predictions with a decision tree based on the ideological leanings of each of the nine Justices.[94] Thus, the Wash U experiment was not only designed as an exercise in prediction, but also a contest to determine whether the legal model or the political/attitudinal model was better at explaining Supreme Court decisionmaking.

The Wash U researchers chose the experts who would participate in the legal model based on a number of factors.[95] The group consisted of seventy-one academics and twelve appellate attorneys, including a number of former Supreme Court law clerks.[96] Each expert, however, predicted only between one and three cases, with the exception of one expert who predicted four cases.[97] The cases were in the predictor's area of expertise, and authors matched cases to participants based on "issue preference forms" completed by the experts.[98]

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[88] For a discussion of religion and the Justices see, for example, ROBERT A. BURT, TWO JEWISH JUSTICES (1988).

[89] See, e.g., ROGER K. NEWMAN, HUGO BLACK: A BIOGRAPHY 3–37 (1994) (discussing regionalism and Justice Hugo Black's southern roots); Paul E. McGreal, *There Is No Such Thing as Textualism: A Case Study in Constitutional Method*, 69 FORDHAM L. REV. 2393, 2461 (2001) (describing Justice Black's southern background).

[90] The work performed in practice may inform some of the ideology that a particular Justice brings to the bench. For example, Justice Thurgood Marshall's insistence on procedural rules for criminal defendants was influenced by his illustrious career as a civil rights attorney. *See, e.g.*, Mark V. Tushnet, *The Jurisprudence of Thurgood Marshall*, 1996 U. ILL. L. REV. 1129, 1134. Similarly, Justice Ginsburg's practice experience included her efforts to obtain women's rights through heightened scrutiny under the Equal Protection Clause, a view she then was able to bring to the Court. *See* Herma Hill Kay, *Ruth Bader Ginsburg, Professor of Law*, 104 COLUM. L. REV. 2, 19–20 (2004).

[91] See supra note 61 (listing sources that analyze feminist jurisprudence of Justices O'Connor and Ginsburg).

[92] Theodore W. Ruger et al., *The Supreme Court Forecasting Project: Legal and Political Science Approaches to Predicting Supreme Court Decisionmaking*, 104 COLUM. L. REV. 1150, 1150 (2004).

[93] *Id.* at 1169.

[94] *Id.* at 1163–64.

[95] *Id.* at 1168.

[96] *Id.*

[97] *Id.* at 1168 n.59.

[98] *Id.*

The examination of the political/attitudinal model was composed of a computer program that coded the cases according to six variables.[99] The researchers created classification trees based on decisions prior to the 2002 term.[100] For each case, the model would initially apply two classification trees to predict whether the outcome would be unanimously "conservative" or unanimously "liberal."[101] If neither, they would apply nine classification trees—one for each justice.[102]

The political/attitudinal statistical model made accurate predictions in 75% of the cases, whereas the individual legal model was correct 59.1% of the time.[103] Overall, the Wash U machine beat the experts. One preliminary conclusion to draw from these results is that the political model contains greater explanatory power than does the legal model.[104]

Although the Wash U study employed a sophisticated empirical and statistical approach to predict Supreme Court cases, it had a significant limitation. With only three participants predicting a case, the expert opinions were not aggregated the way that they would be in an information market.[105] Given the small number of experts involved in each case, it would be premature to conclude that the computer model had triumphed over the decisions of human beings, and it would be hasty to trumpet the ascendance of the political model over the legal model.

In fact, if anything, trying to determine whether the legal or attitudinal model is most accurate may be asking the wrong question. Relying on any single model may necessarily neglect elements of truth in another model. A better approach might be to look for a method of incorporating all existing models of Supreme Court prediction and decisionmaking. Tiresias should do so.

Tiresias would not be confined strictly to either the legal or political/attitudinal model, or any other model for that matter. Participants in the information market are free to consider, and give appropriate weight to, any model they believe will have predictive insight. Participants can use a variety of models, combining them and applying them where it seems that one or another will have greater predictive power. Tiresias participants will be experts, many of whom have clerked for the Supreme Court, many more of whom argue cases before the Court, or study the Court extensively. As

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[99] *Id.* at 1163. The variables were: "(1) circuit of origin; (2) issue area of the case; (3) type of petitioner (e.g., the United States, an employer, etc.); (4) type of respondent; (5) ideological direction (liberal or conservative) of the lower court ruling; and (6) whether the petitioner argued that a law or practice is unconstitutional." *Id.*

[100] *Id.*

[101] *Id.* at 1165.

[102] *Id.*

[103] *Id.* at 1171.

[104] *Id.*

[105] It would be fascinating to set up a contest between the Wash U political decision-tree based computer model and Tiresias.

such, they will be familiar with the factors that persuade the Justices, the ideological leanings that the Justices bring with them to the cases, and the social or personal issues that might influence a particular Justice to rule a certain way on a case.

Each participant in Tiresias conceivably may have a different approach to the cases and conclude that some factors deserve more weight than others. Some participants, perhaps following the hypotheticals of Lon Fuller, may choose wildly idiosyncratic factors on which to base their predictions.[106] But the information-aggregating function of Tiresias will even out these differences, smoothing the different approaches into a group conclusion. The Wash U political model's votes could even be integrated into Tiresias, with a computerized political component averaged along with the opinions of the experts. In that sense, Tiresias would function as a "meta-model," able to assimilate the predictive abilities of other models to reach more accurate conclusions.

B. The Information Market as Improvement in Supreme Court Predictions

Information markets can provide a significant improvement over other predictive models, as scholars have recognized in other contexts. Most notably, Professor Michael Abramowicz has advocated governmental use of information markets to improve the policymaking process.[107] Professor Abramowicz proposes using information markets to predict insolvency of financial institutions,[108] make budgetary forecasts for administrative agencies,[109] and allow for more efficient regulation by skipping notice-and-comment rulemaking.[110]

Just as Professor Abramowicz proposes using information markets in the administrative law context, we propose such a market for the Supreme Court.[111] This is important because the Supreme Court decides significant

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[106] Ruger et al., *supra* note 92, at 1171 (presenting hypotheticals with bizarre factors, such as that the presence of electric current in some rooms in the courthouse might be predictive of outcome of particular case).

[107] Abramowicz, *Administrative Decisionmaking*, *supra* note 5, at 982.

[108] *Id.* at 987–88.

[109] *Id.* at 990–91.

[110] *Id.* at 993–95.

[111] This Article is the first full-length discussion that suggests creating a Supreme Court information market, although one attempt was made to create a game, the Supreme Court Fantasy League. The League, however, was proposed purely as entertainment, with no effort to gather or aggregate any of the information that would be collected. *See* Dan Michalski, *The Court as Sport? You Bet: In This Fantasy League, Players Wear Robes and Go by the Names Scalia and Ginsburg*, A.B.A. J. E-REPORT, Nov. 8, 2002, at 9. At this time, the website touted as running the market, http://www.lawpsided.com/update3. htm, is defunct. Likewise, one commentator mentioned the idea of an information market as part of a laundry-list critique of the Wash U study, but failed to develop the idea. *See* Gregory A. Caldeira, *Expert Judgment Versus Statistical Models: Explanation Versus Prediction*, 2 PERSP. ON POL. 777, 779 (2004).

issues of law for the nation,[112] occupies a highly visible and respected position among American governmental institutions,[113] and draws the attention of a large number of well-informed observers.[114]

Will such an information market work for the Supreme Court? We believe that it will, for the reasons discussed in the remainder of this section. Economic literature identifies the factors that contribute to making an information market successful,[115] as well as those factors that could lead to market failure.[116] This section next discusses how the Tiresias model would incorporate the desirable elements of successful information markets while avoiding identified problems.

1. Elements for Success.—The Supreme Court is particularly suitable for an information market in a number of ways. First, the number of decisionmakers is limited to the nine Justices. Rather than confront the task of predicting how 250 million people will vote on election day, as the IEM does,[117] with the Supreme Court only nine votes need be predicted. Further, for many of the Justices, ideological preferences as well as past voting patterns may guide predictions.[118] Adherence to precedent also constrains the universe of possible outcomes. Finally, the market is not being asked to answer questions with a broad array of outcomes, such as when human cloning will take place[119] or the outcomes of geopolitical events in the middle east.[120] Rather, there are typically only two options available for any Su-

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[112] WILLIAM DOMNARSKI, IN THE OPINION OF THE COURT 75–89 (1996) (listing most important Supreme Court cases).

[113] *See generally* Erwin Chemerinsky, *The Supreme Court, Public Opinion, and the Role of the Academic Commentator*, 40 S. TEX. L. REV. 943, 947 (1999) (describing respected position of the Supreme Court among the general public).

[114] This is not to say that information markets could not be applied to other courts in our judicial system. The Federal Circuit Courts of Appeal or state supreme courts could each have individual information markets, which practitioners in those jurisdictions would likely find extremely useful. One issue would be the possibility of a small number of participants, because thin markets can lead to inaccurate predictions or the possibility of skewing or manipulation.

[115] *See infra* Section II.B.1.

[116] *See infra* Section II.B.2.

[117] *See supra* notes 35–41 and accompanying text.

[118] This is not always the case, of course. Although many Justices on the current Court have served on the bench for decades, Chief Justice John Roberts Jr. lacks an extensive record that might inform predictions. But it is, for example, fairly certain that Justices Thomas and Scalia will vote against government-sponsored affirmative action programs, *see* Grutter v. Bollinger, 539 U.S. 306, 349–78 (2003) (Thomas, J. dissenting), and it is also fairly certain that Justice Ginsburg will vote to strike down abortion restrictions, *see* Stenberg v. Carhart, 530 U.S. 914 (2000). The real contest will be in predicting the "swing votes," which were that of Justice O'Connor (when she was on the Court) and now currently that of Justice Kennedy, and in predicting those votes of any of the Court's new members who had not ruled on a particular topic.

[119] This and similar questions are currently being debated on the Foresight Exchange. *See supra* note 52.

[120] Similar questions were to be part of DARPA's proposed markets. *See infra* notes 139–146 and accompanying text.

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preme Court case: affirmance or reversal.[121] Thus, the limited range of possibilities in the context of the Supreme Court makes prediction easier because the problem is more bounded and the variables to consider are fewer.

Predicting the outcome of a Supreme Court decision is different from predicting whom a President will nominate as a Justice, a task at which the information markets have not been particularly successful. Part of the reason the market was less successful at predicting John Roberts's nomination was that the decision was made solely by one person (President George W. Bush), the President had a large range of options for potential nominees, the White House disclosed only limited information about the possibilities, and the President had absolute discretion in choosing among the options. While information markets do an excellent job of aggregating information and making predictions, they are not mind-reading devices. Fortunately, that is not necessary for predicting the outcome of Supreme Court decisions. Supreme Court outcomes depend far more on precedent, and they are reached not by one individual's unbounded choices but rather by at least five Justices who must agree to a given result. These constraints limit the Court's options and thus make the outcome more predictable.[122]

In addition to these specific characteristics of the Supreme Court that lend themselves to establishing an information market, the economic literature has identified several broad factors that tend to make information markets more accurate.[123] These general factors are diversity, independence and decentralization, and coordination.[124] The following discussion analyzes how the Tiresias model might incorporate these characteristics.

The first characteristic of successful information markets is diversity. In this context, "diversity" means that the information in the market originates from as many sources as possible. While no one source by itself provides the information necessary to predict the outcome on its own, as a

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[121] Of course there are also other less common outcomes, such as dismissal for an improvident grant of certiorari. For the sake of simplicity in creating a new market, Tiresias will not initially try to predict such results, though as the market develops, it would be possible to expand the range of possible predictions to cover less common Court outcomes, predictions about the treatment of specific legal issues within a case, or even predictions about the cases that the Court is likely to hear.

[122] The information market run by Kevin McGuire of the University of North Carolina reflected the conventional Beltway wisdom on the day of the nomination, which initially favored Judge Edith Clement of the U.S. Court of Appeals for the Fifth Circuit. *See, e.g.,* Andres R. Martinez, *Put Your Money Where Your Hunch Is: Stock Market Trades in Fake Money, Potential Nominees to High Court,* CHARLOTTE OBSERVER (N.C.), July 19, 2005, at 3A (identifying Judge Clement as the frontrunner as of that Monday afternoon). On Tuesday, July 19, the markets switched to indicating the selection of Judge John Roberts Jr. of the D.C. Circuit. This was before the President's formal announcement that evening, but apparently after leaks about who the nominee would be. For a blog discussion of the accuracy of the information markets on this question, see Posting of Jim Lindgren to the Volokh Conspiracy, http://volokh.com/archives/archive_2005_07_17-2005_07_23.shtml (July 20, 2005, 03:12 EST).

[123] SUROWIECKI, *supra* note 28, at 10.

[124] *Id.*

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whole, all of the pieces of information that will lead to an accurate prediction exist. While some of these pieces of information are hidden to all but the most careful observers,[125] other pieces of information that would ostensibly seem to be the most obvious choices may not have the most predictive power. Yet the market will reward those who are most prescient, and they in turn, with their self-interested choices, will make the market intelligent.

Because information about Supreme Court cases is publicly available, it is the participants' methods of analysis that will be most important to the market. Given the variety of theoretical approaches to determining the outcome of a case, some participants will believe one particular fact of the case is determinative, while another group of participants will concentrate on a particular prior holding, while yet another will take into account potential political ramifications and what those mean to society, or perhaps the prestige attached to the Court as an institution.[126] The model will include practitioners and academics, who often have different perspectives. Ideally, Tiresias will have hundreds of participants, from law students to journalists to senior attorneys, with a variety of experiences. Diversity improves the quality of prediction and information markets generally,[127] and the Tiresias model will be set up to encourage such diverse participation.

