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Uncertainty, Complexity, and Regulatory Design

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ARTICLE

UNCERTAINTY, COMPLEXITY, AND REGULATORY DESIGN

Adam I. Muchmore

ABSTRACT

This Article develops an analytic framework for understanding the role of uncertainty in regulatory design. It begins by differentiating between three types of uncertainty: legal uncertainty, factual uncertainty, and uncertainty about the application of law to fact. This framework highlights the pervasiveness of factual uncertainty and law-fact uncertainty in daily affairs. Viewed through this framework, legal uncertainty is less problematic than it is typically thought to be.

The Article then focuses on legal uncertainty, examining it from two perspectives: the relationship between rules and standards, and the relationship between simplicity and complexity. It suggests that there are fundamental limits on the amount of certainty in any regulatory system. These include limits of internal consistency, limits created by the pressure for justice in the individual case, and limits created by the tendency of additional complexity—past a certain point—to decrease, rather than increase, the certainty of legal requirements.

Before concluding, the Article sets out four propositions about the relationship between legal uncertainty and regulatory design. First, pockets of legal uncertainty are often a desirable

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characteristic of regulatory systems. Second, in any particular regulatory field, large swings over time between high levels of certainty and uncertainty are likely to be less desirable than a consistent, moderate level of legal uncertainty. Third, arguments for legal certainty are rarely distributionally neutral and are often window dressing for what are fundamentally distributional arguments. Fourth, uncertainty about the content of future legal requirements is qualitatively different from uncertainty about the application of existing legal requirements. It is beyond the scope of this Article to explore these propositions in detail. However, the ability to identify them suggests the value of having a solid analytic framework for understanding the role of uncertainty in regulatory design.

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practical role that legal uncertainty plays in regulatory systems. This practical focus puts the emphasis on understanding the effect legal uncertainty has on primary behavior—the actions that subjects of regulation take before they know whether they will be involved in a particular, concrete dispute.⁴

A prominent view in the opinions issued by courts,⁵ the extrajudicial writing of prominent jurists,⁶ the work of leading

outcome-based regulation, and tort law. *Id.* at 382–85. In other words, “regulation” in this Article does not refer solely (or even primarily) to formal and informal rulemaking by executive agencies.

4. This focus on primary behavior deemphasizes the role of judicial decisions in actual, litigated disputes. This is important because actual, litigated disputes may be highly unrepresentative of the broader range of legal disputes. *See generally* George L. Priest & Benjamin Klein, *The Selection of Disputes for Litigation*, 13 J. LEGAL STUD. 1 (1984); *see also* Steven Shavell, *Any Frequency of Plaintiff Victory at Trial Is Possible*, 25 J. LEGAL STUD. 493, 495, 498–501 (1996) (challenging a separate aspect of the Priest-Klein model, but praising its “general and original conclusion that cases that go to trial are unrepresentative of settled cases”). This Article emphasizes instead the way primary actors can be expected to respond—often outside of court—to situations in which the law is uncertain.

5. *See, e.g.*, *Comm’r v. Coronado Oil & Gas Co.*, 285 U.S. 393, 406 (1932) (Brandeis, J., dissenting) (“[I]n most matters it is more important that the applicable rule of law be settled than that it be settled right.”); *see also* *Kyllo v. United States*, 533 U.S. 27, 40 (2001) (“That line . . . [for permitted surveillance of a home] must be not only firm but also bright—which requires clear specification of those methods of surveillance that require a warrant.”); *Williams v. North Carolina*, 317 U.S. 287, 323–24 (1942) (Jackson, J., dissenting) (observing that when the Court follows bad precedents as a matter of *stare decisis* “[c]onsistency and stability may be so served” and those things are “desirable in themselves, for only thereby can the law be predictable to those who must shape their conduct by it and to lower courts which must apply it”); *Roessler v. Novak*, 858 So. 2d 1158, 1163 (Fla. Dist. Ct. App. 2013) (Altenbrand, C.J., concurring) (“The uncertainty of the current system, however, does not work.”).

6. *See, e.g.*, HENRY J. FRIENDLY, *THE FEDERAL ADMINISTRATIVE AGENCIES: THE NEED FOR BETTER DEFINITION OF STANDARDS* 5–6 (1962) (criticizing “the failure to develop standards sufficiently definite to permit decisions to be fairly predictable and the reasons for them to be understood”); ANTONIN SCALIA & BRYAN A. GARNER, *READING LAW: THE INTERPRETATION OF LEGAL TEXTS* 18–20, 414 (2012) (asserting that proper judicial use of textualism would mean that “over time the law will be more certain, and the rule of law will then be more secure”); Frank H. Easterbrook, *Discovery as Abuse*, 69 B.U. L. REV. 635, 644 (1989) (“Legal uncertainty is the godfather of discovery abuse. Uncertainty comes not only from nebulous rules in traditional subjects such as torts and contracts but also from attempting to handle in the courts, problems amenable to no simple solution.”); Antonin Scalia, *The Rules of Law as a Law of Rules*, 56 U. CHI. L. REV. 1175, 1179 (1989) (“Predictability, or as Llewellyn put it, ‘reconability,’ is a needful characteristic of any law worthy of the name. There are times when even a bad rule is better than no rule at all.” (internal footnote omitted)); Bryan A. Garner, *How Nuanced Is Justice Scalia’s Judicial Philosophy? An Exchange*, NEW REPUBLIC (Sept. 9, 2012), <https://newrepublic.com/article/107001/how-nuanced-justice-scalias-judicial-philosophy-exchange> (“What motivated Justice Scalia and me to write this ambitious book was our desire to bring clarity to what has become the most muddled aspect of judicial decision-making: interpretation.”).

law-reform organizations,⁷ the business press,⁸ the academic world,⁹ and political debate¹⁰ is that legal uncertainty is a

7. Two of the best known law reform organizations are the American Law Institute (ALI) and the Uniform Law Commission (ULC). The ALI's certificate of incorporation states that one of the organization's primary goals is to "promote the clarification and simplification of the law." Am. Law Inst., *Certificate of Incorporation* (Feb. 23, 1923), reprinted in 81 A.L.I. PROC. 501, 501 (2004), https://www.ali.org/media/filer_public/10/62/106284da-ddfe-4ff4-a698-0a47f268ee4c/certificate-of-incorporation.pdf. Likely the best-known work of the ULC is the Uniform Commercial Code (UCC). The UCC states that its "purposes and policies" include "to simplify, clarify, and modernize the law governing commercial transactions." U.C.C. § 1-103(a)(1) (AM. LAW INST. & UNIF. LAW COMM'N 2013).

8. See, e.g., *The Dodd-Frank Act: Too Big Not to Fail*, ECONOMIST, Feb. 18, 2012, at 22, <http://www.economist.com/node/21547784> (criticizing numerous aspects of the Dodd-Frank Act and its implementation, including discretion granted to regulators by complex—but still vague—statutory provisions); Jamie Whyte, Opinion, *David Cameron vs. The Rule of Law: The Prime Minister's Energy-Price Activism Will Lead to More Crony Capitalism*, WALL ST. J. (Eur.) (Oct. 28, 2012, 2:28 PM), <http://www.wsj.com/articles/SB10001424052970203897404578076762840352532> (using a regulatory intervention on energy pricing to argue generally against government interventions in the economy that erode certainty in "the rules of the game").

9. See, e.g., GERALD J. POSTEMA, BENTHAM AND THE COMMON LAW TRADITION 291 (1986) ("In Bentham's view, the greatest virtue of a rule of law (at least with respect to its form) is that it be public, determinate, and as a result certain and predictable in its application. Only under these conditions, so the argument goes, can it be said to be binding, because only under these conditions could it effectively guide action."); Martha A. Field, *The Uncertain Nature of Federal Jurisdiction*, 22 WM. & MARY L. REV. 683, 684 (1981) ("In many cases, . . . federal jurisdictional rules are extraordinarily unclear. They are also extremely complex. And it is not obvious what policy the complexities fulfill."); Gideon Parchomovsky & Alex Stein, *Catalogs*, 115 COLUM. L. REV. 165, 171 (2015) (arguing in favor of legal requirements structured as "catalogs" on the ground that these "do better than standards at creating a zone of certainty for actors at much lower cost than fully specified rules"); H.W.R. Wade, *The Concept of Legal Certainty: A Preliminary Skirmish*, 4 MOD. L. REV. 183, 189 (1941) ("As law exists for security, confidence and freedom, it must be invested with as much certainty and uniformity as can be provided by the wavering structures of human institutions.").

For much of his career, Friedrich von Hayek was a forceful proponent of clear, certain rules promulgated in advance and applied strictly. See, e.g., F.A. HAYEK, THE CONSTITUTION OF LIBERTY 153 (1960) (arguing that rule by "laws and not men" requires that "the judge who applies [laws] has no choice in drawing the conclusions that follow from the existing body of rules and the particular facts of the case"); F.A. HAYEK, THE ROAD TO SERFDOM 81 (Routledge Classics 2006) (1944) (criticizing the use of "vague formula[s]" such as "reference to what is 'fair' or 'reasonable'" in legal requirements, and suggesting that their use, and "the increasing arbitrariness and uncertainty" associated with their use, could be a framework for "writ[ing] a history of the decline of the Rule of Law"). Hayek later backed away from the position that strict application of clear rules was the best way to achieve legal certainty, but continued to see legal certainty as a core goal. See F.A. HAYEK, 1 LAW, LEGISLATION, AND LIBERTY: RULES AND ORDER 116 (Routledge 1998) (1973) [hereinafter HAYEK, LAW, LEGISLATION, AND LIBERTY] ("It seems to me that judicial decisions may in fact be more predictable if the judge is also bound by generally held views of what is just, even when they are not supported by the letter of the law, than when he is restricted to deriving his decisions only from those among accepted beliefs which have found expression in the written law.").

A focus on certainty and predictability is particularly common among those who write in the field of Conflict of Laws. This can be true even among those who propose

characteristic of poorly designed regulatory systems.¹¹ Many lobbying efforts target legal uncertainty, and numerous academic writings propose reforms designed to reduce or eliminate uncertainty from particular areas of law.¹²

This Article contributes to a growing literature challenging that view.¹³ This Article makes three primary contributions.

approaches that make the ultimate choice of law decision depend heavily on the forum in which the case is filed. *See, e.g.*, Brainerd Currie, *Notes on Methods and Objectives in the Conflict of Laws*, 1959 DUKE L.J. 171, reprinted in BRAINERD CURRIE, *SELECTED ESSAYS ON THE CONFLICT OF LAWS* 177–87 (1963).