Independence and decentralization are two interrelated factors that also contribute to the success of a given information market. Independence means that the participants in the market arrive at their predictions on their own, attempting to make the best guesses possible on the basis of the information that they have available.[128] Therefore, the rewards and penalties that flow from the market give incentives to each participant to be accurate. A related element is decentralization; in a decentralized system, "many of the important decisions are made by individuals based on their own local and specific knowledge"[129] An example of decentralization is at work in

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[125] To illustrate this point, consider the typical mystery novel. Several suspects have differing motives, but there are no direct eyewitnesses and instead several contradictory clues and stories. Meanwhile, the detective interviews the witnesses, collecting the evidence from disparate sources. Typically one or more sources is biased or incomplete, but because the detective is observant and logical, these sources are discounted, filtered out like so much background noise. Through a process of ratiocination, the detective is able to determine the pieces of evidence that contradict each other, figure out who is lying, and catch the criminal.

[126] For example, diversity of sources is extremely important in reconstructing a past event in the historical context. In dealing with sources, the historian must question the point of view, the biases, and the limited information that each source brings along with it. Rather like the good historian, or the observant detective, the key is synthesis—putting together disparate pieces of information and coordinating that information so that biased or misleading information is discarded. For more on this point, see generally SIMON SCHAMA, DEAD CERTAINTIES: UNWARRANTED SPECULATIONS (2d reprint ed. 1992) (describing reconstruction of narrative as well as techniques of historical writing).

[127] SUROWIECKI, *supra* note 28, at 28–33.

[128] *Id.* at 40–42.

[129] *Id.* at 71. In fact, in debating the benefits of capitalism versus a planned economy, one of the major economic arguments against a central planned economy is the idea that one authority could not

Linux and other free software programs that allow individual users to correct problems with the software.[130] Another example is Wikipedia, where individual users create and edit an online encyclopedia.[131]

The Tiresias model will be both independent and decentralized. Each participant in the market will reach his or her independent conclusions about what the likely outcome of a Supreme Court case is to be. As described more fully in Part III, the model includes rewards for predicting outcomes correctly, and thus each individual has the incentive to choose to the best of his or her ability.[132] Further, the system is decentralized in that the decisions are made on a local, individual level, rather than having votes or the results dictated by a hierarchy.

The final element common to well-functioning information markets is coordination of the participants. James Surowiecki describes how pedestrians walking down a crowded sidewalk engage in coordination.[133] The pedestrians manage not to collide, not because anyone tells them where to walk, but rather because individuals decide where they will walk based on their best guess of where others will choose to walk.[134] This same type of coordination was demonstrated by game theorist Thomas Schelling in a famous experiment where he instructed individuals to imagine that they were supposed to meet someone in New York City on a certain day, but had not been told the time or the location of the meeting.[135] When asked where and when they would go to meet the other person, the majority of the subjects responded that they would meet at Grand Central Station at noon.[136]

For our model, the website performs the necessary coordinating function. In part, the currently successfully functioning information markets owe their success to the growth of the Internet.[137] The fact that the majority

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effectively set prices simply because it would not have the same capacity for price discovery as the market would. *See* LUDWIG VON MISES, SOCIALISM: AN ECONOMIC AND SOCIOLOGICAL ANALYSIS 137–42 (J. Kahane trans., rev. ed. 1951); F.A. Hayek, *The Use of Knowledge in Society*, 35 AM. ECON. REV. 519 (1945).

[130] *See* Yochai Benkler, *Coase's Penguin, or, Linux and the Nature of the Firm*, 112 YALE L.J. 369, 374–75 (2002) (describing how individuals working in a decentralized fashion can accomplish significant tasks, including programmers updating the Linux operating system, "thousands of individuals [collaborating] . . . to map Mars's craters," and a "quarter of a million people [collaborating] on creating the most important news and community site currently available on technology issues").

[131] *See* Wikipedia, www.wikipedia.org (last visited June 12, 2006).

[132] *See infra* Part III.

[133] SUROWIECKI, *supra* note 28, at 84–85.

[134] *Id.* at 85.

[135] *See* THOMAS C. SCHELLING, THE STRATEGY OF CONFLICT 55–56 (1980).

[136] *Id.* at 55 n.1.

[137] *See* Cherry & Rogers, *supra* note 52, at 372–75 app. A (listing currently functioning information markets, all of which are contained on Internet portals). *See generally* NICHOLAS NEGROPONTE, BEING DIGITAL (1996). For examples of how the Internet has influenced everyday routine, see, for example, Lee Gomes, *Blogs Have Become Part of the Media Machine That Shapes Politics*, WALL ST. J., Feb. 23, 2004, at B1, *available at* 2004 WL-WSJ 56920763 (describing rise of weblogs as shapers of public

of the markets are online leads to a certain ease in participation and trading, as well as a greater number of participants. Further, computerized record keeping reduces the transaction costs for recording and tracking votes.[138] Finally, computerized record keeping will also enable statistical analysis of the data to determine accuracy rates.

2. *Avoiding Pitfalls.*—Although information markets have enormous predictive potential as discussed above,[139] they also have provoked political controversy, at least in the proposed application to terrorist attacks. Much of the criticism stems from negative publicity surrounding the ill-fated Defense Advanced Research Projects Agency ("DARPA") proposed information markets on Middle East policy.[140] In the summer of 2003, DARPA announced a program, FutureMap, which proposed information markets to predict events in the Middle East as well as potential terrorist attacks.[141] Two markets were to comprise FutureMap: one composed of policy experts and law enforcement officials, cutting across internal government agencies and relying on classified information, and the other, the Policy Analysis Market ("PAM"), open to the general public.[142]

The proposal, especially PAM, met with sharp criticism from political leaders. Opponents feared that terrorists might "game the market," either committing violent activities for profit or manipulating the information market to hide their unlawful activities.[143] Indeed, Senators Ron Wyden and Bryon Dorgan claimed that PAM was "offensive" and "ridiculous,"[144] while Senator Tom Daschle criticized PAM because it "could provide an incentive actually to commit terrorism."[145] In addition, some wondered about the morality of allowing traders to take positions that would result in profit only

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opinion); Tracie Rozhon, *Ubiquity; In the Air*, N.Y. TIMES, Dec. 7, 2004, at G1, *available at* 2004 WLNR 13350431 (describing Internet shopping and commerce).

[138] *See* Michael Abramowicz, *Cyberadjudication*, 86 IOWA L. REV. 533, 571–72 (2001) (describing ways in which the Internet can perform a coordinating function for market activity).

[139] Hanson, Impolite Innovation, *supra* note 12, at 5–6; *see also* Abramowicz, *Administrative Decisionmaking*, *supra* note 5, at 936–38 (proposing, in various intriguing ways, the use of information markets in the policy formulation/administrative law context); Robert W. Hahn, *Using Information Markets to Improve Policy* 1–2 (AEI-Brookings Joint Ctr. for Reg. Studies, Working Paper No. 04-18, 2004) (same).

[140] *See, e.g., Harebrained Scheme to Bet on Terrorism Deserved to Die*, DETROIT NEWS, Aug. 2, 2003, at D6, *available at* 2003 WL 61757580; *see also* Carl Hulse & Thom Shanker, *Senators Want to Block Spending on Terrorist Initiatives*, N.Y. TIMES, Aug. 14, 2003, at A20, *available at* 2003 WLNR 5652045.

[141] Tim Harford, *All Bets Are off at the Pentagon*, FIN. TIMES, Sept. 2, 2003, at 14; *You Bet Your Life: Futures Markets Won't Solve a Real Intelligence Problem*, FIN. TIMES, Aug. 21, 2003, at 10.

[142] *See* Hanson, Impolite Innovation, *supra* note 12, at 13.

[143] *See* Harford, *supra* note 141.

[144] Ken Guggenheim, *Pentagon Terrorism Market Riles Lawmakers*, CHI. TRIB., July 29, 2003, at 11, *available at* 2003 WL 60112739.

[145] Harford, *supra* note 141.

if a terrorist attack occurred or worried that the market might provide potential terrorists with ideas or focus them on particular targets.[146]

Although PAM was well intentioned, even the prospect of betting on terrorism provoked a visceral negative response. As discussed more fully in Part IV, however, a market dealing with the Supreme Court should not suffer from these visceral reactions or become politically controversial. If anything, the positive publicity from a project of Tiresias's scope should encourage further experimentation with information markets.

In addition, information markets are potentially subject to many of the same structural problems that are present in financial markets. Without correction or intervention, these structural problems can result in market failure.[147] The literature warns of problems with information cascades, market bubbles, market manipulations, and insider trading.[148] Although these issues raise concerns, information markets can be designed to overcome these obstacles.

One of the concerns about information markets is the worry that traders in the market will arrive at an incorrect prediction due to an "information cascade."[149] In an information cascade, members of the group receive information at different times. Unfortunately, the first members to receive the information fixate on an incorrect assumption or fact, and then everyone else in the group blindly follows along, adopting the erroneous information.[150] For example, before CPS assisted with polling a class for answers, the traditional method of the instructor asking the class for which option they wanted to choose by raising their hands would often lead to an information cascade. The students would look around the room and potentially change their votes if they thought they were in the minority.[151] Like the infamous lemmings, those caught in an information cascade "follow the leader," potentially blindly off a cliff.[152]

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[146] Ajit Kambil, *You Can Bet on Idea Markets*, HARV. BUS. SCH. WORKING KNOWLEDGE, Dec. 1, 2003, http://hbswk.hbs.edu/pubitem.jhtml?id=3808&t=innovation.

[147] Lynn A. Stout, *The Mechanisms of Market Inefficiency: An Introduction to the New Finance*, 28 J. CORP. L. 635, 662 (2003).

[148] *See infra* notes 152–160 and accompanying text.

[149] Cass R. Sunstein, *Group Judgments: Deliberations, Statistical Means, and Information Markets* 25–26 (AEI-Brookings Joint Ctr. for Reg. Studies, Working Paper No. 04-17, 2004) [hereinafter Sunstein, *Group Judgments*].

[150] *See* Cass R. Sunstein, *Foreword: On Academic Fads and Fashions*, 99 MICH. L. REV. 1251, 1254–56 (2001) (examining trends in legal scholarship and analyzing why certain movements gain or lose popularity within the legal academy); *see also id.* at 1252 n.4 (citing, for example, Lisa Anderson & Charles Holt, *Information Cascades in the Laboratory*, 87 AM. ECON. REV. 847 (1997); Sushil Bikchandani et al., *A Theory of Fads, Fashion, Custom, and Cultural Change as Informational Cascades*, 100 J. POL. ECON. 992 (1992)).

[151] See *supra* notes 24–27 and accompanying text for the discussion of CPS.

[152] DENNIS CHITTY, DO LEMMINGS COMMIT SUICIDE?: BEAUTIFUL HYPOTHESES AND UGLY FACTS (1996).

A related problem is that of "groupthink," where those within a group all begin to think alike.[153] This phenomenon is typically the result of either peer pressure or a hierarchy that coerces everyone in the group to conform. Rather than value cognitive diversity, in this instance, groups function to stifle dissent and diversity of opinion. Many have blamed the recent explosion of corporate corruption and fraud on the presence of groupthink—following the instructions of corporate leaders to "make the numbers" even when those instructions are known to be wrong or fraudulent.[154]

Another problem present in financial markets is the "bubble" phenomenon. From the inflated tulip prices in seventeenth-century Holland to the Internet boom and bust in the late 1990s, markets are subject to periods where stock prices far outpace the value of the underlying asset.[155] The Internet boom of the 1990s led to speculation in technology companies, companies that had no profits and no concrete plan for generating revenue.[156] In part, this is because stocks, at least in the short term, are not pegged to objective measures, but are valued by what the next buyer will pay.[157]

Our model is designed to overcome these potential problems. One way to avoid information cascades, groupthink, and market bubbles is to preserve the diversity and independence of individuals within the group. Having each person trade independently of others reduces the herding and groupthink instincts and insulates the market from information cascades.[158] As each trader has her own financial incentive to make correct predictions, groupthink should be moderated by the market. And, if Tiresias does not involve tradable securities, bubbles would be unlikely because individuals

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[153] Commentators have analyzed the role of "peer pressure," "groupthink," and "corruption of judgment" in response to the pressure to conform socially. Of interest are the classic experiments carried out by Stanley Milgram, in which subjects agonized about, but then finally agreed, to administer electric shocks to another subject. *See* Nancy B. Rapoport, *Enron, Titanic, and the Perfect Storm*, 71 FORDHAM L. REV. 1373, 1388–89 (2003) (describing the Milgram experiments and arguing that similar groupthink phenomenon led to the crisis at, and the ultimate failure of, Enron).

[154] James A. Fanto, *Whistleblowing and the Public Director: Countering Corporate Inner Circles* (George Washington Univ. Law Sch., Public Law Research Paper No. 83, 2003), *available at* http://ssrn.com/abstract=471261.

[155] Stout, *supra* note 147, at 662.

[156] *See* Christopher Oster, *Sudden Impact for Bond Funds*, WALL ST. J., July 25, 2003, at C1 (describing Internet bubble); Scott Thurm, *Tech Jobs Start to Come back in U.S. After Three-year Slump*, WALL ST. J., Apr. 29, 2004, at A1, *available at* 2004 WL-WSJ 56927622 (describing Internet bubble, resulting devastation in technology sector, and ongoing recovery).

[157] Stout, *supra* note 147, at 636 (arguing that flaws of efficient market hypothesis lie in assumptions of homogeneous investor expectations, rationality on part of investors, and the availability of arbitrage). As Stout states, the "idea that securities prices reflect informed estimates of value has always coexisted uneasily with a darker view that sees stock prices as disconnected from economic reality." *Id.*

[158] Of course, this is not to say that participants might not be swayed by information reported in the media or elsewhere, but as experts familiar with the Court and making independent judgments, one assumes that they will be able to place information in context.

would not see the predictions of other participants until after they had already voted.

Insider trading is another concern with traditional financial markets that could also be raised about information markets.[159] The criminalization of insider trading arose because of concerns over fundamental fairness as well as the idea that trading on inside information had resulted in corporate corruption without any real benefits to stockholders.[160] While there is some debate among academics about the logic of removing insider trading sanctions,[161] it does not appear that anyone seriously thinks insider trading laws will be removed, especially in the wake of the extensive corporate corruption exposed in the WorldCom and Enron financial scandals.[162]

There is no doubt, however, that the information insiders hold is valuable. In fact, its value is the major reason that insiders are banned from trading on such inside information in traditional markets. Are the same concerns that prevent insider trading on the capital markets a problem in the context of information markets? In one sense, the answer is no, because inside information would tend to make the predictions and the market overall more accurate, and any individual unjust enrichment is arguably outweighed by the increased accuracy of the markets. But, of course, this unjust enrichment remains morally objectionable, and, practically, if there is the perception that some insiders have managed to rig the market, that perception may drive away other valuable participants.

With Tiresias this problem is minimized because the only truly "inside" information would come from the Justices themselves, current Supreme Court law clerks, staff attorneys, or other Supreme Court personnel. All of these individuals have duties of confidentiality and appear to adhere to those duties.[163] So the problem in this context is minimal, and there is a prohibition against leaking information already in place. Given these circumstances, insider trading will not create a major obstacle for Tiresias.[164]

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[159] See 17 C.F.R. § 240.10b-5 (2004).

[160] Joseph A. Grundfest, *Punctuated Equilibria in the Evolution of United States Securities Regulation*, 8 STAN. J.L. BUS. & FIN. 1 (2002).

[161] Ian Ayres & Stephan Choi, *Internalizing Outsider Trading*, 101 MICH. L. REV. 313, 319–20 (2002).

[162] *See, e.g.*, John R. Kroger, *Enron, Fraud and Securities Reform: An Enron Prosecutor's Perspective*, 76 U. COLO. L. REV. 57 (2005).

[163] *See* Note, *The Law Clerk's Duty of Confidentiality*, 129 U. PA. L. REV. 1230 (1981). The Judicial Conference of the United States adopted a Code of Conduct for Law Clerks in 1981. *See* J. Daniel Mahoney, *Law Clerks: For Better or for Worse?*, 54 BROOK. L. REV. 321, 329 n.43 (1988).

[164] Former Supreme Court law clerks may have some information not publicly available because of their close interactions with the Justices for whom they worked, but as long as that former clerk is not currently receiving any information about pending cases, that does not present a problem. Any further confidentiality issues are avoided, as traders are merely registering their vote, not offering detailed explanations of how they reached their conclusion. Thus, the information from former clerks can be assimilated into Tiresias, with no need for potentially embarrassing revelations. *See* EDWARD LAZARUS, CLOSED CHAMBERS: THE RISE, FALL, AND FUTURE OF THE MODERN SUPREME COURT (1999) (detailing

A final concern common to stock markets and information markets is the worry that an individual, or a set of individuals, will seek to manipulate the market for profit.[165] In the context of information markets, this worry is compounded because, in addition to potential profiteering, individuals face moral hazard in that they may have strong preferences for a particular outcome. In markets with tradable securities and a financial payout, the market itself often thwarts attempts at manipulation. Arbitrageurs, perceiving that the market has become out of balance, will sense an opportunity for profit.[166] Upon their entry, the price of the securities readjusts to reflect, once again, the accurate price. Yet this reaction may not be entirely sufficient to prevent manipulation, as various past efforts at manipulation suggest.[167] In an information market without tradable securities or direct financial payouts, the issue is even more challenging. Discussed below in Part III are some ways that the Tiresias model is designed to address this issue.[168]

III. Designing a Supreme Court Information Market

As discussed above, information markets have proved accurate in many other contexts,[169] and good reasons exist to believe that they also will prove successful with Supreme Court predictions.[170] Yet achieving that success will require an effective design of the information market.[171] This Part addresses that issue. It begins with a brief discussion of the most common market design—one involving tradable securities with cash value and open access to all interested participants—and then explores potential alternative designs that could reduce the transaction costs that accompany participation in traditional financial markets. It concludes by discussing the possibility of offering several possible markets to participants, so that Tiresias can provide empirical data on the accuracy of various models of information markets.

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controversial revelations about the Supreme Court revealed by a former clerk); Tony Mauro, *Clerk Tells Tales out of Court*, LEGAL TIMES, Mar. 16, 1998, at 7 (describing controversy).

[165] Robin Hanson, Foul Play in Information Markets 4–5 (Dec. 2004) (unpublished manuscript), *available at* http://hanson.gmu.edu/foulplay.pdf [hereinafter Hanson, Foul Play]; *see also* Kevin Donovan & Andrew Bary, *Treasury's 30-Year Issue Surges as Dealers Sell Short-Term Securities to Buy Long-Term Bonds*, WALL ST. J., May 31, 1991, at C19, *available at* 1991 WL-WSJ 606174 (describing Soros's speculations).

[166] *See* Langevoort, *supra* note 40 (defining arbitrage).

[167] *See supra* note 162 and accompanying text.

[168] In cases that deal with controversial subjects, it might take further policing of the market to ensure that activists on either side of the issue do not vote opportunistically to influence Tiresias. We discuss this issue in greater detail *infra* Part III.

[169] *See supra* Part II.A.

[170] *See supra* Part II.B.

[171] *See* Wolfers & Zitzewitz, *supra* note 14, at 17 ("The success of prediction markets, like any market, can depend upon their design and implementation.").

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A. Open Markets

The most common form of information market adopts the characteristics of financial markets such as the New York Stock Exchange. Securities are tradable among participants, have cash value, and can be purchased easily by almost any interested party. As discussed above, the IEM shares these characteristics, and the general IEM structure could be transferable to a market in Supreme Court predictions.[172] Participants would purchase a security that would pay out if the result is achieved (in this market, that the Supreme Court votes to affirm or reverse a certain ruling on appeal). Securities would be tradable, including short sales, and anyone wishing to pay could participate. This model offers the advantages of cash incentives, the possibilities of more sophisticated trading such as short sales, and its general familiarity because of its similarity to the stock market. It also provides the opportunity for knowledgeable participants to profit at the expense of less informed or politically biased participants, a method that has proved to be successful with the IEM.

Yet using tradable securities with financial payouts creates transaction costs. Although probably not subject to regulatory demands,[173] monetary securities still entail establishing accounts to hold money received, arranging a trading mechanism, distributing the gains to successful participants, and generally managing cash flow. Such activities are necessary when the primary goal of the market is to raise capital, and if Tiresias were managed by full-time staff, it might be possible to accomplish all these tasks. But unlike the New York Stock Exchange, the goal of Tiresias is not to raise capital but rather to provide accurate Supreme Court predictions. To accomplish that latter task, it might be better, at least initially, to attempt a simpler undertaking, without the financial transaction costs, that will allow a quick and easy test of information markets in the context of Supreme Court predictions.

An intriguing idea would be the use of "virtual money" in conjunction with tradable securities, as some other information markets like the HSX have employed.[174] This would obviate the need for financial accounting systems while still providing an easy method to score a participant's success. More important, it would also allow for more sophisticated financial techniques such as short-selling. It might be possible to obtain many of the advantages of the stock markets without involving actual money.

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[172] This is how many existing information markets, such as the IEM, work. See *supra* notes 35–41 and accompanying text for a more detailed description of how tradable securities work in an information market.

[173] The IEM received a "no action" letter from the Commodity Futures Trading Commission that frees it from regulatory compliance. *See* Iowa Electronic Markets—Frequently Asked Questions, http://www.biz.uiowa.edu/iem/faq.html#Legal (last visited Mar. 3, 2006). Once information markets have gained wide acceptance, the analysis of proper regulatory measures, if any, will be an interesting intellectual subject, but it is currently beyond the scope of this Article.

[174] *See generally* Balkin, *supra* note 43, at 2070.

More fundamentally, it seems intellectually worthwhile to examine whether information markets are best structured in the same manner as financial markets like the New York Stock Exchange or the NASDAQ. The goal of an information market is not to raise capital, but rather to aggregate information from knowledgeable participants. It may be that alternative market designs that employ experts and provide incentives differently than do tradable securities will generate accurate results, as well. At the very least, such a possibility is worth exploring, and we present one such alternative design below.

B. Expert Markets: Separating the Sheep from the Wolves

The success of the information market will depend partly upon the knowledge of its participants.[175] To produce accurate conclusions, the information market generally will require that its participants make informed choices—meaning that they understand the issues being addressed in the Supreme Court decision,[176] have some rational basis for believing the Supreme Court will vote one way rather than another, and then honestly trade upon that rational belief. Assemble such a group, and the information market should work for the reasons discussed above.[177] Lack such a group, and the outcome is uncertain. If uninformed participants flock to the market in significant numbers, Tiresias could fall prey to some of the problems, such as speculative bubbles, that lead to market failure.

Given this uncertainty, one possibility is to create some screening mechanism to ensure knowledgeable participants. This is, of course, contrary to participation in the stock market, where even investors with little knowledge or capital can purchase stocks or mutual funds with small amounts of money.[178] It also is contrary to the U.S. political model of voting, where today almost every adult citizen can participate.[179] But with Tiresias, the goal is not to raise capital for businesses, an objective helped

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[175] *See, e.g.*, Sunstein, *Group Judgments*, *supra* note 149, at 9 ("Suppose that people are asked not about the number of jelly beans in a jar, but about the number of atoms in a jelly bean. On that question, people's answers are hopelessly ill-informed, and there is no reason at all to trust their judgments.").

[176] If participants were ignorant of the issues before the Supreme Court, there is no reason to expect that their answers would be accurate. Zero plus zero is still zero. *See id.* at 9–10 (discussing how law-school faculty were "wildly inaccurate" in answering the weight, in pounds, of the fuel that powers space shuttles).

[177] *See supra* Part II.B (discussing reasons why an information market is likely to succeed in predicting Supreme Court decisions).

[178] *See, e.g.*, WILLIAM BERNSTEIN, THE FOUR PILLARS OF INVESTING 272–74 (2002) (discussing how even a small investor can build a diversified portfolio). Investments in certain hedge funds and other securities are limited to accredited investors, those investors who either have significant investing knowledge or enough in assets to bear riskier investments.

[179] Over time, of course, suffrage was extended from white males to males of all races, then to women, and then to those over eighteen. *See* U.S. CONST. amend. XV, § 1; *id.* amend. XIX; *id.* amend. XXVI, § 1.

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by a broad base of investors,[180] or to obtain the consent of the governed, a common rationale for universal suffrage with roots in the political theory embedded in the Declaration of Independence.[181] Rather, the goal is solely to obtain accurate Supreme Court predictions, and in attempting to achieve success in this experimental endeavor, it seems reasonable to prefer participants with more knowledge rather than less.[182]

In addressing the issue of the informed participants, Professor Robin Hanson has distinguished between knowledgeable participants in an information market—which he called "wolves"—and naive participants, which he called "sheep."[183] One approach, adopted by traditional financial markets and information markets like the IEM, is to allow wolves to eat sheep, that is, profit by exploiting the mistakes made by uninformed traders. But less carnivorous options might also succeed in producing accurate predictions, and if one wished to separate the groups in an information market, so that only the most knowledgeable can participate, the practical question is how to go about doing so.[184]

1. *Calling All Wolves.*—Perhaps the obvious first step is to invite experts to participate. Among the desired participants are the law professors (and law students) who read articles like this one. Legal scholars follow Court decisions as part of their livelihood, have first-rate legal educations, frequently have worked as appellate clerks,[185] and ideally should have the emotional discipline to distinguish between the decisions they would prefer and the decisions that the Supreme Court provides. Even if only 50 to 100

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[180] *See supra* note 16.

[181] *See* THE DECLARATION OF INDEPENDENCE para. 2 (U.S. 1776) (stating that a government's just powers derived "from the consent of the governed").

[182] On screening out the ill-informed, compare Stephen Choi, *Regulating Investors Not Issuers: A Market-Based Proposal*, 88 CAL. L. REV. 279 (2000) (distinguishing between types of investors based on their relative informational resourcefulness to prescribe varying levels of regulatory protection).

[183] *See* Noam Scheiber, *2003: The 3rd Annual Year in Ideas; Futures Markets in Everything*, N.Y. TIMES, Dec. 14, 2003, § 6 (Magazine), at 68. Professor Hanson uses the terms to distinguish between naive participants and those who base decisions on hard evidence. For this context, we add to this the additional requirements of honestly voting a rational belief. Thus, in our usage, "sheep" include not only uninformed participants but those who attempt to manipulate the information market by voting for their favored position regardless of their objective belief of its likelihood of success.

[184] The screening, in addition to screening out good-faith sheep, also may help to limit abuses. *See* Hanson, Foul Play, *supra* note 165, at 3. ("[W]e might hope to limit foul play in any social institution by limiting who can participate in that institution.").

[185] *See, e.g.*, Robert J. Borthwick & Jordan R. Schau, *Gatekeepers of the Profession: An Empirical Profile of the Nation's Law Professor*s, 25 U. MICH. J.L. REFORM 191 (1991) (describing credentials of law professors); Richard E. Redding, *"Where Did You Go to Law School?": Gatekeeping for the Professoriate and Its Implications for Legal Education*, 53 J. LEGAL EDUC. 594, 595 (2003) ("Law professors are among the most elite in the law, an already elite profession.").

law professors participate by voting on an entire Court Term, it might be enough to establish an accurate information market.[186]

Nevertheless, compelling reasons exist to extend the potential voting pool beyond the academy. Limiting participation to professors would exclude a great many knowledgeable observers, including practitioners who practice Supreme Court advocacy for a living.[187] It also would exclude scholars at public interest groups who follow the Supreme Court at least as closely as the average law professor.[188] Such Court specialists, which include former solicitor generals, belong on anyone's list of "wolves." Likewise, the Supreme Court press corps tracks the Justices closely, speaks with a variety of experts, and frequently has off-the-record knowledge that could inform predictions.[189]

Increasing diversity by inviting knowledgeable Court observers to participate will likely lead to more accurate predictions.[190] Any small group will have a limited range of experiences, and to the extent it communicates principally among itself on a given topic, the risk of "groupthink" develops that may mislead predictions.[191] Bringing additional observers into the group, especially those with different backgrounds or ideological perspectives, should reduce this risk. This is particularly true if the pool of law professors is likely to have different ideological beliefs than those of the majority of a court with numerous Republican appointments.[192] Thus, it

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[186] *See* SUROWIECKI, *supra* note 28 (indicating that an information market may be able to function successfully with as few as forty members).