10. *See, e.g.*, JAN EBERLY, U.S. DEPT OF TREASURY, *IS REGULATORY UNCERTAINTY A MAJOR IMPEDIMENT TO JOB GROWTH?* (2011), https://www.treasury.gov/resource-center/economic-policy/Documents/Is%20Regulatory%20Uncertainty%20a%20Major%20Impediment%20to%20Job%20Growth_20111121_vFINAL.pdf (“[A] commonly repeated misconception[] [is] that uncertainty created by proposed regulations is holding back business investment in [job growth] . . .”).

11. I use regulatory systems in a broad sense here, not one limited to agency rulemaking. *See supra* notes 2–3 and accompanying text. Accordingly, statutes, treaties, regulations, guidance documents, and precedent (judicial and administrative) are all parts of regulatory systems.

12. *See, e.g.*, KENNETH CULP DAVIS, *DISCRETIONARY JUSTICE: A PRELIMINARY INQUIRY* 216 (1969) (“We must . . . find ways to minimize discretionary injustice.”); OLIVER WENDELL HOLMES, JR., *THE COMMON LAW* 127 (1881) (“Legal, like natural divisions, however clear in their general outline, will be found on exact scrutiny to end in a penumbra or debatable land. . . . Still, the tendency of the law must always be to narrow the field of uncertainty.”); Daniel Abebe & Aziz Z. Huq, *Foreign Affairs Federalism: A Revisionist Approach*, 66 VAND. L. REV. 723, 793–94 (2013) (defending their approach to foreign affairs federalism on the grounds that “it has the potential to lend structure, predictability, and analytic rigor to an area of jurisprudence that to date has been erratic, unpredictable, and unprincipled”); Anthony J. Colangelo, *A Unified Approach to Extraterritoriality*, 97 VA. L. REV. 1019, 1109 (2011) (“The current, piecemeal approach to the field has produced a rambling labyrinth of analytical bloat. The law is complex without subtlety, knotted without development, and often blunt without judgment.”); Michael A. Lawrence, *Toward a More Coherent Dormant Commerce Clause: A Proposed Unitary Framework*, 21 HARV. J.L. & PUB. POL’Y 395, 465 (1998) (“This Article . . . provides a single, comprehensive ‘Unitary Framework’ for analyzing the Supreme Court’s dormant-commerce-clause jurisprudence, making it at once more cogent and accessible.”); Jed Rubenfeld, *The First Amendment’s Purpose*, 53 STAN. L. REV. 767, 798 (2001) (supporting argument for purposive interpretation of First Amendment in significant part by showing that “purposivism yields determinate results for three controversial First Amendment issues”). On Holmes’s complicated views on uncertainty, compare O.W. Holmes, *The Path of the Law*, 10 HARV. L. REV. 457, 466 (1897) (“And the logical method and form flatter that longing for certainty and for repose which is in every human mind. But certainty generally is illusion, and repose is not the destiny of man.”), with Robert L. Rabin, *The Pervasive Role of Uncertainty in Tort Law: Rights and Remedies*, 60 DEPAUL L. REV. 431, 432 (2011) (noting Holmes’s “long-held preoccupation with narrowing the range of uncertainty in tort cases”), and Wade, *supra* note 9, at 192–94 (suggesting that Jerome Frank, in *Law and the Modern Mind*, overemphasized Holmes’s skeptical-of-certainty aphorisms and arguing that Holmes would “[s]urely not” have “condemned the lawyer’s innate hunger for an ordered and certain jurisprudence”).

13. *See, e.g.*, Shawn J. Bayern, *Against Certainty*, 41 HOFSTRA L. REV. 53, 61–62 (2012) (arguing that the value of legal certainty is often overstated in legal arguments and common-law decision-making); Diane Lourdes Dick, *Confronting the Certainty Imperative in Corporate Finance Jurisprudence*, 2011 UTAH L. REV. 1461, 1482–84

First, it presents a framework for analyzing the relationship between three types of uncertainty relevant to legal decision-making: legal uncertainty, factual uncertainty, and law-fact uncertainty. Although others have addressed these types of uncertainty individually (and occasionally in pairs),¹⁴ this Article is the first systematic presentation of the relationship between these types of uncertainty and regulatory design. It is also the first systematically to consider the relationship between these types of uncertainty and the time at which a decision is made.

Second, this Article suggests that there are fundamental limits to how much legal certainty can be achieved. These limits apply both to legal systems generally and to specific areas within a legal system. The analysis approaches legal requirements from the familiar perspective of distinguishing between rules and standards. It then considers the degree to which making a requirement either more rule-like or more complex can increase legal certainty. It argues that there are fundamental limits to how much either option can increase legal certainty. (The Article does not seek to measure these limits; it seeks only to establish that they exist.)

(criticizing the tendency of courts to favor rules rather than standards in corporate finance case law); Scott Dodson, *The Complexity of Jurisdictional Clarity*, 97 VA. L. REV. 1, 3 (2011) (arguing that simplicity and clarity in the rules of federal subject-matter jurisdiction is an unattainable goal); Timothy Endicott, *Law Is Necessarily Vague*, 7 LEGAL THEORY 379, 379 (2001) (arguing that law is necessarily vague—and that this is a good thing); Yuval Feldman & Shahar Lifshitz, *Behind the Veil of Legal Uncertainty*, LAW & CONTEMP. PROBS., Spring 2011, at 133 (arguing that legal uncertainty is desirable when lawmakers wish to reduce the degree to which legal rules affect ex ante decision-making); Ofer Raban, *The Fallacy of Legal Certainty: Why Vague Legal Standards May Be Better for Capitalism and Liberalism*, 19 B.U. PUB. INT. L.J. 175, 175–76 (2010) (arguing that standards are often superior to rules in allowing people to predict the consequences of their actions in the manner necessary for capitalism and liberalism); see also Julian J. Z. Polaris, Note, *Backstop Ambiguity: A Proposal for Balancing Specificity and Ambiguity in Financial Regulation*, 33 YALE L. & POLY REV. 231, 233–34 (2014) (suggesting that the SEC should, in its regulation of financial wrongdoing, rely on a combination of bright-line rules and a “backstop” of ambiguous standards to “discourage[] attempts to exploit loopholes in bright-line rules”). For an earlier paper calling for additional academic focus on “the subject of how much detail we should have in the law,” see Gordon Tullock, *On the Desirable Degree of Detail in the Law*, 2 EUR. J.L. & ECON. 199, 199 (1995). For an argument against an exaggerated focus on certainty in constitutional theory, see DANIEL A. FARBER & SUZANNA SHERRY, *DESPERATELY SEEKING CERTAINTY: THE MISGUIDED QUEST FOR CONSTITUTIONAL FOUNDATIONS* (2002). For a much broader argument against the use of detailed rules in government decision-making (including a proposal for five constitutional amendments to make this possible), see PHILIP K. HOWARD, *THE RULE OF NOBODY: SAVING AMERICA FROM DEAD LAWS AND BROKEN GOVERNMENT* (2014). This literature is discussed below *infra* Part III.A.

14. See *infra* Part III.B (discussing observations by Jerome Frank and H.L.A. Hart on the connection between legal and factual uncertainty).

Third, the Article sets out four tentative propositions about the relationship between uncertainty and regulatory design. First, pockets of legal uncertainty may at times increase, rather than decrease, the overall level of legal certainty in a particular regulatory system or legal field.¹⁵ Second, in any particular regulatory field, large swings over time between high levels of certainty and uncertainty are less desirable than a consistently moderate level of legal uncertainty. Third, arguments over legal certainty are rarely distributionally neutral and are often window dressing for fundamentally distributional arguments. Fourth, uncertainty about the content of future legal requirements is qualitatively different from uncertainty about the application of existing legal requirements.

Following this Introduction, Part II provides background information on the three types of uncertainty addressed in this Article, the jurisprudential concepts of “rules” and “standards,” and the simplicity and complexity of legal requirements. Part III addresses the three types of uncertainty in more detail and describes factors relevant to the role each plays in regulatory design. Part IV focuses on legal uncertainty and suggests that there are fundamental limits on the amount of certainty in any legal requirement or set of legal requirements. These fundamental limits fall into two categories: limits on the amount of legal certainty that can be achieved by making a requirement more rule-like, and limits on the amount of legal certainty that can be achieved by making a requirement more complex. Part V sets out four propositions about the choice between certainty and uncertainty in regulatory design. It suggests overall that legal uncertainty is unavoidable in functioning regulatory systems, but that the amount of legal uncertainty is not constant and that all types of legal uncertainty are not equally good or bad. Careful regulatory design should seek not to minimize legal uncertainty, but to choose a level and type of legal uncertainty that will best serve the overall goals of the relevant regulatory system. Part VI concludes with a short summary of the Article’s core claims.

II. BACKGROUND

This Part introduces concepts that will be discussed throughout the Article. The first is the three types of uncertainty relevant to legal decision-making: legal uncertainty, factual

15. A similar position is expressed in some of the rules-standards, jurisprudence, and codification literature. See *infra* Part III.A This Article integrates this insight into a larger framework for understanding the role of uncertainty in regulatory design.

uncertainty, and law-fact uncertainty. The second is the idea that legal requirements can be broadly categorized as ranging from “rules” to “standards.” The third addresses the characteristics that can make a legal requirement “simple” or “complex.”

A. *Types of Uncertainty*

The focus of this Article is on the role of *legal uncertainty* in regulation. But legal uncertainty does not exist in isolation. *Factual uncertainty* and *law-fact uncertainty* exist as well, and both play a major role in the decision-making of primary actors.¹⁶ And understanding both is necessary to understand legal uncertainty.

Legal uncertainty is uncertainty about the content of the law. It is the primary focus of this Article. Factual uncertainty is uncertainty about facts in the world. It may well dwarf legal uncertainty in the calculations of primary actors. Law-fact uncertainty is uncertainty not about the content of the law itself or the facts that exist in the world. It is, instead, uncertainty about how a decision-maker—a judge, jury, or agency—will apply law to fact.¹⁷

The presence of these three types of uncertainty—legal, factual, and law-fact—highlights the relatively limited role legal

16. The claim here is that dividing uncertainty into these three categories provides a useful way of thinking about the relationship between various types of uncertainty in regulatory systems. They are not intended as sharp divisions, and this Article does not make a metaphysical claim that each one somehow “exists” out there in the world independently of the others. Instead, the claim is simply that looking at these three types of uncertainty gives us a better way of thinking about regulatory design than we have if we treat the three together as a single idea.

Other, related divisions are of course possible. For example, from a formalist, natural law, or philosophical perspective it might be possible to focus on the distinction between the metaphysical question of whether law itself has a fixed, certain content and the epistemic question of whether particular decision-makers are able to determine the content of the law on any particular issue. These could be presented as two separate categories of legal uncertainty. From a strictly path-of-the-law Holmesian perspective or an extreme-legal-realist perspective, it might be possible to combine legal and factual uncertainty on the basis that what courts will do in the future (and, accordingly, what the law is) is simply a question of fact. From yet another perspective, it might be possible to focus on the role that the attitudes or ideologies of regulated parties and regulatory designers play in shaping the certainty of a legal requirement.

However, each of these possibilities go beyond the scope of this Article. The contention here is not that legal-fact uncertainty, factual uncertainty, and law-fact uncertainty are the only types of uncertainty relevant to regulatory design. It is simply that this tripartite breakdown illuminates some issues that are otherwise obscure and accordingly helps us think more clearly about the role of legal uncertainty in regulatory design.

17. Cf. Russell Pannier, *D’Amato, Kripke, and Legal Indeterminacy*, 27 WM. MITCHELL L. REV. 881, 883 (2000) (noting distinction between claims that “mixed law and fact” decisions are indeterminate and that “legal rules” themselves are indeterminate).

uncertainty plays in the full range of uncertainties faced by primary actors. Factual uncertainty cannot be eliminated in regulation; it is an inherent element of the human experience. Law-fact uncertainty can be increased or decreased to some degree, but is likely to remain an important element in most real-world regulatory programs.¹⁸ Given these important sources of uncertainty, legal uncertainty may not be as disabling to primary actors as many standard discussions suggest.¹⁹

B. Rules and Standards

It is broadly accepted that legal requirements exist on a continuum from pure “rules” to pure “standards.” A large literature attests to the value of the rule-standard distinction in the analysis of a wide range of legal fields.²⁰ This literature can be roughly divided into three groups. The first is those works explicitly using the terms “rule” and “standard” to describe a largely consistent set of ideas.²¹ These works tend to build on

18. Consider, for example, whether it is likely that we will reach a point where the selection of decision-makers—an individual judge, jury, or agency official—is not perceived as potentially influencing the outcome of borderline cases. The importance of the decision-maker’s identity is discussed further *infra* Part III.C.

19. These three types of uncertainty are discussed in more detail *infra* Part III.

20. See generally Cass R. Sunstein, *Problems with Rules*, 83 CALIF. L. REV. 953, 1024–26 & nn.284–323 app. (1995) (illustrating the rule-standard distinction in a wide range of legal fields).

21. See generally P.S. ATIYAH & ROBERT S. SUMMERS, *FORM AND SUBSTANCE IN ANGLO-AMERICAN LAW: A COMPARATIVE STUDY OF LEGAL REASONING, LEGAL THEORY, AND LEGAL INSTITUTIONS* (1987); HENRY M. HART, JR. & ALBERT M. SACKS, *THE LEGAL PROCESS: BASIC PROBLEMS IN THE MAKING AND APPLICATION OF LAW* 138–41 (William N. Eskridge, Jr. & Philip P. Frickey eds., 1994); MARK KELMAN, *A GUIDE TO CRITICAL LEGAL STUDIES* 15–63 (1987); NEIL K. KOMESAR, *LAW’S LIMITS: THE RULE OF LAW AND THE SUPPLY AND DEMAND OF RIGHTS* (2001); KARL N. LLEWELLYN, *THE THEORY OF RULES* (Frederick Schauer ed., 2011) (posthumously published manuscript); RICHARD A. POSNER, *THE PROBLEMS OF JURISPRUDENCE* 42–61 (1990); FREDERICK SCHAUER, *PLAYING BY THE RULES: A PHILOSOPHICAL EXAMINATION OF RULE-BASED DECISION-MAKING IN LAW AND IN LIFE* (1991); Douglas G. Baird & Robert Weisberg, *Rules, Standards, and the Battle of the Forms: A Reassessment of § 2-207*, 68 VA. L. REV. 1217 (1982) (using the rule-standard framework to analyze the Uniform Commercial Code’s approach to the battle-of-forms in sales law); Adam B. Cox & Thomas J. Miles, *Judicial Ideology and the Transformation of Voting Rights Jurisprudence*, 75 U. CHI. L. REV. 1493 (2008) (using the rule-standard framework to conduct an empirical analysis of case law under the Voting Rights Act); Daniel A. Crane, *Rules Versus Standards in Antitrust Adjudication*, 64 WASH. & LEE L. REV. 49 (2007); Colin S. Diver, *The Optimal Precision of Administrative Rules*, 93 YALE L.J. 65 (1983) (examining the appropriate level of precision in agency rulemaking, through a case study of agency-promulgated legal requirements governing airline-pilot retirement, national-bank chartering, determining eligibility for social security disability payments, and granting permanent residence to aliens); Isaac Ehrlich & Richard A. Posner, *An Economic Analysis of Legal Rulemaking*, 3 J. LEGAL STUD. 257 (1974) (using the rule-standard framework to conduct an economic analysis of the level of “precision or specificity” of legal requirements); Louis Kaplow, *Rules Versus Standards: An Economic*

each other and display an awareness that they are dealing with a set of concepts that can be applied in multiple legal fields. The second encompasses those works (often, but not always, older) that discuss the same ideas as the rule-standard literature but without using that terminology.²² A third uses the ideas of rules and standards as a starting point, then goes on to argue for the current or future existence of new legal forms that do not exist on the rule-standard continuum.²³

Analysis, 42 DUKE L.J. 557 (1992) (positing that the difference between rules and standards rests entirely on the difference between ex post and ex ante application of law, and presenting economic analysis of when each is desirable from the perspective of overall social welfare); Duncan Kennedy, *Form and Substance in Private Law Adjudication*, 89 HARV. L. REV. 1685 (1976) (using the rule-standard framework to examine the relationship between individualism and altruism in private law); Adam I. Muchmore, *Jurisdictional Standards (and Rules)*, 46 VAND. J. TRANSNAT'L L. 171 (2013) (using the rule-standard framework to examine extraterritorial regulation by the United States); Rabin, *supra* note 12 (discussing the development of rules and standards in tort law); Carol M. Rose, *Crystals and Mud in Property Law*, 40 STAN. L. REV. 577 (1988) (using the rule-standard framework to examine the law of property); Scalia, *supra* note 6 (surveying the rules applicable to statutory interpretation); Pierre Schlag, *Rules and Standards*, 33 UCLA L. REV. 379 (1985) (using the rule-standard framework to examine the general structure of legal arguments); Kathleen M. Sullivan, *The Supreme Court, 1991 Term—Foreword: The Justices of Rules and Standards*, 106 HARV. L. REV. 22 (1992) (using the rule-standard framework to examine the U.S. Supreme Court's 1991 term); Sunstein, *supra* note 20 (examining arguments for and against structuring legal requirements as rules); Jeremy Waldron, *Vagueness and the Guidance of Action*, in PHILOSOPHICAL FOUNDATIONS OF LANGUAGE IN THE LAW 58 (Andrei Marmor & Scott Soames eds., 2011) (using the rule-standard framework to discuss the degree to which legal requirements can guide action).

22. For literature discussing the rule-standard concept but with different terminology, see, for example, BENJAMIN N. CARDOZO, THE NATURE OF THE JUDICIAL PROCESS 166 (1921); JOHN DICKINSON, ADMINISTRATIVE JUSTICE AND THE SUPREMACY OF LAW IN THE UNITED STATES 141–56 (1927); RICHARD A. EPSTEIN, SIMPLE RULES FOR A COMPLEX WORLD 37–38 (1995) (exploring the trade-off between “simple rules” and “justice in the individual case”); H.L.A. HART, THE CONCEPT OF LAW 130–32 (2d ed. 1994) (discussing open-textured legal requirements); HOLMES, *supra* note 12, at 111–29; HOWARD, *supra* note 13; T. Alexander Aleinikoff, *Constitutional Law in the Age of Balancing*, 96 YALE L.J. 943, 946 (1987) (discussing the role of standard-like balancing tests in constitutional law, without explicitly emphasizing the rule-standard distinction); Hugo L. Black, *The Bill of Rights*, 35 N.Y.U. L. REV. 865, 867 (1960) (arguing for an absolutist interpretation of the Bill of Rights).

For the classic rule-standard disputes between Justice Black (rules) and Justice Frankfurter (standards), compare *Youngstown Sheet & Tube Co. v. Sawyer*, 343 U.S. 579, 588–89 (1952) (Black, J.), and *Adamson v. California*, 332 U.S. 46, 70–75 (1947) (Black, J., dissenting), with *Youngstown*, 343 U.S. at 589 (Frankfurter, J., concurring), and *Adamson*, 332 U.S. at 60 (Frankfurter, J., concurring). For other famous cases pitting rules against standards, see, for example, *Baltimore & Ohio R.R. Co. v. Goodman*, 275 U.S. 66 (1927) (Holmes, J.) (choosing a rule for railroad-crossing cases); *Pokora v. Wabash Ry. Co.*, 292 U.S. 98 (1934) (Cardozo, J.) (limiting *Goodman* and instead choosing a standard for railroad-crossing cases).