[187] Supreme Court advocacy is a highly skilled art, and its practitioners are among the finest in the profession. *See generally* KEVIN T. MCGUIRE, THE SUPREME COURT BAR: LEGAL ELITES IN THE WASHINGTON COMMUNITY (1993).

[188] Ruth Bader Ginsburg worked as counsel for Women's Rights Project of the American Civil Liberties Union before her appointment to the Supreme Court. *See* MARK TUSHNET, A COURT DIVIDED 106 (2005) (discussing Ginsburg's advocacy work). Surely at that time Ginsburg should have qualified to participate, as would current members of advocacy groups such as Clint Bolick of the Institute for Justice or Roger Pilon and Robert Levy of the Cato Institute.

[189] *See* Greenhouse, *supra* note 57, at 782 (describing predictions that journalists make on routine basis, and her own published predictions, which were correct seventy-five percent of the time).

[190] Once Tiresias is operational, this hypothesis could be tested empirically. As discussed below, registration with Tiresias would be by e-mail address, and by distinguishing between addresses ending in ".edu" and addresses ending in ".com" or ".org," it would be possible to assemble data for future articles about whether, in predicting Supreme Court outcomes, academic observers are better, worse, or equivalent to those outside of universities.

[191] *See* SUROWIECKI, *supra* note 28, at 36–39 (discussing risk of groupthink and benefits of cognitive diversity). This sort of phenomenon also has been dubbed the "firehouse effect," after a claim that fire fighters "with much downtime who talk to each other for too long come to agree on many things that an outside, impartial observer would find ludicrous;" NASSIM NICHOLAS TALEB, FOOLED BY RANDOMNESS 82 (2d ed. 2004) (describing firehouse effect).

[192] In a recent *Georgetown Law Journal* article, Professor John McGinnis examines political donations as proxy for political beliefs, and he concludes that law faculties are more liberal than the general public. John O. McGinnis, Matthew A. Schwartz & Benjamin Tisdell, *The Patterns and Implications of Political Contributions by Elite Law School Faculty*, 93 GEO. L.J. 1167 (2005). Given that Tiresias will offer incentives for correct predictions, participants will have reasons to vote their honest predictions

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might be particularly helpful to have the insights of those who share the worldview not only of Justices Stephen Breyer and Ruth Bader Ginsburg but also of Justices Antonin Scalia and Clarence Thomas. In other words, to be most effective, a potential Supreme Court information market needs Theodore Olson as much as Laurence Tribe. In addition, the cognitive diversity from allowing the participation of knowledgeable nonattorneys would help the more systematic biases created in the minds of those who have undergone legal training and "think like lawyers." To the extent that the Court is result oriented, a lawyer's focus on precedent sometimes may be a burden,[193] so the contributions of knowledgeable nonattorneys, such as scholars in political science, may bring valuable insights.[194]

2. *What's in It for Me?: Incentives for Participation.*—Why would knowledgeable participants agree to participate? An information market similar to the IEM would provide direct financial incentives through tradable securities, but because of the associated transaction costs, it seems worthwhile to consider possible alternatives in the expert market. A choice to forgo tradable securities requires, of course, that a suitable pool of experts will still be attracted to participate.[195] On this question, prior experi-

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rather than their political preferences, and we have reason to believe that professors will be able to appreciate this distinction. Indeed, the willingness to separate normative and positive judgments is a primary distinction between wolves and sheep.

[193] For example, even defenders of affirmative action might acknowledge that knowing the plain language of Title VII would have proved misleading in predicting the decision in *United Steelworkers of America v. Weber*, 443 U.S. 193 (1979), to allow employment preferences for racial minorities. By the same token, even some conservatives might acknowledge that a detailed knowledge of the Court's prior equal protection jurisprudence might have been less than decisive in predicting the outcome of *Bush v. Gore*, 531 U.S. 98 (2000). Without taking positions on the merits of either of these decisions here, we merely submit that if a Court wants to reach a certain political result, nonattorney political observers are just as capable of predicting this outcome as are constitutional scholars.

[194] The mechanics of reaching these various kinds of experts should not be difficult given the existence of so many wolf lairs. Professors have websites for posting scholarly works in progress, *see* Social Science Research Network, http://www.ssrn.com (last visited Mar. 3, 2006), and a number of prominent law professors have created popular web logs. See, for example, Professor Lawrence Solum's blog on legal theory, Legal Theory Blog, http://lsolum.blogspot.com/ (last visited Mar. 3, 2006); Professor Eugene Volokh's blog, Volokh Conspiracy, www.http://volokh.com/ (last visited Mar. 3, 2006); Professor Jack Balkin's blog, Balkanization, http://balkin.blogspot.com/ (last visited Mar. 3, 2006); and Concurring Opinions, http://www.concurringopinions.com/ (last visited Mar. 29, 2006). A briefing circuit for the Supreme Court press corps regarding the upcoming Court Term poses another easy way to reach these specialists, as do constitutional law blogs devoted to appellate courts. Among the leading appellate blogs (by practitioners) likely to be visited by knowledgeable Court watchers are the Supreme Court blog at Goldstein Howe, SCOTUSblog, www.goldsteinhowe.com/blog/index.cfm (last visited Mar. 3, 2006), and Howard J. Bashman's blog on appellate advocacy, How Appealing, http://legalaffairs.org/howappealing (last visited Mar. 3, 2006). Inviting experts to participate in Tiresias will thus be relatively straightforward.

[195] Robert W. Hahn has noted that participants in information markets without real currency "may not have a strong incentive to acquire costly information about fundamental values." *See* Hahn, *supra* note 139, at 8. This should not be a problem with Tiresias because most participants (such as journalists and practitioners) will have an incentive to acquire the information in the course of their jobs, and aca-

ence is not conclusive,[196] but it is encouraging, particularly the relative popularity of recreational contests[197] including play-money exchanges and the sports gambling industry. These exchanges suggest the possibility of adequate motivation "through the thrill of pitting one's judgment against others," as Wolfers and Zitzewitz have noted.[198]

The burden to vote will be minimal, perhaps a few minutes to log onto a website and click on a prediction. This expenditure will be more than rewarded, however, as the minor costs to each participant are transformed into a major benefit to be redistributed among those who participate. As discussed more fully below, knowledge of the outcome of the information market could be available only to those who first cast their ballot. Casting one's ballot would allow access to the collective wisdom on the subject, whereas hoarding one's prediction would deprive one of access to what is likely to be an accurate predictive tool.[199] For a professor teaching about a pending Court case, a journalist writing an analysis, or a lawyer wondering how an issue will be decided, the benefits from learning the prediction of the informed legal community are almost certainly greater than the minor cost of casting one's vote.[200] Tiresias predictions also can have monetary value, as discussed more fully below.[201]

Participation also offers the possibility of public recognition for savvy Court predictors. Who makes the most intelligent, accurate predictions? Tiresias will let the legal community know if there are Warren Buffetts of Supreme Court predictions. Although some participants may want anonymity (a desire that would be honored),[202] other professors or practitioners who thrive on competition will want acknowledgment as being among the

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demic participants (along with others) are likely to be motivated to make accurate predictions to display their insights into the Supreme Court.

[196] Wolfers & Zitzewitz, *supra* note 14, at 18 (noting that there is not sufficient comparative data to know the extent to which money makes predictions more accurate).

[197] Of most direct relevance, the amusement site Lawpsided, www.lawpsided.com (last visited Mar. 3, 2006), ran a contest about predicting Supreme Court outcomes that attracted a number of participants. *See supra* note 111.

[198] Wolfers & Zitzewitz, *supra* note 14, at 19. The authors in context are speaking about trading and believe that motivation to trade is necessary. Tiresias may involve voting, not trading securities, but we think their point about motivation arising from pitting one's judgment against others' may apply in this context as well, particularly when combined with the other incentives we discuss.

[199] *See supra* Part II.B.1 (discussing why a Supreme Court information market is likely to accurately predict outcome of Court decisions).

[200] In fact, many such Court observers share their predictions informally when questioned by other Court observers. Tiresias takes this informal information exchange and translates it into a "water cooler" in cyberspace where the discussion can involve a much larger group of knowledgeable participants and provide greater feedback. We suspect that most Court observers would be interested in knowing if their fellows have reached the same conclusion about a case or if one's views are in the minority.

[201] *See infra* notes 243–248 and accompanying text (discussing how accurate predictions of Court rulings can have monetary value in settlement discussions and in advising clients).

[202] Issues of anonymous voting are discussed more fully below. *See infra* notes 229–230 and accompanying text.

best in the field. For professors, these reputational interests are valuable, and for practitioners, the recognition can lead to additional clients, increases in billable hours, higher billing rates, and more opportunities to analyze and argue Supreme Court cases.

More idealistically, participation in Tiresias involves the sharing of knowledge—perhaps the *sine qua non* of the academic community—and an opportunity for lawyers and other knowledgeable observers to replace uncertainty about the Court with more accurate predictions. Tiresias will give the legal community an opportunity to learn in advance what rulings the Supreme Court will hand down, just as the original ancient prophet could warn in advance about the decisions of the gods on Mt. Olympus. Such knowledge would be important, and helping to produce it seems worth a few moments of one's time. When that is combined with a desire to learn the predictions and with the reputational interests of successful predictions, these alternatives offer ample incentives for experts to participate.[203]

3. *Designing a Screen, and the Control Group in the Sheep Pen.*—If "wolves" are to be enticed to vote, "sheep" may pose a different problem. As other observers have recognized, these participants, whether through ignorance or scheming, may reduce the accuracy of the information market.[204] Perhaps the most obvious example of "sheep" behavior is those wishing to vote to express a belief on how the Court normatively *should* rule, not a descriptive prediction on how it actually *will*. Thus, antiabortion activists may try to use Tiresias to vote in favor of a particular form of abortion restriction, regardless of whether the Court is likely to uphold it.[205] Likewise, gay-rights activists may attempt to sway the outcome of Tiresias voting on an issue such as gay marriage to attempt to portray public support for their cause.[206] And, as discussed above, political bias is not necessary to cause problems; mere ignorance may be enough to reduce Tiresias's accuracy.[207]

These concerns may be unfounded, of course. Even with a number of ill-informed participants, Tiresias still might produce accurate predictions. One of the advantages of information markets is their ability to transmute

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[203] If these incentives nonetheless fail, an alternative would be to provide some form of subsidy to encourage participation.

[204] *See, e.g.*, Hanson, Foul Play, *supra* note 165, at 4 ("Another possible form of foul play is where participants who want to influence policy decisions directly distort their contributions to the institution forecasts.").

[205] A prime example of an opportunity for such mischief in an information market would have been the prediction in *Stenberg v. Carhart*, where the Court protected a controversial method of abortion (so-called partial-birth abortions), despite passionate opposition from the antiabortion community. 530 U.S. 914 (2000).

[206] A prime example would be if the Court addresses issues involving gay marriage, possibly by reviewing a statute such as the Defense of Marriage Act, 1 U.S.C. § 7 (Supp. 2004), which attempts to allow states to deny recognition of gay marriages created in other states.

[207] *See* Sunstein, *Group Judgments*, *supra* note 149, at 9–10 (discussing how law school faculty were "wildly inaccurate" in answering the weight, in pounds, of the fuel that powers space shuttles).

individuals' limitations into collective wisdom.[208] Yet given this uncertainty about how uninformed or partisan participants will affect the outcomes, one possibility, at least initially, is to adopt measures that try to limit the voting to knowledgeable and objective participants.[209]

How might an information market separate the "sheep" from the "wolves"? Several overarching approaches exist for accomplishing this function, each with certain advantages and drawbacks. We will describe them below for the sake of others designing information markets and provide an initial assessment of their application for Tiresias. Ultimately, however, the final decision of which screening mechanisms to use will be determined later when Tiresias becomes operational, not in the presentation of the idea of a Supreme Court information market in this Article.

One approach is to allow access to the information market only if a human gatekeeper—one of Tiresias's "priests" or "priestesses"—concludes that an applicant has sufficient knowledge to participate and will act in good faith to vote their honest predictions. The gatekeeper would approve participants who have indicia of expertise—such as law degrees, occupations involving the study of the Supreme Court, and so forth—while excluding those who might seem likely to attempt to taint the Tiresias vote: apparent political partisans, as the most likely culprits.[210] This method has the advantage of being simple to implement, and it also would provide the greatest protection against a flock of sheep trampling over Tiresias.

This gatekeeper solution has several significant disadvantages, however. First, the screening process ultimately might be a significant burden on the gatekeeper, particularly if large numbers of people started to participate (as might occur after the publicity surrounding any predictive successes), and the gatekeeper would have the thankless task of rejecting applicants for what may appear to be subjective reasons. Second, and more important, every increase in transaction costs, such as requiring approval by a gatekeeper, will likely decrease participation.[211] To maximize the size of the desired voting pool, participation should be as convenient as possible, and one way to accomplish that is to allow participants to register in minutes and then proceed directly to vote. If the process becomes more onerous, Tiresias risks a decrease in expert participation.

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[208] *See generally supra* Part I.A.

[209] As discussed below, once Tiresias is operational, it will be possible to obtain empirical evidence about whether sheep in fact vote less accurately than wolves. If sheep prove as accurate at predictions, it would be possible to remove the screening mechanisms and have an unrestricted information market where anyone could vote.

[210] *See* Hanson, Foul Play, *supra* note 165, at 3 ("[W]e might hope to limit foul play in any social institution by limiting who can participate in that institution.").

[211] Transaction costs, often given a context-specific definition, are essentially the expenditure of resources and effort necessary to complete an action. *See generally* Ronald Coase, *The Nature of the Firm*, 4 ECONOMICA 386 (1937).

A second approach might be to have basic, objective eligibility requirements, which would reduce subjective assessments by the gatekeeper. It would be possible to allow all members of state bar associations or students at accredited law schools to vote by registering their bar membership number or student identification number, for example, or to include all journalists with a recognized media organization. This approach results in a broader pool of participants, with less screening for indicators of expertise, but it still should provide an initial screen to obtain knowledgeable participants. The screen should be relatively easy to enforce against cheating if necessary. In the case of attorneys, Martindale Hubbell listings,[212] combined with state bar records, provide an easy way to prevent individuals who falsely claim to be lawyers from participating, and such persons could be excluded once the fraud is uncovered. Likewise, if a Westlaw, Lexis, or Web search could not confirm that a registrant is a working journalist or Supreme Court scholar, then a phone call to the individual's organization could be used to obtain additional information and verify credentials.

In sum, under this second approach of listing participation criteria, the role of the gatekeeper is that of preventing fraudulent participation, which should be a less onerous task than making affirmative decisions on whether to admit or deny every request for participation. Participation remains convenient, and the administrative burden is reduced. The disadvantage of this second approach is that, as with many formal criteria, it can be both underinclusive and overinclusive. Knowledgeable participants, true wolves, might be excluded because they did not possess one of the general requirements (such as a law degree or a job involving study of the Supreme Court), whereas someone with a law degree still might wish to vote for partisan reasons and thus be a "sheep" despite meeting the formal qualification.

A third screening approach would not use a human gatekeeper but instead would employ a test—a subtle sort of obstacle course—by which participants would sort themselves either into the wolf den or the sheep pen. The goal is a form of self-authorizing access where those able to reach the oracle thereby prove their eligibility to vote.

In designing this screening process, a first simple step might be to ask registrants (shrewdly) about their goals. When an individual first registers to vote, the Tiresias program could offer two options.

> Option A: Supreme Court opinion poll. I want to express my views on how the Supreme Court should decide particular cases. Let me vote!

> Option B: Nonpartisan contributions to academic research project on information markets.

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[212] Such listings are available online at Lawyer Locator, http://www.martindale.com (last visited Mar. 3, 2006).

The computer system would record which option the registrant chose and bind the participant to that initial choice—no switching one's path, in other words. Those registrants who choose the dull-sounding Option B would be sent to Tiresias to vote. Those participants who choose the spicy-sounding Option A would be given what they want—a chance to express their opinions about what the Court should do. They would have the same selection menu about the Supreme Court's pending docket, and they could vote their political desires. Their votes would not count toward the Tiresias predictions, however. In essence, the sheep will be given a sheep pen in which they can play amongst themselves, while the wolves conduct their business elsewhere.[213]

These three approaches—subjective human gatekeeper, rule-based standards, and self-authorizing access—provide broad ways to think about the screening problem in designing information markets, but in practice, it may be most effective to adopt a hybrid approach. Tiresias may list qualifications for participation (including a general catch-all provision for knowledgeable participants who might not possess standard indicia such as a law degree), a sheep trap might still route naïve participants into the sheep pen, and a human gatekeeper could monitor to prevent abuses.

In setting up this screening process, we do not mean to be unduly demeaning toward those participants who Professor Hanson has dubbed "sheep."[214] These partisan participants still would have an opportunity to vote and satisfy their desire to express their political views on how the Supreme Court should decide a particular case. They merely would be prevented from tainting the outcome of a predictive process in which they are not truly interested. Yet if somehow a "sheep" proved especially successful at predictions (a wolf in sheep's clothing), that individual could be transferred into the wolf den to participate in the Tiresias voting pool.[215]

Moreover, sheep votes would not be ignored. In addition to allowing self-expression for the participants, sheep votes would serve the important function of providing an on-going control group to be compared with the

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[213] Other screening options are available. As one possibility, the Tiresias voting could be made less than user friendly in some aspects. For example, the Supreme Court cases may be identified only by name, without any identification of the issues involved, or even only by docket number. The user could be offered an option to obtain more information about the issues involved, an option that would then surreptitiously transfer the individual into a more user friendly sheep pen with additional information about the issues. Alternatively, users could be required to vote in blocks. That is, participants would need to vote on a series of routine cases before being able to vote on a politically charged one. Each of these methods has significant disadvantages, but, while not ideal solutions, they do illustrate the range of creative solutions for accomplishing screening goals.

[214] *See generally supra* note 183 (identifying the use of "sheep" and "wolves" in discussing information market participants).

[215] Conversely, a "wolf" who proved especially bad at Supreme Court predictions could be discretely transferred into the sheep pen without causing any embarrassment.

expert participants. It would be significant if the sheep predictions proved as accurate as the wolf predictions, either overall or even on particular cases or issues. Such a result would suggest either that (1) Tiresias's separation between sheep and wolves was ineffective and might need to be abandoned, or (2) specialized knowledge is not particularly helpful in predicting Supreme Court outcomes.[216]

Are these methods of screening sheep from wolves foolproof? Of course not. An individual might fool a human gatekeeper in obtaining access, and it is possible that an organized advocacy group could tell its members how to bypass any sheep traps and vote solely to try to bias the Tiresias prediction.[217] Were that to occur, Tiresias's priests and priestesses might exclude or otherwise discount the votes of those who showed up only one time to trade on a particularly partisan issue. If necessary, new participants (and their trades) in a particular case could be transferred en masse into the sheep pen to maintain the integrity of the established Tiresias voting pool.[218] We envision the administration of Tiresias to be adaptable and dynamic—able to monitor the voting process, analyze new challenges, and adjust the system to preserve the goals of the information market.

In the end, however, Tiresias, like many collaborative efforts, may require the good faith of its participants to succeed. We hope this will not prove to be a problem, but the operation of Tiresias will provide empirical data to test that hypothesis.

4. *Issues of Implementing an Expert Market.*—The actual mechanics of participating in Tiresias need not be complicated. Perhaps the easiest solution would be to establish a Tiresias website, funded by a grant, university, law firm, or media organization. Participants would register via an e-mail address[219] and select a password, a common practice for registration on many websites. In its cyber-voting-booth, Tiresias would list all the cases in which the Supreme Court has granted certiorari.[220] Upon clicking on a

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[216] We would be surprised at this latter outcome. We fully expect law professors and Supreme Court practitioners to make better predictions than political partisans. Yet this hypothesis should be tested empirically; once sufficient data are accumulated, the results may lead to a change in screening procedures, if not their outright abolition. If nothing else, the comparison between the voting accuracy of the sheep and wolf pools may be an interesting article for the future.

[217] Individuals have in the past attempted to manipulate information markets, largely without success. *See, e.g.*, Wolfers & Zitzewitz, *supra* note 14, at 16.

[218] Were this to occur, it would be desirable to preserve the identity and votes of those transferred in case the Tiresias administrators later appeared to have made a categorization error and incorrectly transferred the participants.

[219] Obtaining an e-mail address would allow communications with the participants if necessary, which seems desirable, if only to ascertain privacy preferences about public recognition (a topic discussed more fully below).

[220] Ultimately, the Tiresias voting booth could contain other useful information such as petitions for certiorari and their oppositions, merit briefs by the parties, or news stories describing the issues involved.

case name or docket number, the participant would select between "affirm" and "reverse."[221] For simplicity, the options initially may not try to predict partial decisions such as "affirm in part" or "reverse in part."[222] After individuals vote, they would be allowed to see the current tally of votes for that particular case. Participants would be able to return to the site to track the voting in a particular case or possibly even to change their vote if desired to reflect new information. Trading would be cut off (retroactively, if need be)[223] to the day before the Supreme Court released its opinion. At the end of a Supreme Court Term, the most accurate predictors could be identified and recognized if desired on the Tiresias website.

The possibility of public recognition for successful Tiresias predictions raises issues of privacy and secret balloting. On the one hand, Tiresias needs to track an individual's voting record. Recording the fact of a previous vote is necessary to prevent double voting, and the tracking of the vote's content is necessary both to evaluate the accuracy of a participant and to accumulate aggregated statistical data for future research.[224] Yet to attract knowledgeable participants, it seems helpful to guarantee their privacy, and thus Tiresias should have a policy that participants' names and voting records would not be disclosed without their consent. This would reduce the risk of retribution against people with specialized knowledge— for example, an attorney in the U.S. Office of the Solicitor General who predicts that the United States will lose a certain case or a private lawyer who votes against his or her client's desired position.[225]

The issue of privacy collides with the concern about "insider trading" by Supreme Court employees. The concerns of unfair financial gain that underlie the prohibition on insider trading in the securities markets might be

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[221] In a matter involving the Court's original jurisdiction, the choice would be between the plaintiff and the defendant.

[222] In the future, it might be possible to expand the Tiresias voting options, perhaps including the full range of outcomes, the treatment of certain issues within a case, or even which Justices are likely to vote which way. Ultimately, a secondary Tiresias market might develop in predicting grants of certiorari or long-term predictions about issues that the Court might be expected to address over the next decade.

[223] Tiresias would record the date and time of any individual's vote, to assist in the scholarly research on voting times described more fully below.

[224] Possibilities for future research will include the relative accuracy of various registrants from different organizations, e.g., businesses as opposed to universities or government institutions, and the success of earlier voters as compared with later voters. The ultimate goal would be to investigate if a profile of the "superior predictor" exists. To our knowledge, no other information market has attempted this sort of analysis. Moreover, if Tiresias ultimately were to obtain from participants basic demographic information such as age, gender, and political affiliation, it would also be possible to determine the relative predictive ability of men versus women, those under forty versus those over forty, and Republicans versus Democrats. To our knowledge, no other information market has sought to investigate such issues.

[225] Outside the context of the Supreme Court, Professor Hanson raises the risk of retribution by a project leader who might punish anyone on his project team who "disputed his rosy forecast." *See* Hanson, Foul Play, *supra* note 165, at 9.

present in an IEM-type information market that used tradable securities. Such concerns would not be present with an information market without direct financial payouts, however, and the participation of Court insiders might increase Tiresias's overall accuracy. We expect that this issue will be more than speculative. As discussed below, if Tiresias attracts a substantial number of informed participants, the Supreme Court Justices or clerks may have an interest in learning the prediction of the legal community before an opinion is released. Yet under one model, such predictions will not be available without casting of a ballot in each individual case for which a prediction is sought. Given the unique situation of Supreme Court employees, perhaps the most diplomatic solution is for Tiresias to provide a "judicial bypass" account, which would allow Court employees to learn the current status of the voting without having to register votes of their own.[226]

One final issue of the mechanics of the information market is the timing of votes. As mentioned above, participants will be able to enter a prediction any time from the grant of certiorari to the day before the decision is handed down. It will be interesting to analyze when most participants choose to vote. On the one hand, even the grant of certiorari will itself say something to some observers, and an early vote will allow access to the Tiresias database before other observers. On the other hand, delaying one's vote until after the filing of briefs will provide additional information about the strength of the party's arguments, and predictions entered after oral argument will have the advantages of incorporating the Justices' reactions to the advocates.[227] Yet waiting to vote means that the participant might not gain the information about the collective wisdom until closer to the issuance of the ruling, when the prediction may be of less use in exploiting the knowledge in ways such as advising clients or taking action before the Court rules. Each participant will have to weigh these timing considerations in deciding how much information to acquire before casting a vote.

With this raw data about the timing of individuals' votes, researchers can compare predictive accuracy against time of voting, raising additional issues for research and analysis. For example, if participants who vote before the Court hears oral argument are just as accurate with their predictions as those who vote after argument, what might this mean about the importance of oral argument in the actual outcome?[228] Or if the prediction market

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[226] Judges and clerks on lower courts still could be required to vote to obtain the Tiresias prediction. Their expert participation would be valuable to Tiresias and would not risk the disclosure of confidential information as would a vote by someone at the Supreme Court with inside knowledge.

[227] For example, if Justice Sandra Day O'Connor said, "my goodness," in response to an argument, it reportedly boded ill for that party. *See* MARK TUSHNET, A COURT DIVIDED 49 (2004) ("When she said 'my goodness' or 'for goodness' sakes,' you could be pretty sure that she was signaling how she was going to vote.").

[228] The value and relative weight that appellate oral argument plays in the ultimate decision of an appellate judge has been the subject of much debate. *See, e.g.*, Myron J. Bright, *The Power of the Spoken Word: In Defense of Oral Argument*, 72 IOWA L. REV. 35, 36 (1986) (according to Judge Bright of

changes noticeably after some new piece of information is introduced, the change might suggest that this information is material[229] and potentially give some indication of the weight of its import.[230]

C. Competing Markets

Each of these types of information market—financial securities and expert participation—present certain advantages and risks. Ultimately, however, Tiresias may not need to choose one model over another. If sufficient numbers of people with different objectives wish to participate in Tiresias, it might be possible eventually to offer markets to satisfy those wishing to make money through tradable securities, those experts who are concerned about the accuracy of Court predictions, and those who want to express an opinion about how the Supreme Court should decide a case. The ideal solution might be to include several different areas within Tiresias to accumulate Court predictions in different ways. An IEM-type market with tradable securities could exist for those wishing to profit directly by their predictions. Simultaneously, there would be an area to aggregate expert opinions while a sheep pen allowed other voters to express their opinion on how the Court should rule.

The advantages would go beyond accumulating Supreme Court predictions through as many avenues as possible. Comparing the results of the different markets would provide additional data about which participants and which market design is best at successfully predicting Supreme Court outcomes. Any material difference in accuracy, both overall and with particular cases or issues, allows the opportunity to explore why, in that situation, one type of information market yielded better results. Tiresias ultimately could test not just academic models of Supreme Court behavior but also designs of information markets.

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the U.S. Court of Appeals for the Eighth Circuit, oral arguments are valuable and assist judges in framing salient issues); Alex Kozinski, *In Praise of Moot Court—Not!*, 97 COLUM. L. REV. 178, 186 (1997). In his article, Judge Kozinski commented on moot court competitions and stated that in real life "the brief is the principal advocacy tool, and oral argument is merely a means to clarify and emphasize points made therein. Cases are seldom won—but occasionally lost—at oral argument." *Id.* (citations omitted); *see also* Robert J. Martineau, *The Value of Appellate Oral Argument: A Challenge to the Conventional Wisdom*, 72 IOWA L. REV. 1 (1986) (arguing that costs of oral argument outstrip value).