23. There are currently at least two papers in this third category. The first, an article by Gideon Parchomovsky and Alex Stein, argues for recognition of what they see as an existing-but-not-yet-recognized legal form, the “catalog.” Parchomovsky & Stein, *supra* note 9, at 168 (“A catalog, as it is defined in this Essay, consists of an outright ban on a

Legal requirements structured as rules specify outcomes *ex ante*—before the relevant transaction or event occurs.²⁴ Pure

detailed, but incomplete, list of specific activities and a general prohibition of all activities falling into the same category. Accordingly, a typical catalog would contain a specific enumeration of proscribed conduct and a general provision empowering courts to penalize or enjoin other similar activities.”). They believe the catalog “integrate[s] the advantages of rules and standards while minimizing their shortcomings.” *Id.* at 181.

The second, a working paper by Tony Casey and Anthony Niblett, argues that upcoming advances in predictive and communication technology will make both rules and standards obsolete. Anthony J. Casey & Anthony Niblett, *The Death of Rules and Standards* (Univ. of Chi. Pub. Law Theory Working Paper Grp., Paper No. 550, 2015), <http://ssrn.com/abstract=2693826>. They believe that rules, standards, and everything in between will be replaced by a new form of law that they call the “micro-directive.” *Id.* (suggesting that legislative goals will be “translated by machines into a vast catalog of simple commands for all possible scenarios,” such that “[w]hen an individual citizen faces a legal choice, the machine will select from the catalog and communicate to that individual the precise context-specific command (the micro-directive) necessary for compliance”). Casey and Niblett believe that the micro-directive will “provide all of the benefits of both rules and standards without the costs of either.” *Id.* at 2.

A detailed discussion of the Parchomovsky-Stein and Casey-Niblett papers is beyond the scope of this Article. Overall, this Article parts from the Parchomovsky/Stein and Casey/Niblett positions on the question of whether “rule” and “standard” are two ultimate endpoints on a continuum of possible legal forms. This Article takes the position that they are ultimate endpoints, and that any legal requirement is necessarily rule, standard, or some point between the two. *See infra* Part IV. From this perspective, both catalogs and micro-directives are simply legal requirements that fall somewhere in between the “pure rule” and “pure standard” ends of the rule-standard continuum.

Nonetheless, both the catalog and the micro-directive are concepts that give us a useful shorthand for describing an important set of characteristics found in existing (catalogs) or possible future (micro-directive) legal requirements. In this, catalogs and micro-directives can be added to the helpful typology of legal requirements set out by Cass Sunstein. *See Sunstein, supra* note 20, at 959–68 (identifying “untrammelled discretion,” “rules,” “rules with excuses,” “presumptions,” “factors,” “standards,” “guidelines,” “principles,” and “analogies”).

The Casey-Niblett paper is still a working draft, but two further comments on its broad themes are necessary. First, a strong claim can be made that predictive technology will lead to major changes in where rules and standards exist in a legal system, and that this technology may reduce some of the costs associated with highly detailed laws. But even if lawmakers do delegate substantial law-making authority to computers, they still have to make a delegation—and that delegation itself can be structured as a rule, standard, or something in between.

Second, it seems unlikely that predictive and communication technology will eliminate judges and legal disputes. Even if computers do implement laws through highly detailed instructions to regulated parties, these are likely to be default rules rather than mandatory rules (at least outside of a totalitarian society). *Cf.* Ian Ayres & Robert Gertner, *Filling Gaps in Incomplete Contracts: An Economic Theory of Default Rules*, 99 *YALE L.J.* 87 (1989) (discussing the relationship between default rules and mandatory rules in contract law). There will often be room to litigate whether a given computer-generated rule should have been followed in a particular case. Detailed, computer-generated compliance directives will likely affect which disputes are litigated, which are settled, and on what terms particular disputes are settled. They may also increase the degree to which settlement terms mirror the likely outcome of a formally litigated dispute. But it is difficult to imagine a situation where computer-generated compliance directives largely eliminate lawsuits as we know them.

24. *See Kaplow, supra* note 21, at 559–60.

rules do this by directing the decision-maker to consider only specific facts and to apply those facts mechanically to reach a predetermined outcome. Classic examples of rule-like requirements are a speed limit of 55 miles per hour and the U.S. Constitution's requirement that the President must be at least thirty-five years old.²⁵

Legal requirements structured as standards specify outcomes *ex post*—after the relevant transaction or event occurs.²⁶ Pure standards do this by directing the decision-maker to consider the totality of the circumstances relevant to the case. Classic examples of standard-like requirements include laws requiring driving at a “reasonable speed,” laws prohibiting “unconscionable” contracts,²⁷ the Fourth Amendment's prohibition on “unreasonable searches and seizures,”²⁸ and the various balancing tests that exist throughout the law.²⁹

Rules and standards are themselves ideal types; real-world legal requirements exist on a continuum between the two.³⁰ Whether a requirement is closer to a rule or a standard depends in part on its linguistic structure and in part on the jurisprudence that has come to be associated with the requirement. For example, the First Amendment is phrased in a highly rule-like manner, providing that “Congress shall make no law” infringing various rights.³¹ However, case law interpreting the First Amendment generally requires courts to make *ex post* determinations by balancing First Amendment interests against

25. U.S. CONST. art. II, § 1, cl. 5; Kaplow, *supra* note 21, at 559–60.

26. See Kaplow, *supra* note 21, at 559–60.

27. U.C.C. § 2-302(1) (AM. LAW INST. & UNIF. LAW COMM'N 2013).

28. U.S. CONST. amend. IV.

29. See, e.g., *Mathews v. Eldridge*, 424 U.S. 319, 334–35 (1976). For other examples in constitutional law, see Aleinikoff, *supra* note 22, at 963–72 (describing the growth of balancing in constitutional law).

30. On treating rules and standards as a continuum, see, for example, Bayern, *supra* note 13, at 59; Russell Korobkin, A “Traditional” and “Behavioral” Law-and-Economics Analysis of *Williams v. Walker-Thomas Furniture Company*, 26 U. HAW. L. REV. 441, 444 (2004); Russell B. Korobkin, *Behavioral Analysis and Legal Form: Rules vs. Standards Revisited*, 79 OR. L. REV. 23, 25–30 (2000); Muchmore, *supra* note 21, at 180.

31. U.S. CONST. amend. I (“Congress shall make no law respecting an establishment of religion, or prohibiting the free exercise thereof; or abridging the freedom of speech, or of the press; or the right of the people peaceably to assemble, and to petition the Government for a redress of grievances.”). An alternative interpretation suggested to me by a colleague is that the Amendment is in fact phrased as a standard because all of the objects of “make no law” are abstract concepts requiring interpretation at the point of application. I am not in a position to evaluate this from a historical perspective, but—given the Amendment's original scope (applying only to the federal government)—I am inclined to the view that its structure and phrasing suggest a rule rather than a standard.

other constitutional values.³² Sometimes these interpretations stay consistent, and sometimes they shift over time. Several commentators have even suggested that courts cycle between rule-like and standard-like interpretations of particular legal requirements.³³

C. *Simplicity and Complexity*

The concepts of legal simplicity and legal complexity defy single, simple explanations.³⁴ Complexity is tied at least in part to the content of substantive law. Some areas of law are more

32. See, e.g., *Lane v. Franks*, 134 S. Ct. 2369, 2374 (2014) (describing the “careful balance” involved in determining the Free Speech rights of a public employee); see also Aleinikoff, *supra* note 22, at 966–68 (describing the rise of balancing in First Amendment cases).

33. See, e.g., HART, *supra* note 22, at 130–31; Crane, *supra* note 21, at 59–61; Rose, *supra* note 21, at 595–97.

34. On the difficulty of defining simplicity and complexity, see BORIS I. BITTKER, *Tax Reform and Tax Simplification*, 29 U. MIAMI L. REV. 1, 1 (1974) (“Neither ‘tax simplification’ nor its mirror image, complexity, is a concept that can be easily defined or measured.”). On the idea of simplicity, see generally Alan Baker, *Simplicity*, in THE STANFORD ENCYCLOPEDIA OF PHILOSOPHY (Edward N. Zalta ed., Fall 2013 ed.), <http://plato.stanford.edu/archives/fall2013/entries/simplicity/>. For a sampling of writing on simplicity and complexity in law, see generally EPSTEIN, *supra* note 22; CASS R. SUNSTEIN, *Simpler: The Future of Government* (2013); Dodson, *supra* note 13; Werner Z. Hirsch, *Reducing Law’s Uncertainty and Complexity*, 21 UCLA L. REV. 1233 (1974) (suggesting that efforts to increase legal certainty can result in increases in legal complexity that can approach or exceed the social benefits of the relevant increase in certainty); Louis Kaplow, *A Model of the Optimal Complexity of Legal Rules*, 11 J.L. ECON. & ORG. 150 (1995) (presenting formal mathematical analysis of the effects of legal complexity on compliance with legal requirements under different enforcement regimes); Daniel Martin Katz & M. J. Bommarito II, *Measuring the Complexity of the Law: the United States Code*, 22 ARTIFICIAL INTELLIGENCE & L. 337 (2014) (presenting a quantitative analysis of the complexity of different titles of the United States Code); John A. Miller, *Indeterminacy, Complexity, and Fairness: Justifying Rule Simplification in the Law of Taxation*, 68 WASH. L. REV. 1 (1993) (examining the effects of complexity on the degree of certainty in tax law); Lumen N. Mulligan, *Clear Rules—Not Necessarily Simple or Accessible Ones*, 97 VA. L. REV. IN BRIEF 13 (2011) (responding to Dodson, *supra* note 13); J.B. Ruhl & Daniel Martin Katz, *Measuring, Monitoring, and Managing Legal Complexity*, 101 IOWA L. REV. 191 (2015) (proposing the application of empirical complexity science to law, in particular by developing a computerized “Legal Maps” application that would provide a layered map of the legal system roughly analogous to existing, geographically-focused applications such as “Google Maps”); Peter H. Schuck, *Legal Complexity: Some Causes, Consequences, and Cures*, 42 DUKE L.J. 1 (1992) (analyzing legal complexity generally); Dru Stevenson, *Costs of Codification*, 2014 U. ILL. L. REV. 1129 (suggesting that codification of statutes, a technique intended to simplify law, lowers the transaction costs legislatures face in enacting detailed legal requirements—and accordingly results in a more complex legal system); Tullock, *supra* note 13, at 202–05 (discussing incentive structures leading to complex legal requirements and calling for additional research on the appropriate level of precision in law); R. George Wright, *The Illusion of Simplicity: An Explanation of Why the Law Can’t Just Be Less Complex*, 27 FLA. ST. U. L. REV. 715 (2000) (examining different types of complexity in law and suggesting that a legal change reducing complexity in one area also typically results in an offsetting increase in legal complexity in one or more other areas).

complex than others, and certain substantive policy choices cannot be implemented without a significant level of complexity.³⁵ Both complex language and simple language can be a source of complexity.³⁶ A legal requirement can be complex in itself or complex because it is difficult to describe.³⁷

Legal requirements tend to be more complex the more conduct they seek to regulate;³⁸ the more technical expertise they require to understand;³⁹ the greater the compliance costs they involve;⁴⁰ the more difficult they are to contract around;⁴¹ the more total components they involve;⁴² the more variety there is in the types of components they involve;⁴³ the more difficult they are to apply for those who understand them in theory;⁴⁴ the more potential enforcers (and the variety of potential enforcers) they involve;⁴⁵ the more they involve choices between competing values;⁴⁶ the more that compliance with them involves simple, intuitive responses rather than deliberative and reflective thinking;⁴⁷ and the more they involve consequences for third parties⁴⁸ (and the greater the magnitude of those consequences, and the distances in location, relationship, or time at which they can be felt).