[229] Then again, it is also possible that changes in voting margins may partly just reflect random variations in when individuals decide to vote. It may or may not be possible to filter out this noise and weigh the impact of a given event in the Tiresias voting record. At this point, we do not know, but it is worth investigating, especially given that currently there is no systematic way to attempt to quantify the effect of any given input on the outcome of a Supreme Court decision. Years after the fact, a Justice's papers may suggest that a particular brief or advocate made a difference in a decision, but more contemporaneous feedback through an analysis of Tiresias data seems worth pursuing.

[230] The market will allow for ex post identification of those cases that produced results contrary to market expectation and allow analysis of what could explain the surprising results. We are indebted to Michael Abramowicz for this insight.

IV. CONSEQUENCES OF A SUPREME COURT INFORMATION MARKET

The consequences of predicting Supreme Court decisions will be noteworthy. The advance knowledge will be profitable for practitioners, helpful to lower court judges, and may influence Supreme Court rulings. Beyond the field of law, a successful Tiresias will publicize the worth of information markets, help overcome the stigma from DARPA's proposal, which was vilified in the media, and generally advance the development of this important field.

A. Benefit to Bar and Lower Bench

Knowing how the Supreme Court is likely to rule in a particular case obviously interests parties and their counsel. Yet for every party directly appearing before the Court, thousands more may be affected by the Court's ruling. For example, in the 2004 Term alone, cases with far-reaching consequences included a case under the Age Discrimination in Employment Act,[231] and a case determining the legality of software companies developing peer-to-peer file-sharing services.[232] In the criminal context, inmates sentenced to death for murders committed while under age eighteen have had their death sentences commuted.[233] And of even greater importance to the criminal justice system were the cases addressing the constitutionality of the U.S. Sentencing Guidelines.[234] And that is merely a single Court Term. The impact of significant individual Supreme Court cases from other Terms, such as *Brown v. Topeka Board of Education*, *Gideon v. Wainright*, *New York Times v. Sullivan*, *Miranda v. Arizona*, *Roe v. Wade*, and *Bush v. Gore*, have been even greater.[235]

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[231] Smith v. City of Jackson, 544 U.S. 228 (2005).

[232] In December 2004, the Court granted certiorari to address allegations of contributory copyright infringement by sponsors of peer-to-peer ("P2P") file-sharing services, primarily used in this case for the online sharing of music and movies. *See* Metro-Goldwyn-Meyer Studios v. Grokster Ltd., 380 F.3d 1154 (9th Cir. 2004), *vacated*, 125 S. Ct. 2764 (2005).

[233] On March 1, 2005, the Court struck down the imposition of the death penalty for those who committed crimes when they were between the ages of sixteen and seventeen. *See* State *ex rel.* Simmons v. Roper, 112 S.W.3d 397 (Mo. 2003), *aff'd sub nom.* Roper v. Simmons, 543 U.S. 551 (2005).

[234] The issue was argued in October 2004, and the Supreme Court issued its ruling in mid-January. *See* United States v. Booker, 543 U.S. 220 (2005). Although the implications of the Booker ruling are being analyzed at length, the Court in a split majority opinion held that the U.S. Sentencing Guidelines ran afoul of the Sixth Amendment right to a jury trial, and the Court rendered them essentially advisory. *See* Tony Mauro, *Sentence Fragment: A Supreme Court Decision Last Week Turned back the Clock 20 Years on Sentencing*, LEGAL TIMES, Jan. 17, 2005, at 1.

[235] *See* Bush v. Gore, 531 U.S. 98 (2000) (ruling on disputed presidential election); Roe v. Wade, 410 U.S. 113 (1973) (finding a constitutional right to abortion in certain circumstances); Miranda v. Arizona, 384 U.S. 436 (1966) (requiring police to inform suspects of certain constitutional rights before an interrogation); New York Times Co. v. Sullivan, 376 U.S. 254 (1964) (creating "actual malice" standard for libel claims involving public official); Gideon v. Wainright, 372 U.S. 335 (1963) (extending right to counsel in criminal cases); Brown v. Bd. of Educ., 347 U.S. 483 (1954) (striking down school segregation).

For all lawyers who must advise clients whose situations involve issues pending before the Court in other cases, the ability to suggest how the Supreme Court might resolve a pending issue is part of comprehensive counseling, and many attorneys already may make private predictions to clients. Tiresias, however, would let lawyers provide these predictions not based solely on their individual guesses but rather on the collective judgment of a group of knowledgeable Supreme Court observers. At the least, this sort of information ought to be desired by most major law firms to advise their clients.

The greater monetary value of Tiresias, however, lies in litigation, particularly settlement negotiations and decisions. In any given year, probably hundreds, if not thousands, of civil disputes and criminal prosecutions are settled that contain issues the Supreme Court may resolve that Term. Parties in these circumstances face the strategic choice of whether to settle a case before the Supreme Court issues its ruling—possibly against one's interest—or whether to wait for the Court to decide the matter.[236] Advance knowledge of what that the Court might do should be valuable in deciding whether to settle or wait for the Court's ruling.[237]

This advance knowledge should be valuable in influencing the amount of any settlement. If the Supreme Court is likely to favor one position, that could be factored into settlement values.[238] If the Supreme Court appears likely to rule against plaintiffs on an issue such as loss causation, class-action certification, or permissible amount of punitive damages, then plaintiffs and their attorneys logically ought to be willing to accept less than they otherwise might in the absence of information about the Supreme Court's likely actions.[239] Conversely, if a defendant faces a claim where the Supreme Court is likely to remove a defense, perhaps by recognizing disparate impact claims under the Age Discrimination in Employment Act[240] or al-

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[236] Even when a Supreme Court ruling is applied only prospectively, the ability of parties to prolong or terminate litigation means that the Court ruling in many circumstances could have an effect in subsequent motions. If a ruling does not apply on a motion to dismiss, for example, it might influence a motion for summary judgment or a motion for judgment notwithstanding the verdict (depending, of course, on the details of the lower-court litigation and the Supreme Court ruling).

[237] *See* Martin et al., *supra* note 7, at 766 (stating that outcomes play a "huge role" in decision to settle or initiate an appeal, and that a reliable predictive model "may benefit practicing attorneys and their clients").

[238] Tiresias is particularly likely to be useful in settlement negotiations because it reduces the danger of mutual optimism—an unrealistic expectation of the likely judgment—which the economics literature identifies as a prime reason that cases fail to settle. *See* Michael Abramowicz, *On the Alienability of Legal Claims*, 114 YALE L.J. 697, 749–50 & n.219 (2005) (describing how mutual optimism may prevent settlement); George Loewenstein et al., *Self-Serving Assessments of Fairness and Pretrial Bargaining*, 22 J. LEGAL STUD. 135 (1993) (same).

[239] *See, e.g.*, Broudo v. Dura Pharm., Inc., 339 F.3d 933 (9th Cir. 2003), *rev'd*, 544 U.S. 336 (2005) (addressing issue of loss causation in securities litigation).

[240] Smith v. City of Jackson, 351 F.3d 183 (5th Cir. 2003), *aff'd on other grounds*, 544 U.S. 228 (2005).

lowing a cause of action for retaliation under Title IX,[241] then the defendant should weigh the costs of an early settlement, before the plaintiffs would be emboldened by favorable outcomes, against the significant costs of continuing to litigate, such as legal fees and discovery burdens. The information can be particularly important in high-dollar securities cases.[242] Considerable numbers of securities lawsuits are filed each year, assessed by attorneys and corporate boards of directors, and frequently settled. Millions of dollars are transferred in these cases, and the transfers are influenced at least partly by how the Supreme Court is likely to decide any relevant securities issues pending before it. Particularly in this context, a better prediction of what the Court is likely to do is worth significant money to companies and plaintiffs' lawyers alike. When one considers that the Court may hear approximately one hundred cases a term, many with monetary ramifications, the financial value of the Tiresias predictions could be considerable.

Beyond the financial value to the bar, Tiresias should prove helpful to the lower courts in providing interim guidance about how the Supreme Court is likely to rule. In some cases, of course, a district court need only follow a controlling ruling by its appellate court until the Supreme Court resolves the issue. In many other cases, however, state or district courts with no controlling authority either must postpone resolution of the issue until the Supreme Court rules or make their own best predictions about what result the Court is likely to reach.[243] On complicated issues, this uncertainty can result in confusion and disagreement among various jurisdictions, all of which imposes its cost on the efficient functioning of the judicial system. The disarray over criminal sentencing before the Supreme Court's ruling on the matter[244] is a striking example of the confusion that can exist before the Court settles an issue,[245] but to a lesser extent, the same confusion exists in any issue on which the Supreme Court has granted certiorari and upon which a trial or appellate court has no controlling legal authority to fol-

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[241] Jackson v. Birmingham Bd. of Educ., 309 F.3d 1333 (11th Cir. 2002), *rev'd*, 544 U.S. 167 (2005).

[242] *See, e.g.*, Cent. Bank of Denver v. First Interstate Bank of Denver, 511 U.S. 164 (1994).

[243] Alternatively, a lower court could just adopt the position it deems most sensible, rather than try to predict the Supreme Court outcome, though that would risk subsequent embarrassment for the lower court if the Supreme Court later rejected the judge's adopted solution.

[244] The Court addressed the matter in *United States v. Booker*, 543 U.S. 220 (2005). The discussion here focuses on the confusion between the grant of certiorari in *Booker* in August 2004 and the subsequent ruling in January 2005. We do not wish to claim too much for Tiresias in this instance, given the vast confusion created by the issue. Not even Tiresias could have allayed all the confusion created by *Blakely v. Washington*, 542 U.S. 296 (2004), and the ultimate result in *Booker* of rendering the Guidelines advisory still may have surprised the legal community (as some dissenting Justices noted in *Booker*). Nevertheless, we suspect that Tiresias accurately would have indicated that the Court was going to apply *Blakely* to the Guidelines.

[245] *See, e.g.*, Laurie P. Cohen, *Double Standard: In Wake of Ruling, Disarray Plagues Federal Sentencing*, WALL ST. J., Dec. 28, 2004, at A1 (discussing problems and uncertainty regarding criminal sentencing pending outcome of Supreme Court ruling).

low.[246] Tiresias will give these lower courts an informed prediction of how the Supreme Court is likely to resolve the issue, which should be helpful for the lower courts to consider.[247] Of course, Tiresias at most would be persuasive information, perhaps analogous in weight to a well-reasoned law review article or amicus brief, and no court would ever be obligated to follow a prediction, but the additional information about the collective judgment of the Supreme Court community might be welcomed by individual judges and law clerks otherwise making predictions on their own.[248] If lower courts must guess about the Supreme Court outcomes, let it be the most informed guess possible.

B. *For the Supreme Court: A Mixed Blessing*

The results of Tiresias for the Supreme Court are likely to be mixed: an advantage to wise policymaking in the short term, but at the risk in the long term of undermining the Court's legitimacy. We begin with the advantages, then consider the long-term consequences to the Court.

1. Toward More Acceptable Law.—From the initial revolt from England, America's founders believed that public power derived from the consent of the governed.[249] Elected federal officials—the President and members of Congress—receive feedback from governed citizens quite fre-

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[246] *See, e.g.*, Life Ins. Co. v. Johnson, 684 So. 2d 685, 706, 713 (Ala. 1996) (Maddox, J., concurring in part and dissenting in part) (complaining in dissent that an issue could not be decided without the benefit of a pending Supreme Court ruling on a similar case); People v. Garcia, 684 P.2d 826 (Cal. 1984) (trying to determine what test the Supreme Court would endorse and making predictions); People v. Hal Lee Flood, 957 P.2d 869 (Cal. 1998) (noting in concurrence that California was still awaiting guidance from the Supreme Court on the issue in *Garcia* fourteen years later); Carl E. Gungoll Exploration Joint Venture v. Kiowa Tribe, 975 P.2d 442 (Okla. 1998) (overturning four cases where the state supreme court had not predicted a ruling); Sheehy v. Dep't of Revenue, 820 P.2d 1257 (Mont. 1991) (arguing about whether state supreme court had erred in not predicting outcome of U.S. Supreme Court ruling). In other cases, the state courts wait for the Supreme Court to rule. *See, e.g.*, Smith v. Regents of Univ. of California, 844 P.2d 500, 505 (Cal. 1993); Rushing v. Wayne County, 462 N.W.2d 23, 28 (Mich. 1990).

[247] To the extent that sufficient numbers of judges and clerks wish to participate, it would be possible to establish an information market solely for them, perhaps sponsored by the Administrative Office of the U.S. Courts. Yet while Tiresias welcomes judicial participation—judges are among the ultimate wolves—we suspect, for reasons discussed above regarding cognitive diversity, that the contributions from the specialized Supreme Court bar and press corps will add value to whatever predictions judges might make on their own.

[248] Although Tiresias would benefit from the prediction of lower court judges and law clerks, the program also could be established to create a judicial exception to the requirement that one must vote to learn of a Tiresias prediction. If this was adopted, it also would let the Supreme Court learn of predictions without having to enter a vote, which might be warranted given its special situation and need to avoid tipping off the information market.

[249] *See* THE DECLARATION OF INDEPENDENCE para. 2 (U.S. 1776).

quently, either through opinion polls or through periodic elections.[250] Supreme Court Justices currently have life tenure,[251] however, and thus, at least in theory, need not care at all how the public views their rulings.

In fact, the Justices appear to care a great deal about public opinion.[252] Empirical studies have demonstrated the correlation between the public opinion on controversial issues and how the Court has ruled on those issues over time.[253] These studies "indicate the existence of a reciprocal and positive relationship between long-term trends in aggregate public opinion and the Court's collective decisions."[254]

Commentators have argued that the Justices seek to maintain the public's favorable view of the judicial branch by reflecting public opinion in Supreme Court rulings.[255] In part, the Justices must rely on other branches to enforce their decisions, and the best way to legitimate the authority of the Court is to have the support of the majority.[256] In addition, Justices have reputational incentives to follow public opinion.[257] Awards, honors, and praise from the public as well as legal commentators and practitioners all strengthen a Justice's good reputation.[258] In this way public opinion also contributes to a particular Justice's legacy, and how the Justice will be viewed after he or she has left the bench.[259]

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[250] *See, e.g.*, U.S. CONST. art. I, § 2 (describing election requirement for members of House of Representatives); *id.* art. II, § 2 (describing election process for President); *id.* amend. XVII (providing for direct election of senators).