In other words, complexity is itself a complex concept. This Article emphasizes those aspects of complexity most directly tied to the structure of the legal requirement itself. Accordingly, this Article treats legal complexity as a function of the number,

35. See Bittker, *supra* note 34, at 1–2 (noting that, because of the wide variety of circumstances it must address, “[i]ncome taxation entails a high level of irreducible complexity).

36. EPSTEIN, *supra* note 22, at 28; Bittker, *supra* note 34, at 2. On the possibility that even a simple rule, such as “no vehicles in the park,” can be uncertain, see SCHAUER, *supra* note 21, at 58–59, 212–14 (describing famous debate on this language between H.L.A. Hart and Lon Fuller—and its significance for jurisprudence more generally).

37. Wright, *supra* note 34, at 728–32.

38. Schuck, *supra* note 34, at 3.

39. *Id.* at 4; see also Diver, *supra* note 21, at 67–68; Miller, *supra* note 34, at 12.

40. EPSTEIN, *supra* note 22, at 25–27.

41. *Id.* at 27.

42. Wright, *supra* note 34, at 723.

43. *Id.* at 724.

44. Miller, *supra* note 34, at 12.

45. Schuck, *supra* note 34, at 16–17; see also Diver, *supra* note 21, at 67; Wright, *supra* note 34, at 726.

46. Miller, *supra* note 34, at 12.

47. SUNSTEIN, *supra* note 34, at 42.

48. Wright, *supra* note 34, at 721 (describing as complex a dispute “in which any resolution is likely to have difficult-to-predict, indirect consequences for the parties and for other groups perhaps not directly represented in the legal dispute,” and identifying this with Lon Fuller’s concept of a “polycentric” dispute (citing Lon L. Fuller, *The Forms and Limits of Adjudication*, 92 HARV. L. REV. 353, 394–404 (1978))).

variety, and difficulty of different determinations a decision-maker is required to make (or questions a decision-maker is required to answer) in applying a legal requirement.⁴⁹ A requirement is simpler to the extent it requires fewer determinations; to the extent it involves determinations similar in type to each other; and to the extent those determinations are relatively simple for the relevant person (most likely either the decision-maker or the target of regulation) to make.⁵⁰ As discussed in greater detail in Part IV, below, the simplicity or complexity of a legal requirement is independent of whether the requirement is structured as a rule or a standard.⁵¹ Complexity is also associated with the costs of promulgating a legal requirement. At least with respect to rule-like requirements, complexity will typically increase the cost of rule promulgation.⁵²

One problem in discussing the complexity of legal requirements is that the effect of complexity varies with the resources available to the entity attempting to determine what the law requires.⁵³ It is useful to think of legal complexity as having an absolute value, but with effect of that absolute value having a different effect on different primary actors and law-appliers.⁵⁴ Deciphering complex legal requirements entails costs. These costs have two effects on primary actors. Up to a certain point (with that point varying among different entities), complex requirements simply raise compliance costs (and accordingly reduce profit margins) for the activity in question. Past that point, however, the costs of deciphering a complex legal

49. See Wright, *supra* note 34, at 723.

50. Miller, *supra* note 34, at 12.

51. Or, more precisely, the location of a legal requirement on the simplicity-complexity axis is independent of where the requirement is located on the rule-standard axis. However, as discussed *infra* Part IV, this is not the case for the location of a legal requirement on the certainty-uncertainty continuum. The location of a legal requirement on the certainty-uncertainty continuum can depend, to a significant degree, on where the requirement falls in a quadrant made up of perpendicular, intersecting simplicity-complexity and rule-standard axes.

52. See Hirsch, *supra* note 34, at 1237; see also Kaplow, *supra* note 21, at 579–80.

53. Available resources can include intellectual capacity, experience, training, and time available—and of course money, which can be used to purchase assistance in deciphering a complex requirement. One example of the role of intellectual capacity, experience, and training is the highly detailed set of rules that airline pilots must internalize—and be able to act on at an instant's notice. See Tullock, *supra* note 13, at 206.

54. In other words, a legal requirement has an objective level of complexity. But this objective level of complexity has a different set of subjective effects on different primary actors and law-appliers, each of which has a different cost-benefit calculation to make with respect to the value of becoming informed about the content of the requirement.

requirement outweigh the associated benefits of compliance.⁵⁵ In such a situation, entities can do one of two things: (1) ignore the requirement and suffer the consequences if their noncompliance becomes known; or (2) cease or avoid engaging in the activities the complex requirement governs.

Because the costs and benefits of regulatory compliance will vary among primary actors (and perhaps even among judicial and quasi-judicial decision-makers), caution is required when making blanket statements about the effects of complexity. The costs of complexity are not evenly distributed.

III. LEGAL, FACTUAL, AND LAW-FACT UNCERTAINTY

Legal uncertainty is not the only type of uncertainty confronting primary actors.⁵⁶ Factual uncertainty and law-fact uncertainty exist as well, and both play a role in the decision-making of primary actors. Accordingly, even complete legal certainty cannot come close to eliminating the uncertainty faced by primary actors in their interactions with the law. This Part identifies key aspects of how legal, factual, and law-fact uncertainty each operate. As this Part will demonstrate, the scope of factual uncertainty and law-fact uncertainty is huge. Once factual and law-fact uncertainty are taken into consideration, legal uncertainty plays a much diminished role.

Part III.A addresses legal uncertainty, or uncertainty about the content of the law. It addresses two factors critical to understanding the role of legal uncertainty in regulatory design. The first is time—whether the uncertainty pertains to past, present, or future law. The second is form—whether the uncertain legal requirement is a rule or a standard, and whether the requirement is simple or complex.⁵⁷

55. Cf. Kaplow, *supra* note 34, at 151. Specifically, Kaplow points out that the costs of acquiring information about the content of a legal requirement (which increase with the complexity of the requirement) are an important component of a primary actor's compliance costs. And, accordingly, a more complex requirement will result in lower overall compliance than a less complex requirement mandating similar behavior.

56. See *supra* Part II.A.

57. This Article does not take the position that simplicity and complexity are solely matters of form. Simplicity and complexity have substantive components as well. However, the Article does take the position that a legal requirement's form (as well as its substance) can range from simple to complex. This simplicity-complexity continuum can be modeled as intersecting with the traditional rules-standards continuum to provide a better framework for analysis than the rules-standards continuum alone. See Muchmore, *supra* note 21, at 176–80 (providing and illustrating this model); see also Kaplow, *supra* note 21, at 588–90 (suggesting that both rules and standards can be either simple or complex).

Part III.B addresses factual uncertainty, or uncertainty about facts in the world. It addresses three factors critical to understanding the role of factual uncertainty in regulatory design. The first, like legal uncertainty, is time—factual uncertainty plays different roles depending on whether it relates to past, present, or future facts. The second is the degree to which factual uncertainty involves the limits of scientific knowledge. Many regulatory programs involve decisions on issues where no scientific consensus exists or where the consensus changes dramatically over short periods of time. The third is the degree to which human observational capacities and resources constrain our ability to learn relevant facts.

Part III.C addresses law-fact uncertainty, or uncertainty about how a decision-maker—a judge, jury, or agency—will apply law to fact.⁵⁸ It addresses four factors critical to understanding the role of law-fact uncertainty in regulatory design. The first is the degree to which the law is certain with respect to the issue in question. The second is the range of attitudes or ideologies held by potential decision-makers. This range is affected heavily by the procedures by which decision-makers are chosen and the population from which they are drawn. The third is the degree to which the relevant decision-maker is subject to outside influence (whether proper or improper). The fourth is the degree to which the decision made in a given case will limit the decision-makers' range of discretion in similar, future decisions.

A. *Legal Uncertainty*

Legal uncertainty is uncertainty about the content of the law.⁵⁹ It has attracted the attention of writers for centuries. Much of the work comes from those engaged in broader jurisprudential debates about the relevance of legal uncertainty for the nature of law or the obligation to obey the law.⁶⁰ I draw on

58. See *supra* note 17.

59. The preferred term in current jurisprudential writing for what this Article calls “legal uncertainty” is “indeterminacy.” This Article uses the term “legal uncertainty” instead because it is more easily comprehensible to those not familiar with technical jurisprudential writing and matches better with writing outside the jurisprudential field. It also emphasizes the relationship this Article strives to highlight between legal uncertainty and two related topics, factual uncertainty and law-fact uncertainty.

60. Jurisprudential views of legal uncertainty range over a broad spectrum. At one extreme is Ronald Dworkin’s view that legal uncertainty does not exist, as there is a single right answer even in hard cases. RONALD DWORKIN, *TAKING RIGHTS SERIOUSLY* 279–90 (1977). At the other extreme is Anthony D’Amato’s view that legal certainty does not exist, as there is no such thing as an easy case with a single right answer. See Anthony D’Amato, *Pragmatic Indeterminacy*, 85 NW. U. L. REV. 148, 167–68 (1990).

this work for the light it shines on the practical function of legal uncertainty in regulatory systems. But it is not my goal to engage in these broader jurisprudential debates. For our purposes, it is sufficient to note that a broad range of jurisprudential views are compatible with the idea that real-world legal requirements can, as a practical matter, have different levels of legal certainty.⁶¹

Outside the technical jurisprudential field, the focus of writing about legal uncertainty moves away from the question of whether it exists in theory or is compatible with the rule of law. Instead, writers focus on legal uncertainty's practical effects.