[251] *See generally id.* art. III, § 1 (stating that Justices shall hold their offices "during good Behavior"). There is some intellectual discussion in the academy about whether such life tenure best serves the nation. *See, e.g.*, Charles S. Collier, *The Supreme Court and the Principle of Rotation in Office*, 6 GEO. WASH. L. REV. 401, 418–19 (1938) (proposing a twelve-member Supreme Court with staggered, nonrenewable twelve-year terms for the Justices); James E. DiTullio & John B. Schochet, Note, *Saving This Honorable Court: A Proposal to Replace Life Tenure on the Supreme Court with Staggered Nonrenewable Eighteen-Year Terms*, 90 VA. L. REV. 1093, 1096–97 (2004); Sanford Levinson, *Contempt of Court: The Most Important "Contemporary Challenge to Judging,"* 49 WASH. & LEE L. REV. 339, 341–42 (1992) (suggesting limiting Supreme Court Justices to terms of eighteen years); Tony Mauro, *Profs Pitch Plan for Limits on High Court Service*, LEGAL TIMES, Jan. 3, 2005, at 1.

[252] *See generally* William Mishler & Reginald Sheehan, *The Supreme Court as a Countermajoritarian Institution?: The Impact of Public Opinion on Supreme Court Decisions*, 87 AM. POL. SCI. REV. 87 (1993); Jeffrey Segal & Helmut Norpoth, *Popular Influence on Supreme Court Decisions*, 88 AM. POL. SCI. REV. 711, 716 (1994).

[253] *See* Thomas W. Merrill, *The Making of the Second Rehnquist Court: A Preliminary Analysis*, 47 ST. LOUIS U. L.J. 569 (2003).

[254] Mishler & Sheehan, *supra* note 252, at 87.

[255] *See* Barry Freidman, *Mediated Popular Constitutionalism*, 101 MICH. L. REV. 2596, 2611 (2003).

[256] *Id.*

[257] Merrill, *supra* note 253, at 629–30; *cf.* William G. Ross, *The Ratings Game: Factors That Influence Judicial Reputation*, 79 MARQ. L. REV. 401 (1996) (discussing judicial reputation generally).

[258] Merrill, *supra* note 253, at 629.

[259] *Id.* The tangible benefits come in the way of expense-paid speaking engagements and being treated with deference in and out of the courtroom.

In his book, *The Supreme Court: How It Was, How It Is,* the late Chief Justice Rehnquist discussed the role that public opinion plays in Supreme Court decisionmaking.[260] Rehnquist referred to several cases where public opinion was a definite factor in the outcome of a ruling. Although he commented that generally the Justices did not "tremble before public opinion,"[261] he argued that, in a case where there is no legal precedent, it would be appropriate to take public opinion into consideration.[262]

Of course, citizens may disagree about whether it is desirable that public opinion influence the Court. One might argue that the founders intended the judiciary to be insulated from prevailing political views, and to the extent the Court listens closely to others' expectations in reaching its legal conclusions, it drifts from its duty to interpret the law independently. Certainly few scholars would defend a Court that routinely decided legal matters based on current opinion polls instead of precedent and other traditional forms of legal authority.

Without getting mired in this broader debate about the proper degree to which public opinion ought to influence the Court, we wish to make a narrower point that information from Tiresias provides a qualitatively different form of information to the Court than would be obtainable from traditional public opinion polls. Most obviously, Tiresias's den of wolves is a far more knowledgeable group than a representative sampling of the American public. Pollsters will be unlikely to call ordinary citizens at home to ask about their views on *Chevron* deference.[263] In a sense, Tiresias is the poll of those individuals most able to understand the issue the Court is facing, which gives its data more significance. Perhaps more important, Tiresias is a predictive rather than a normative poll; the goal is not to try tell the Justices how to cast their votes, but only to predict how they are likely to do so. The Justices have no lack of citizens willing to tell them what to do—they need only look out their windows at the frequent protestors on their plaza[264]—but knowing the expectation of the legal community is a different sort of knowledge: more disinterested, focused on actual expectations, and coming from more consequential actors—the attorneys who will interpret and administer the Court's ruling.

If the Supreme Court cares about trying to avoid shocking the legal community, and one presumes that it does, just as corporations prefer to avoid shocking the market with unexpected financial results,[265] Tiresias will

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[260] Joseph S. Larisa, Jr., *A Supreme Court Primer for the Public*, 1988 DUKE L.J. 203 (reviewing WILLIAM H. REHNQUIST, THE SUPREME COURT: HOW IT WAS, HOW IT IS (1987)).

[261] *Id.* at 205 (citation omitted).

[262] *Id.* at 205, 209–10.

[263] Chevron U.S.A., Inc. v. Nat'l Res. Def. Council, Inc., 467 U.S. 837 (1984).

[264] *See, e.g.*, Karlyn Barker, *After 32 Years, Roe Remains a Lightning Rod*, WASH. POST, Jan. 23, 2005, at C1 (discussing current protests at the Court by activists on both sides of the abortion debate).

[265] *See infra* note 280 (discussing analogy between earnings announcements and Supreme Court predictions).

tell the Court how much its ruling will surprise Court observers. If the Tiresias voting is fairly closely split, the Court can conclude that the issue is unpredictable and no one particular outcome will be too surprising. On the other hand, if a substantial majority of Tiresias votes suggest one outcome, such a weight of authority by informed observers ought to merit the Court's attention as it ponders how to rule.

The type of attention from the Court would likely vary with the nature of the prediction and the actual outcome. If the Tiresias expectation is consistent with the Court's planned decision, the Court can be comforted that the decision will not deeply shock its core constituents. All lawyers still may not agree with the Court's result, but at least the outcome is expected, and individuals and institutions have had time to plan for the unfavorable ruling and take whatever responsive actions might be possible.[266]

Conversely, if Tiresias indicates that a Court ruling is going to surprise the legal community, that fact will provide an advance warning to the Court of an unexpected and controversial conclusion, a warning that is not always present now. For example, the uproar after *Blakely v. Washington* over the possibility of the unconstitutionality of the U.S. Sentencing Guidelines apparently surprised some Court members,[267] prompted a rapid grant of certiorari,[268] and attracted congressional concern about the decision's effect on the criminal justice system.[269] If Tiresias could prevent the Court from walking blindly into such a controversy in the future, that information should be valuable.

More broadly, if a divergence exists between a strong Tiresias prediction and how the Court intends to rule, a responsible Court might wish to consider why so many knowledgeable legal observers expect a different outcome. If the case involves an unpredictable swing vote going one way rather than another in a closely divided constitutional case involving abortion or affirmative action, the confusion could be easily explained. But particularly in more nonpolitical or technical areas, such as statutory construction in patent law or tax law, a strong Tiresias prediction contrary to how the Court intends to rule may suggest that the Court's intended rul-

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[266] For example, such advance measures might range from settlement of a lawsuit by a corporation in advance of the Court ruling to the drafting of potential legislation in Congress to clarify a statutory issue before the Court.

[267] *See* Lyle Denniston, *Justices Agree to Consider Sentencing*, N.Y. TIMES, Aug. 3, 2004, at A14 (stating that Justice Sandra Day O'Connor had indicated that *Blakely* "looks like a No. 10 earthquake").

[268] *See, e.g.*, Tony Mauro, *Sentencing Controversy Back at High Court*, LEGAL TIMES, Aug. 2, 2004, at 1. The ultimate decision was issued in *United States v. Booker*, 543 U.S. 220 (2005).

[269] *See, e.g.*, Brief of Amici Curiae the Honorable Orrin G. Hatch, Honorable Edward M. Kennedy, and Honorable Dianne Feinstein, United States. v. Booker, 543 U.S. 220 (2005) (Nos. 04-104, 04-105), *available at* 2004 WL 1950640; Orrin G. Hatch, *Don't Throw Justice Into Chaos*, LEGAL TIMES, Oct. 4, 2004, at 62.

ing may be mistaken, or at least that it will be widely viewed as mistaken.[270] The Supreme Court, after all, is a small group of decisionmakers, and like any small group, it faces the risks of groupthink, information cascades, limited data and experiences, and even ideological bias.[271] Given these limitations of any small group, Tiresias provides the Justices with an opportunity to "reality check" their conclusions against the expectation of a larger and more diverse legal community. Such feedback can occur after a Court ruling, of course, but at that time, the feedback is of less help, given the Court's reluctance to overrule even controversial prior decisions.[272] If a decision is going to shock the legal community, it is better that the Justices know beforehand. Perhaps it may lead some Justices to change their votes, but even if the result does not change, the Court can devote more time in its opinion to explaining what will be a surprising result, and thus a longer, more thorough opinion may produce increased acceptance of a controversial result.[273]

More subtly, the effect of Tiresias over the long term may be, at least somewhat, to diffuse public criticism of the Court if the unpopular conclusion is disclosed gradually over time by Tiresias rather than all at once by the Court. That is not to say that various constituencies—ranging from Congress to the President to the protestors outside the Court—will not continue to disagree with certain opinions. Rather, it is to suggest that a disappointment spread out over time, as the votes on Tiresias begin to pile up against one's favored outcome, may be less upsetting than a sudden unex-

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[270] We acknowledge that it may be controversial to suggest that the Court might be objectively "mistaken" when its ruling on any given topic is typically final. Yet finality is not the same as infallibility in reaching legal conclusions that are either technically correct or in the nation's best interest. Particularly given the limited ability for society to correct a Supreme Court ruling (often limited to a constitutional amendment), the need for carefully considered Court decisions is all the more critical.

[271] As examples of troubling Court decisions, consider *Dred Scott v. Sandford*, 60 U.S. 393 (1856) and *Lochner v. New York*, 198 U.S. 45 (1905). Our point here is not to heap additional criticism on earlier courts—no doubt future centuries, whether liberal or conservative, will have their own criticisms of some current decisions. Rather, we wish to make the narrower point that Justices sometimes can become blinded by their politics, and the Court as an institution can be harmed as a result. If so, some outside warning that such a situation may be developing could be valuable to the Court.

[272] *See, e.g.*, Planned Parenthood v. Casey, 505 U.S. 833 (1992) (refusing to overrule *Roe v. Wade* and stressing the importance of stare decisis).

[273] *See* Martha J. Dragich, *Will the Federal Courts of Appeals Perish if They Publish?: Or Does the Declining Use of Opinions to Explain and Justify Judicial Decisions Pose a Greater Threat?*, 44 AM. U. L. REV. 757 (1995).

> The published judicial opinion is the "heart of the common law system." . . . [A] legal system's existence cannot be recognized "until the decisions of its courts are regularly published and are available to the bench and bar." To the extent our "law" is embodied in precedents, published opinions are the authoritative sources of law. Indeed, stare decisis cannot operate in the absence of published opinions. . . . Courts ensure the legitimacy of their decisions by preparing and publishing opinions that explain and justify their reasoning. And judges and lawyers are utterly dependent upon published opinions to research, evaluate, argue, and decide cases—the most basic of legal tasks.

Id. at 758–59 (footnote omitted).

pected blow for which one has little time to prepare. Just as corporations sometimes warn the market about unfavorable news in advance of an earnings statement,[274] Tiresias might perform that function in a political context, alerting the other governmental branches and interest groups to an approaching undesired outcome and allowing them to adjust to the possibility. Will this reduce hostility toward the ultimate Court ruling? It would do so at most only in part, but sometimes even marginal changes in public perception can have significant consequences, both for the Court and for the political leaders who respond to it.

2. *Undermining Mythos?*.—Tiresias offers its benefits to the Court, but, like most oracles, it probably also will exact a price for this knowledge: the potential diminution of the Court's prestige and legitimacy. The Court's power is special and inherently somewhat precarious.[275] The Supreme Court derives much of its power from an idea: that unelected judges can interpret the Constitution with a moral authority to which the political branches should defer.[276] Underlying this idea are the presumptions that the Justices engage in a sort of unbiased search for legal truth, pondering the legal issues dispassionately and reaching their enlightened conclusions. This sort of mythos is obviously subject to critique,[277] but our point here is to consider the effect that accurate Tiresias predictions might have on this perception of the Supreme Court.[278]

At first glance, the predictability of a Supreme Court decision might not entail any loss of prestige. In other contexts, the fact that an event is easily predicted need not diminish respect for those who perform it. The Chair of the Federal Reserve Board predictably will be concerned about preventing rampant inflation,[279] the Securities and Exchange Commission

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[274] *See, e.g.*, Karen Talley, *Intel's Gain Lifts Chip Sector: HCA, Triad Hospitals Advance*, WALL ST. J., Jan. 13, 2005, at C2 (stating that UPS's stock fell 7.4% after warning that fourth-quarter earnings would not meet previous expectations).

[275] In contrast, under the Constitution, Congress can tax, spend, and legislate; the President can command troops and agencies. *See* U.S. CONST. art. I, § 8 (enumerating congressional powers); *id.* art. II, § 2 (enumerating presidential powers).

[276] *See generally* Marbury v. Madison, 5 U.S. (1 Cranch) 137 (1803).

[277] Obviously this model of judicial behavior is subject to challenge, as a number of scholars have noted. *See supra* Part II.A.

[278] One commentator has begun to ask similar questions in response to the Washington University Study. As she describes, in "our deference to the Court's judgments, we experience a kind of chivalrous love—remote, solemn, and unsullied. . . . How might computer prediction of Court decisions displace this complex, romantic, yet powerful engagement with law?" Susan S. Silbey, *The Dream of a Social Science: Supreme Court Forecasting, Legal Culture, and the Public Sphere*, 2 PERSP. ON POL. 785, 785 (2004).

[279] *See generally, e.g.*, Fed. Reserve Bd., Frequently Asked Questions, http://www.federalreserve.gov/generalinfo/faq/faqmpo.htm (last visited Jan. 19, 2006) ("Using the monetary policy tools at its disposal, the Federal Reserve can promote an environment of price stability and reasonably damped fluctuations in overall economic activity that helps foster the health and stability of financial institutions and markets.").

predictably will investigate allegations of insider trading,[280] and doctors predictably will discourage cigarette smoking. In these instances and in many others, the fact that we know what to expect is not only undisturbing but even comforting. Who would welcome doctors telling their patients who smoke not to worry about lung cancer?

Nevertheless, it still feels as if Tiresias, in a sense, would be intruding into the Court's private chambers.[281] If Supreme Court decisions can be accurately foretold in advance by an information market, is it still possible that the Justices are engaged in dispassionate legal adjudication that warrants deference from the Congress, the President, and the population? Or does predictability somehow diminish the Court? On the one hand, it may seem so if the Court could appear to be reduced in most cases to taking the final official step of promulgating what an information market already knew would occur. On the other hand, such predictability on legal questions can be valuable and respected; some might even call it the rule of law.

These are questions that are difficult, if not impossible, to answer in the abstract. The ultimate answers will come once a predictive model such as Tiresias begins to operate and its predictions begin to attract attention. Before then, however, it will be significant how the Supreme Court reacts to the prospect of citizens organizing to predict its rulings. Will the Court welcome Tiresias? If Tiresias cannot be ignored, will the Court discourage it? To the extent that the Court is the most accurate judge of its long-term interests, its reaction to the possibility of prediction markets may provide the clearest initial answer about what effect Tiresias may have on the mythos at the heart of the Supreme Court's authority.

C. Moving into the Future: Tiresias as a Bridge

A successful Tiresias will significantly advance the application of information markets and serve as a bridge to further expansion of this exciting new field. Discussed below are the ways in which Tiresias can add to the development of this technology.

1. Learning from DARPA and Taking the Next, Intermediate Step.—

As discussed above, the advancement of information markets suffered a setback with the congressional rejection of DARPA's Policy Analysis

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[280] *See, e.g.*, SEC, The Investor's Advocate: How the SEC Protects Investors and Maintains Market Integrity, http://www.sec.gov/about/whatwedo.shtml (last visited Jan. 19, 2006) ("Each year the SEC brings between 400–500 civil enforcement actions against individuals and companies that break the securities laws. Typical infractions include insider trading, accounting fraud, and providing false or misleading information about securities and the companies that issue them.").

[281] Indeed, in one mythological account, the original Tiresias saw the goddess Athena when she was naked. The angry Athena blinded him, and his gift of prophecy was given as compensation. *See* BULFINCH, *supra* note 4, at 183.

Market ("PAM").[282] Although the congressional opposition certainly has its critics,[283] we want to focus here on why Tiresias should avoid these problems and explore ways in which Tiresias might help overcome the setback created by PAM's demise.

As discussed above,[284] PAM encountered political problems and had to be abandoned.[285] We hope and expect that Tiresias will avoid this fate. Predicting Supreme Court outcomes is not as emotionally charged as predicting terrorism. In addition, there already exists a noncontroversial academic tradition of attempting to predict Supreme Court decisions, such as the efforts of the Washington University researchers.[286] Additionally, the participants in Tiresias likely will be informed and responsible analysts, if not leaders of the legal system, thereby reducing the likelihood that their efforts will be viewed as irresponsible.

By avoiding this political controversy and producing accurate results, Tiresias should serve as an intermediate step in the development of information markets, both with regard to the frequency of predicted events and with the frequency of feedback regarding the accuracy of predictions. With regard to number of predicted events, the IEM have shown their worth in predicting presidential elections,[287] but presidential elections come only every four years, which limits their usefulness as a means of assembling a large amount of data on predictions, the abilities of information markets, and problems that arise in administering such markets. Presidential elections were a good beginning, but the next step in the development of this technology calls for a larger project.

On the other extreme, the largest sort of "information market"—the world's financial exchanges—may be too big to analyze and understand completely. Stock markets offer vast opportunities to trade on one's prediction of the future of a company, but making such a prediction is an extraordinarily difficult task,[288] results may not be fully clear for decades, and short-term profits or losses may have no connection to genuine predictive ability.[289] Ultimately, the stock markets may be too large to demonstrate easily the predictive capabilities of information markets. An arena that is smaller and more bounded is needed.

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[282] *See, e.g.*, Hanson, Impolite Innovation, *supra* note 12, at 14 ("A revival of decision markets in the public sector will likely have to wait for a new generation of politicians, or perhaps some stunning successes with these mechanisms in the private sector.").

[283] *See, e.g., id.* Hanson was personally involved in designing the DARPA project.

[284] *See supra* notes 139–146 and accompanying text.

[285] We suspect this setback, even with predicting terrorism, is only temporary. Eventually, as information markets gain broader public acceptance, the military may be able to use them in the manner that Professor Hanson envisioned.

[286] *See* Ruger et al., *supra* note 92.

[287] *See supra* notes 35–41 and accompanying text.

[288] *See* SUROWIECKI, *supra* note 28, at 234–35.

[289] *See, e.g.*, BERNSTEIN, *supra* note 178, at 75–82 (discussing randomness in market returns).

Tiresias is a good fit for this next stage in the development of information markets as the technology moves from a limited number of markets to a potentially vast application in the future. In a Term of cases, the Supreme Court will offer about one hundred opportunities for prediction, with all results being provided in less than a year when the Court issues its rulings.[290] This allows for a significantly expanded application of information markets, but within a bounded realm where predictions can be quickly ascertained and administrative techniques can be refined on a variety of case studies.

We hope that Tiresias's successes in this new area will allow for the refinement of the administration of information markets, create favorable publicity for such undertakings and their accuracy, increase public comfort in the idea of prediction efforts (even on the frequently controversial cases addressed by the Supreme Court), and generally provide an opportunity to advance the development of this important field of analysis.[291] To avoid losing significant momentum following PAM's political rejection, the field of information markets needs a quick and important victory. For the reasons discussed above, we think Tiresias may be able to provide this.

2. *Moving Beyond Tiresias.*—Beyond Tiresias, the challenge for the development of information markets is to identify areas likely to have quick and accurate results, succeed in attracting participants, and avoid the political controversy that stopped PAM.[292] In doing so, it may be helpful to focus on narrow subject areas that provide a high-dollar return on predictive knowledge to attract talented participants but that are sufficiently technical to avoid political controversy.

A particularly promising area for information markets might be that of securities law and regulation. The field has a limited number of actors[293] but has knowledgeable participants comfortable with the idea of markets and a potentially high monetary value for predictive information.[294] What is the likelihood that the SEC will pass a certain proposed regulation? How

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[290] Margaret Meriwether Cordray & Richard Cordray, *The Supreme Court's Plenary Docket*, 58 WASH. & LEE L. REV. 737, 745–46 (2001) (discussing size of docket, and how, in recent years, the number of cases heard averages to approximately one hundred); Margaret Meriwether Cordray & Richard Cordray, *The Calendar of the Justices: How the Supreme Court's Timing Affects Its Decisionmaking*, 36 ARIZ. ST. L.J. 183 (2004) (discussing timing of opinions generally).

[291] There are other potential applications for using Tiresias in a pedagogical setting. One constitutional law class could have its predictions compared against another, using an internal submarket. Similarly, law schools could compete to see whose students are best at making predictions.

[292] One idea is an information market focusing on the grant of certiorari. The successes of these legal information markets would lay the groundwork for more controversial applications in the future, of course, once government and the public have become more comfortable with information markets and more appreciative of what they can accomplish.

[293] The primary actors are publicly traded corporations with easily identifiable interests, plaintiffs' attorneys who also have easily identifiable interests, the courts (particularly in Delaware), and the SEC.

[294] The higher monetary value helps attract knowledgeable traders and provides an incentive to participate.

likely is a Delaware court to adopt a certain standard of care for directors?[295] Whereas Tiresias will be an information market centered on the institution of the Supreme Court, this securities-law information market ("Midas," perhaps?) will be based on a discrete subject area.

Beyond the area of securities law, information markets can be expanded to the consideration of congressional action. For example, what is the likelihood of certain tort-reform proposals, such as national damage caps?[296] Undoubtedly groups such as the U.S. Chamber of Commerce, American Medical Association, or American Trial Lawyers Association would like to know, if only to focus limited lobbying resources. An information market on these types of questions would also allow national organizations such as large trade associations to benefit from the aggregated knowledge of their members about what lobbying efforts are most likely to succeed.[297] More broadly, any heavily regulated industry might wish advance knowledge of what government actions might occur, and thus it would have an incentive to develop and implement such information markets. Tiresias may lead the way with the Supreme Court, but if it proves successful, a host of similar projects should follow in various specialized subject areas.

3. *How Much Do We Humans Really Know?*.—In addition to legal or political uses, information markets provide an opportunity to ascertain how

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[295] *In re* Walt Disney Co. Derivative Litig., 825 A.2d 275 (Del. Ch. 2003) (leading case on good faith in Delaware); Sean J. Griffith, *The Good Faith Thaumatrope: A Model of Rhetoric in Corporate Law Jurisprudence* (Dec. 17, 2004) (unpublished manuscript), *available at* http://ssrn.com/abstract=571121 (describing and analyzing standard of "good faith" as used by the Delaware courts). Other commentators have discussed predictions of the Delaware equity courts:

> In the oral agreement before the Delaware Supreme Court in *QVC*, after Justice Moore admonished counsel that the Court does not use terms like "Revlon-land," in a stage whisper he quipped further that "at least that is what I tell my students." Trying to discern the future path of Delaware corporate law from such judicial banter is undoubtedly folly, but predicting developments in Delaware law has always been a somewhat foolish enterprise. Many learned commentators have written careful and lucid analyses predicting the trend of Delaware case law, only to have doctrinal prognostications shattered by the next big case. Predicting the course of Delaware law from prior case law is like watching clouds. They seem, at times, to take on recognizable shapes and forms, even to resemble something familiar. But you know that whatever shapes you think you see can vanish in a puff of wind.

Lawrence A. Cunningham & Charles M. Yablon, *Delaware Fiduciary Duty Law After* QVC *and* Technicolor: *A Unified Standard (and the End of* Revlon *Duties?)*, 49 BUS. LAW. 1593, 1625–26 (1994) (citation omitted).

[296] *See, e.g.*, David Rogers, *Legislation to Shift Cases from State to Federal Court Builds Bipartisan Support*, WALL ST. J., Jan. 25, 2005, at A1 (describing ongoing debate over tort reform).

[297] This could be an improvement on traditional polling because it could cheaply include a broader voter pool, and given the structure of the information market, allow changes in participant opinion to reflect newly obtained data. It also might allow a national organization quickly to obtain feedback from its constituent members on the strategic wisdom of pursuing a certain lawsuit, such as the Chamber of Commerce's challenge to the SEC's authority to promulgate rules regarding independent members on mutual-fund boards of directors. *See* Judith Burns, *SEC Wants Chamber to Back off*, WALL ST. J., Jan. 17, 2005, at C13.

much we humans, working collectively, truly know. The results may be surprising, particularly if viewed in comparison with machine intelligence and nature where human knowledge often appears scant.

Consider, for example, the game of chess, a sophisticated challenge that presents analogies to other strategic undertakings such as foreign relations and business competition. In 1997, IBM's chess computer Deep Blue beat Gary Kasparov, the top human player.[298] Where even a human as talented as Kasparov fails in isolation, might information markets allow fifty human chess masters working collectively to beat the machine? It is possible that the humans will pull in different directions, fail to develop a coherent strategy, and be trounced. Alternatively, it is possible that the collective chess mind may be stronger than any single player and beat the machine. Distributed processing allows computers to succeed at extremely difficult tasks; might information markets in effect allow human agents to do the same? The answer seems worth discovering, particularly when information markets may have potential application in other strategic endeavors ranging from business competition to military planning to economic decisionmaking.[299]

More broadly, information markets, including Tiresias, provide an epistemological tool to ascertain the limits of human knowledge. That is, applying information markets lets us determine what we know collectively and—in some ways just as important—what we do not know, no matter how much information is aggregated. Presidential elections, Supreme Court decisions, and even future business earnings are fundamentally human endeavors. How effectively might information markets be at predicting natural events like hurricanes, droughts, or epidemics?[300] If they fail, perhaps that is only to be expected. What mortals can presume to know the mind of God? But what if such predictions prove accurate?

In the broadest sense, the overall knowledge of a society is a type of information market—the "marketplace of ideas," as it is sometimes called.[301] As people cooperate and share ideas, the collective wisdom and accom-

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[298] *See* Paul Hoffman, *Who's Best at Chess?: For Now It's Neither Man nor Machine*, N.Y. TIMES, Feb. 8, 2003, at B2 (describing current status of competition between humans and chess computers and indicating that Kasparov believes that, in a few years, machines will be completely dominant); Seth Schiend, *With Goggles and a Joystick, Kasparov Takes on 'Fritz,'* N.Y. TIMES, Nov. 13, 2003, at G5; Robert Byrne, *Chess; Game 2: Machine Bites Man. Game 3: Kasparov Bites Back*, N.Y. TIMES, Nov. 30, 2003, § 1, at 145 (describing Kasparov's draw in competition against Fritz).

[299] *Cf.* Benkler, *supra* note 130, at 375.

[300] Efforts in these areas are already under way. *See, e.g.*, Marilyn Chase, *Some Tricks of the Futures Trade Could Help Predict Flu Outbreaks*, WALL ST. J., Oct. 8–9, 2005, at B4; Denise Kalette, *New Futures Market Gambles on Hurricanes*, ABCNEWS.COM, July 19, 2005, http://abcnews.go.com/Technology/wireStory?id=953448&CMP=OTC-RSSFeeds0312&ad=true.

[301] *See generally* Abrams v. United States, 250 U.S. 616, 627–28 (1919) (Holmes, J., dissenting) ("[T]he best test of truth is the power of the thought to get itself accepted in the competition of the market, and that truth is the only ground on which their wishes safely can be carried out.").

plishment grows.[302] But if conclusions remain isolated in individual minds, society may remain unaware about what its collective wisdom truly knows. Applying information markets such as Tiresias, we may begin to find out, and in doing so, fulfill the ancient admonition of the Oracle of Delphi: Know Thyself.

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[302] *See generally* ROBERT WRIGHT, NON ZERO (2000) (discussing an apparent historical trend toward greater complexity and communal interaction).