A substantial portion of this writing focuses on how judges should respond to legal uncertainty in two relationships: the relationship between legislatures and judges, and the relationship between higher courts and lower courts. In recent decades, Justice Antonin Scalia was the most prominent judicial advocate of this vision of legal certainty, advocating rules over

There are, of course, a wide range of perspectives in between complete legal certainty and complete legal uncertainty. H.L.A. Hart saw legal uncertainty as a real but marginal phenomenon tied to the open texture of language. HART, *supra* note 22, at 128–32; BRIAN LEITER, NATURALIZING JURISPRUDENCE: ESSAYS ON AMERICAN LEGAL REALISM AND NATURALISM IN LEGAL PHILOSOPHY 74 (2007). Timothy Endicott sees law as necessarily vague, to a nontrivial degree. TIMOTHY A. O. ENDICOTT, VAGUENESS IN LAW 2 (2000) (arguing that vagueness makes the law uncertain “in *some* cases but *not in all* cases”).

The legal realists viewed legal uncertainty as a broader phenomenon tied to conflicting, legitimate interpretive approaches and the specific facts of each individual case. LEITER, *supra*, at 74–75. Among the realists, a mainstream group saw legal uncertainty as limited by the cultural norms, including the relatively similar background and experiences of the individuals who became judges. *Id.* at 28–30. Leiter describes this as realism’s “Sociological Wing.” *Id.* at 28. This group included Karl Llewellyn, Underhill Moore, Herber Oliphant, Felix Cohen, and Max Radin. *Id.* at 29. A smaller, more radical group of realists saw the idiosyncratic personal experiences of each individual judge as injecting a much larger element of legal uncertainty. *Id.* at 28–30. Leiter describes this as realism’s “Idiosyncrasy Wing.” *Id.* at 28. Jerome Frank was the most prominent member of this group; it also included Joseph Hutcheson and Edward Robinson. *Id.*

61. Even Ronald Dworkin, probably the best-known proponent of complete legal certainty as a theoretical matter, does not argue that human decision-makers can know they have reached a legally correct decision. *See* DWORKIN, *supra* note 60, at 279–90. This possibility is open only to the idealized decision-maker he calls Hercules. *Id.* at 105–06. And Dworkin expressly admits the possibility that there are both easy cases and hard cases. RONALD DWORKIN, LAW’S EMPIRE 353–54 (1986). On the other side, even those who argue (or approach arguing) that the law is completely indeterminate in theory do not appear to challenge the idea that, as a practical matter, some legal requirements lead to a more predictable set of outcomes than others do. *See, e.g.,* D’Amato, *supra* note 60, at 171 (“For the Pragmatic Indeterminist, judges do not behave randomly or unpredictably over the long run of cases; . . . lawyers can predict how judges will probably decide a given case or line of cases.”). Thus, whatever one’s view of the scope of legal uncertainty in theory, there is value to considering the practical role of legal uncertainty in regulatory design.

standards in the form of legal requirements,⁶² textualism in statutory interpretation,⁶³ and originalism in constitutional interpretation.⁶⁴ And, as one would expect for views set out so forcefully by a long-serving Supreme Court Justice, there has been no shortage of responses to Justice Scalia's views.⁶⁵

Other writings look at the role of legal certainty in specific fields, often with a focus on the role of rules and standards. This has been done in numerous legal fields, including administrative law, antitrust,⁶⁶ civil procedure,⁶⁷ constitutional law,⁶⁸ international conflict-of-laws,⁶⁹ property,⁷⁰ and torts.⁷¹

Although it remains standard to assume that legal certainty is an unalloyed good, there is a growing literature suggesting that legal certainty may have some disadvantages—and legal uncertainty some positive attributes. First, Shawn Bayern has argued that lawyers and judges often overstate the value of legal certainty when making common-law arguments or decisions.⁷²

62. Scalia, *supra* note 6.

63. SCALIA & GARNER, *supra* note 6; Antonin Scalia, *Common-Law Courts in a Civil-Law System: The Role of United States Federal Courts in Interpreting the Constitution and Laws*, in *A MATTER OF INTERPRETATION: FEDERAL COURTS AND THE LAW* 3, 23–25 (Amy Gutmann ed., 1997).

64. See, e.g., *District of Columbia v. Heller*, 554 U.S. 570, 625–36 (2008) (Scalia, J.); see also Philip J. Cook, Jens Ludwig & Adam M. Samaha, *Gun Control After Heller: Threats and Sideshows from a Social Welfare Perspective*, 56 UCLA L. REV. 1041, 1064 (2009) (“Whatever version of originalism was on display, it was the predominant mode of argument for the majority.”). In arguing for each of these, Scalia’s rhetoric focused on the need for these largely formalist approaches as a way to constrain judicial discretion. Scalia, *supra* note 63, at 25 (“Of all of the criticisms leveled against textualism, the most mindless is that it is ‘formalistic.’ The answer to that is, *of course it’s formalistic!* The rule of law is *about* form.”). In other words, Scalia’s view was that law must be treated as certain to prevent judges from imposing their own policy preferences in the guise of deciding concrete cases.

65. This is, of course, an understatement. No footnote could possibly contain the full range of responses to Justice Scalia’s jurisprudential vision. For a few notable responses, see, for example, WILLIAM N. ESKRIDGE, JR., *DYNAMIC STATUTORY INTERPRETATION* 41–47 (1994); Adam M. Samaha, *Originalism’s Expiration Date*, 30 CARDOZO L. REV. 1295, 1328–30 (2008); Richard A. Posner, *How Nuanced Is Justice Scalia’s Judicial Philosophy? An Exchange*, NEW REPUBLIC (Sept. 9, 2012), <https://newrepublic.com/article/107001/how-nuanced-justice-scalias-judicial-philosophy-exchange>.

66. Crane, *supra* note 21, at 55.

67. Dodson, *supra* note 13, at 56–59 (suggesting that legal uncertainty cannot be eliminated from the law of federal subject-matter jurisdiction).

68. Sullivan, *supra* note 21, at 56–69.

69. Muchmore, *supra* note 21, at 183–86.

70. Rose, *supra* note 21, at 582–83.

71. Rabin, *supra* note 12, at 431–38 (describing the historical development of tort law from a largely rule-based system to one in which rules and standards “resolved into a state of equipoise”).

72. Bayern, *supra* note 13, at 53 (maintaining that “arguments about certainty are often mistaken, that certainty itself is often misunderstood, and that many defenses of

Second, legal certainty may not be realistically attainable—and accordingly not worth the effort.⁷³ Third, legal uncertainty can make it possible—when lawmakers wish to do so—to reduce, rather than increase, the degree to which legal rules affect primary behavior.⁷⁴ Fourth, in some situations, uncertain legal requirements make it easier for people to predict the legal consequences of their actions than would be possible with a more certain requirement.⁷⁵

Overall, a legal requirement tends to be more certain to the extent it is expressed as a rule rather than a standard; is associated with a body of jurisprudence treating it as a rule; has in the recent past led to similar outcomes over a wide range of fact situations; and is not closely associated with other rules that would lead to a different outcome. A legal requirement tends to be less certain to the extent it is expressed as a standard rather than a rule; is associated with jurisprudence treating it as a standard; has in the past led to disparate outcomes in seemingly similar fact situations; or is closely associated with an alternative legal requirement (especially if structured as a rule) that would lead to disparate outcomes if applied in its place.

Two factors critical to understanding the way legal uncertainty operates are time and legal form. Part III.A.1 addresses time, with an emphasis on the relationship between

certainty in legal rules are tautological, irrelevant, or substantively overstated”). Bayern’s argument focuses on the degree to which “social judgments” may require changes in case outcomes and legal rules. *Id.* at 55–56. Bayern discusses specific examples where he believes certainty-related arguments to be either wholly irrelevant or far outweighed by other substantive concerns. *Id.* at 58. These include situations where doctrinal stability is irrelevant to the issue in question, *id.* at 62–68, and situations where having a rule that is certain is irrelevant to the issue in question. *Id.* at 68–75. Bayern then critiques arguments for legal certainty based on the nature of law. *Id.* at 76–86. Specifically, Bayern disagrees with arguments by Larry Alexander and the early F.A. Hayek that legal certainty is necessary to the rule of law. *Id.* Bayern sides instead with Melvin Eisenberg’s position that some legal uncertainty is a permanent and necessary feature of common-law systems. *Id.* (citing MELVIN ARON EISENBERG, *THE NATURE OF THE COMMON LAW* 43–49 (1988)). He then criticizes arguments for legal certainty based on grounds of economic efficiency. *Id.* at 87–89.

Bayern’s core claim—that arguments for legal certainty are often overstated—is correct. However, the roots of those overstatements go deeper, and spread more broadly, than Bayern asserts. The roots go deeper for two reasons. First, factual uncertainty, *see infra* Part III.B, and law-fact uncertainty, *see infra* Part III.C, reduce the degree to which even true legal certainty allows primary actors to know in advance the types of civil liability (or criminal charges) they could face. Second, there are fundamental limits on the degree to which efforts to increase legal certainty can be successful. Past a certain point, efforts to increase legal certainty will tend to reduce legal certainty instead. *See infra* Part IV.

73. *See* Dodson, *supra* note 13, at 55.

74. *See* Feldman & Lifshitz, *supra* note 13, at 166; Diver, *supra* note 21, at 78.

75. Raban, *supra* note 13, at 183.

uncertainty about past, present, and future law. Part III.A.2 briefly addresses legal form, with an emphasis on the rule-standard and simple-complex dimensions. This discussion of legal form will be developed in more detail in Part IV.

1. *Time.* The manner in which legal uncertainty operates depends in part on the temporal relationship between the legal uncertainty and the time at which a primary actor is making a decision. Legal uncertainty can operate with respect to past, present, or future law.

Uncertainty with respect to past law involves uncertainty about future civil or criminal liability for a past action.⁷⁶ Such uncertainty will impact the assessment of current or future budgets, political capital, and research or education expenditures. For example, this uncertainty impacts the amount of formal or informal liability reserves a primary actor might choose to hold.

Uncertainty with respect to present law involves uncertainty with respect to whether a contemplated course of action will subject a primary actor to civil or criminal liability. To the extent the future is assumed to resemble the present, it will also affect a primary actor's longer-term decisions about a particular course of action. This type of uncertainty prompts groups or individuals to complain that existing law fails to provide sufficiently concrete guidance.⁷⁷

Uncertainty with respect to future law involves uncertainty about what changes in the law some future lawmaker will (or will not) make.⁷⁸ This is a huge source of uncertainty that is always present when contemplating an action beyond the very near future. Particularly salient examples involve tax law (where long-term investment decisions may involve tax advantages that could be repealed by a future lawmaker), decisions to invest in new technologies (where later-emerging health and safety concerns could lead to regulatory actions, up to and including

76. For a dramatic example, see *A Legal Hazard for Brazil's Banks: The Past Is Epilogue*, *ECONOMIST*, Feb. 8, 2014, at 70, <http://www.economist.com/news/finance-and-economics/21595940-row-over-25-year-old-account-adjustments-unnerve-brazilian-lenders-past>.

77. See, e.g., *The Dodd-Frank Act: Too Big Not to Fail*, *supra* note 8.

78. On congressional uncertainty about how authority Congress delegates will be implemented, see Morris P. Fiorina, *Legislative Choice of Regulatory Forms: Legal Process or Administrative Process?*, 39 *PUB. CHOICE* 33, 55–60 (1982); Morris P. Fiorina, *Legislator Uncertainty, Legislative Control, and the Delegation of Legislative Power*, 2 *J.L. ECON. & ORG.* 33 (1986).

bars on any use of a once-promising technology), and laws that shape the overall structure of an industry (such as health care).⁷⁹

2. *Legal Form.* The manner in which legal uncertainty operates also depends in part on just where a legal requirement lies on the rule-standard and simplicity-complexity dimensions.⁸⁰ The general assumption of existing literature is that rules tend to produce legal certainty and standards tend to produce uncertainty.⁸¹ The general assumption is also that more detailed (and thus more complex) legal requirements tend to provide more certainty than less detailed ones.⁸² Both of these are true—but only up to a point. After that point, making a requirement either more rule-like or more complex reduces that requirement’s overall legal certainty. Because Part IV addresses this topic in detail, further discussion of the relationship between legal uncertainty and legal form will be delayed until then.

This Part (III.A) has focused on legal certainty. It has suggested that legal certainty is tied to two related concepts. The first is the time at which the uncertainty exists; the second is the form in which the legal requirement is structured. Next, Part III.B turns to a type of uncertainty that exists not only in law, but in all other fields of endeavor: uncertainty about actual facts as they exist in the world.

B. *Factual Uncertainty*

Factual uncertainty is fundamentally different from legal uncertainty. It is also far more common. Factual uncertainty—uncertainty about the world as it exists—impacts every human endeavor. But factual uncertainty plays a special role in situations where an individual or group must make determinations about some state of the world with legal or quasi-legal⁸³ consequences. Lawmakers,⁸⁴ primary actors,⁸⁵

79. See, e.g., Nat’l Fed’n of Indep. Bus. v. Sebelius, 132 S. Ct 2566, 2608 (2012) (upholding Affordable Care Act against first major challenge); King v. Burwell, 135 S. Ct. 2480, 2495–96 (2015) (upholding Affordable Care Act against second major challenge).

80. See *infra* text accompanying notes 116–118.

81. See, e.g., Parchemovsky & Stein, *supra* note 9, at 173.

82. There are, of course, important exceptions here. For others taking the position that standards can at times be more certain than rules, see, for example, Rose, *supra* note 21, at 609; Schlag, *supra* note 21, at 405–13. Also see further discussion *infra* Part V.A.

83. I include quasi-legal consequences explicitly to include private regulatory bodies that have not been delegated any official authority by the state. Basic decisions by private regulatory bodies (to admit or exclude, to provide or not provide resources, etc.) can have substantial impacts within the relevant community that are not distant in effect from those made by government authorities.

regulatory enforcers,⁸⁶ and those who serve as factfinders in formal disputes⁸⁷ must all make these types of determinations. As H.L.A. Hart recognized, there is a deep relationship between legal and factual uncertainty.⁸⁸ Perfect

84. Lawmakers must make numerous factual determinations in the law-making or rule-making process. For example, a legislator considering, in the late 1970s, whether to support the Foreign Corrupt Practices Act might have asked himself some of the following questions: Is foreign bribery a problem? If so, is it a big enough one that we should regulate it? If so, what type of legal requirement would be effective in reaching this conduct? How will this regulatory program impact our political support for future regulatory programs? Could the resources this program would require be better used in another program? Will this make American multinational businesses uncompetitive in global markets? Some of this decision-making will be done in formal fact-finding proceedings such as legislative or agency hearings. But far more is of the informal type that all individuals must make when deciding how to allocate their time and effort.

Legal certainty does not alter the need to make these decisions, and may not even alter the allocation decisions themselves. A strict liability regime with low damage payments may result in the same spending on worker or product safety as a negligence regime with higher damage payments if the expected value under both regimes is the same. It is the result of the expected value calculation, not the degree to which liability in individual cases is certain, that will determine the relevant allocation decisions. And it is the range of possible factual scenarios, rather than possible legal scenarios, which is likely to drive the expected value calculation.

85. Primary actors must make numerous factual assumptions in their day to day affairs precisely because of the legal consequences different facts may have. For example, a company must decide how to allocate resources between worker safety, product safety, research, insurance, and marketing. It cannot spend infinitely on any one of these and remain in business. Its allocation decisions must rest on a set of assumptions about likely injuries, new products, and sales that will be generated by each of these spending categories.

86. Regulatory enforcers must make factual determinations about whether a person or entity is doing something that might violate a legal requirement. Sometimes this is fairly clear, such as when a police officer uses radar to clock a car speeding at 90 mph. At other times, especially in the regulation of business, the regulator may not be able to observe whether potentially illegal behavior is taking place until after initiating the investigation. At this point, legal certainty may work for or against the regulator. If a regulatory requirement is legally certain, the regulator cannot enforce it successfully unless it finds very specific facts in its investigation. For such a certain requirement, even a large amount of evidence of general bad behavior is not sufficient. When a regulatory requirement is less certain (but still of similar scope), however, the types of evidence that can be used to support a violation may be broader. This makes it much harder for a company to skirt the precise edge of a regulation by avoiding certain actions while still behaving in a manner very much outside the spirit of the regulatory requirement.

87. This is the type of factual uncertainty that served as a focus of Jerome Frank's work. Frank's view of law was based heavily on the factual uncertainty involved in trial-court decisions. See LAURA KALMAN, *LEGAL REALISM AT YALE: 1927-1960*, at 165-67 (1986) (discussing Frank's fact skepticism and noting that, while Frank "wobbled" in some of his views, "he never ceased to emphasize that the principal cause of legal uncertainty was [factual] subjectivity at the trial court level"). Frank identified himself as part of a group of "fact skeptics" who "think[] that . . . the pursuit of greatly increased legal certainty is, for the most part, futile" because of extensive factual uncertainty. JEROME FRANK, *Preface to the Sixth Printing of LAW AND THE MODERN MIND*, at xi-xii (Anchor Books 1963) (1930).

88. HART, *supra* note 22, at 128.

certainty about legal consequences cannot exist in a world where we do not have perfect information about future states of the world.⁸⁹ As Daniel Farber has highlighted, factual uncertainty becomes increasingly important when it involves complex systems with the potential for feedback effects.⁹⁰ These effects make outcomes (whether positive or negative) both more extreme and more likely than might otherwise be thought.⁹¹

Three factors relevant to factual certainty are time (past, present, or future), limits on scientific knowledge, and limits on human observational capacity.⁹² Each will be discussed in turn below.

1. *Time.* As with legal uncertainty, the significance of factual uncertainty varies based on timing. Uncertainty with respect to past facts impacts civil and criminal dispute resolution (where fact-finding is a core aspect), forward-looking regulatory programs that seek to compensate for something that has taken place in the past, and efforts to set appropriate compensation for past events. Environmental regulation is a particularly important example. A core problem in efforts to combat global warming or maintain safe drinking water is uncertainty about how much damage has in fact been done in the past. Uncertainty with respect to present facts impacts daily decision-making by both regulators and primary actors.⁹³ For example, regulators might ask questions such as: Has the recession ended? Does this new drug have dangerous side effects? Is this bridge safe? Similarly, primary actors might ask: Is our product safe? Is the driver swerving in the lane ahead drunk? Do consumers have a favorable view of our business?

Uncertainty with respect to future facts impacts forward-looking regulatory programs, strategic planning (and

89. *Id.* Hart viewed all legal systems as a compromise between the general need for legal certainty and the need for some flexibility in applying law to unanticipated future fact situations. *Id.* at 130. He saw the balance between certainty and flexibility as one that could vary broadly between legal systems and over periods of time within the same legal system. *Id.* at 130–31.

90. *See generally* Daniel A. Farber, *Uncertainty*, 99 GEO. L.J. 901, 920–27 (2011).

91. *See id.*

92. The universe of factual uncertainty is broad, and I do not mean to suggest that the factors listed here are the only relevant ones. They are simply three factors particularly important to the relationship between factual uncertainty and regulatory systems.

93. *Cf.* HOLMES, *supra* note 12, at 304 (“Any present fact which is unknown to the parties is just as uncertain for the purposes of making an arrangement at this moment, as any future fact.”).

basic decision-making) by primary actors, and determinations of appropriate penalties in deterrence-based systems.⁹⁴

2. *Scientific Knowledge.* Although it overlaps to some degree with uncertainty as to more basic facts, uncertainty with respect to scientific knowledge has particular characteristics worth addressing separately.⁹⁵ At least two types of uncertainty with respect to scientific knowledge are important to regulatory programs. First, when no scientific consensus exists, regulators must deal with uncertainty about which scientific positions to credit. Second, some uncertainty with respect to scientific knowledge is always present even if scientists are generally in agreement at a particular point in time. As the Supreme Court famously remarked in *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, “[T]here are no certainties in science.”⁹⁶ Although the Court prefaced this remark with a precatory “arguably,” it is accepted in the history and philosophy of science that all scientific theories are subject to revision.⁹⁷ Although some scientific facts are quite secure, many firmly held scientific beliefs have been set aside in favor of newer theories. Much of what we “know” today will likely be shown, in the future, to be incorrect.⁹⁸

3. *Observational Capacity and Observational Resources.* Scientific and other uncertainty exists, in part, because of limits in human observational capacity. These limits are one source of both scientific and factual uncertainty. The simple fact that a phenomenon occurs in our presence does not mean that it is observed in a way that can be useful to any regulatory program.

94. On the tendency of any statute to become obsolete over time, see GUIDO CALABRESI, *A COMMON LAW FOR THE AGE OF STATUTES* 5–7 (1982); GRANT GILMORE, *THE AGES OF AMERICAN LAW* 96–97 (1977). On obsolete Supreme Court decisions, see *id.* at 97–98. On the difficulties involved in decisions to commit resources to combat future risks, see Arden Rowell, *The Cost of Time: Haphazard Discounting and the Undervaluation of Regulatory Benefits*, 85 NOTRE DAME L. REV. 1505, 1517–20 (2010).

95. On scientific uncertainty, see generally HAYEK, *LAW, LEGISLATION, AND LIBERTY*, *supra* note 9, at 8–17; Richard A. Merrill, *Risk-Benefit Decisionmaking by the Food and Drug Administration*, 45 GEO. WASH. L. REV. 994, 1003–06 (1977).

96. *Daubert v. Merrell Dow Pharm., Inc.*, 509 U.S. 579, 590 (1993).

97. However, not all revisions—even those that amount to paradigm shifts—alter the established facts within the older paradigm. Newton’s inverse square law for gravitational attraction, for example, remains useful and reasonably accurate in important domains notwithstanding Einstein’s more complex field equations.

98. Cf. DAVID H. KAYE, DAVID E. BERNSTEIN & JENNIFER L. MNOOKIN, *THE NEW WIGMORE: A TREATISE ON EVIDENCE: EXPERT EVIDENCE* § 8.7.2 (2d ed. 2011) (collecting recent examples from the history of medicine); POSNER, *supra* note 21, at 64–65 (discussing broadly-accepted scientific theories later proved false and providing reasons why it is difficult, and perhaps impossible, to ever prove a scientific theory is true).

Moreover, observation can be costly. Even basic visual, oral, and olfactory observation requires a person's time; techniques requiring specialized equipment or expertise will often be more expensive.⁹⁹

In sum, factual certainty is tied to three related concepts: time; scientific knowledge; and human observational capacity and resources. But uncertainty about facts, as well as uncertainty about the law, is only part of the picture. Even a primary actor that knows the facts and the law with certainty encounters uncertainty about the application of law to fact.

C. *Law-Fact Uncertainty*

Law-fact uncertainty is uncertainty about the way the ultimate decision-maker will apply law to fact.¹⁰⁰ This type of uncertainty is best understood by taking both the law itself and the facts to which it is to be applied as a given constant. Even with the law and facts at a given constant, different decision-makers will reach different conclusions on how the law applies to some sets of facts. The reasons for this uncertainty can include: the decision-maker's competence; the range of potential ideologies of the decision-maker, the decision-maker's susceptibility to outside influence, and the degree to which the decision today will affect the decision-maker's future freedom of decision.

1. *Decision-Maker's Competence.* The first factor implicating the degree of law-fact uncertainty is the decision-maker's competence. A decision-maker without the background, intellectual capacity, resources, or time necessary to understand the law or the facts will be prone to error. For example, there may be cases where the factual or legal issues are sufficiently complex to be beyond the ability of many decision-makers to understand. This is particularly relevant in

99. A few examples of expensive technological aids to perception are night vision equipment, latent fingerprint development and identification, STR-based DNA profiling, satellite imaging, mass spectroscopy, medical imaging, and data mining techniques. Of course, some technologies operate at a sufficiently broad scale that they are less expensive than simple sensory observation. GPS tracking of an automobile, for example, permits extended surveillance that would be prohibitively expensive if conducted by a team of observers seeking to keep the vehicle in sight at all times. *See United States v. Jones*, 132 S. Ct. 945, 948 (2012).

100. On the standards of decision involved in applications of law to fact, see generally KEVIN M. CLERMONT, *STANDARDS OF DECISION IN LAW: PSYCHOLOGICAL AND LOGICAL BASES FOR THE STANDARD OF PROOF, HERE AND ABROAD* (2013).

cases with large amounts of evidence or highly technical expert testimony.

2. *Range of Potential Attitudes or Ideologies.* The second factor impacting the degree of law-fact uncertainty is the range of attitudes or values potentially held by the decision-maker.¹⁰¹ This means that the identity of the decision-maker is likely to be more important where a decision is being made before the decision-maker has been identified;¹⁰² where a large number of different individuals (or groups of individuals) could be the ultimate decision-makers; and where there is significant ideological disagreement among the politically influential groups from whom decision-makers are drawn.¹⁰³

3. *Decision-Makers' Susceptibility to Outside Influence.* The third factor influencing the degree of law-fact uncertainty is the degree to which the decision-maker may be susceptible to outside influence. While the potential attitudes or ideologies of the decision-maker are likely to be tied in significant part to the groups from which the decision-makers are drawn, here we are looking instead at the attitudes and ideologies of present (and potentially future) groups whose favor the decision-maker would like to have (or whose wrath the decision-maker would like to avoid).

This could include, for re-appointable decision-makers, those responsible for reappointment; for civil servants, those responsible for pay and promotion decisions; for elected officials (including state judges), the electorates responsible for

101. On the degree to which a similar range of attitudes, values, or professional conventions increase the predictability of decisions, at least at a particular time and place, see KARL N. LLEWELLYN, *THE COMMON LAW TRADITION: DECIDING APPEALS* 19–20 (1960); HARRY H. WELLINGTON, *INTERPRETING THE CONSTITUTION: THE SUPREME COURT AND THE PROCESS OF ADJUDICATION* 14 (1990). On the way these attitudes, values, or professional conventions change over time, see *id.* at 16–19. On the relationship between ideology and random case assignment in a pool of decision-makers, see Adam M. Samaha, *Randomization in Adjudication*, 51 WM. & MARY L. REV. 1, 55–57 (2009). On the attitudinal model of judicial decision-making, see generally Howard Gillman, *What's Law Got to Do with It? Judicial Behavioralists Test the "Legal Model" of Judicial Decision Making*, 26 L. & SOC. INQUIRY 465, 467, 485–86 (2001) (reviewing HAROLD J. SPAETH & JEFFREY A. SEGAL, *MAJORITY RULE OR MINORITY WILL: ADHERENCE TO PRECEDENT ON THE U.S. SUPREME COURT* (1999)).

102. This includes a tremendous amount of primary conduct. Consider, as one example, tort law, which provides incentives for primary conduct even though—at the time the conduct takes place—the state, court system, judicial district, and applicable substantive law are often undetermined or even unknowable.

103. This could include groups politically influential in the present (to which decision-makers may currently be beholden) and groups politically influential in the past, from which long-serving decision-makers (such as federal judges) may have been drawn.

re-election (or recall) or the political parties responsible for determining whether a decision-maker reappears on a ballot;¹⁰⁴ and for nearly any decision-maker, those who could potentially appoint the decision-maker to higher profile or higher-paying positions.¹⁰⁵

4. *Degree to Which Today's Decision Will Affect Future Decisions.* The fourth factor influencing the amount of law-fact uncertainty on a particular issue is the degree to which a decision could affect future decisions.¹⁰⁶ This could involve either the precedential effect of the current decision or the extent to which the current decision might impact the decision-makers' future identity or composition.

The precedential effect of the current decision on *future* cases constrains a decision-maker in three respects. First, it may limit the decision-maker's freedom of decision in future cases through its formal or informal precedential effect.¹⁰⁷ Second, it may restrict the freedom of lower-level decision-makers (such as lower courts or lower-level agency officials) in the decision-making hierarchy.¹⁰⁸ Third, it may drain the decision-maker's political capital, limiting its ability to depart from precedent in future cases.¹⁰⁹

104. Cf. John H. Langbein, *The German Advantage in Civil Procedure*, 52 U. CHI. L. REV. 823, 853–55 (1985) (noting the dominant role of party selection of judicial nominees in Cook County, Illinois).

105. An important note is due here. The types of outside influence involved are not all improper. As one example, drafters of state constitutions would not have made judges face elections if they did not want them to be—at least in some broad sense—influenced by their prospects for re-election. This is balanced, at least in part, by the fact that an electoral challenger can make an election issue out of any decision that appears to have gone beyond the proper bounds of decision-making based on applicable facts and law.

106. On the forward-looking role of precedent, see Frederick Schauer, *Precedent*, 39 STAN. L. REV. 571, 572–73 (1987) (“[Although] [a]n argument from precedent seems at first to look backward[,] . . . in an equally if not more important way, an argument from precedent looks forward as well, asking us to view today's decision as a precedent for tomorrow's decisionmakers.”).

107. *Id.* at 576–79.

108. *Id.* at 576.

109. In discussing the role of precedent in Supreme Court decision-making, Frederick Schauer concludes that a strong norm of following horizontal precedent “appears now not to exist and . . . appears not to have existed for at least several generations.” Frederick Schauer, *Has Precedent Ever Really Mattered in the Supreme Court?*, 24 GA. ST. U. L. REV. 381, 397 (2007). Nevertheless, the justices write their opinions as if precedent did constrain them, *see id.* at 382 & n.4, and are subject to criticism (from dissenting justices and outside commentators) when they appear to disregard it. *See, e.g., id.* at 382–85 (noting extensive criticism of the Roberts Court for perceived failures to follow horizontal precedent). Moreover, it is worth noting that the U.S. Supreme Court suffers legitimacy costs even when it issues decisions that are perceived as substantively correct—when those decisions rely on a substantial departure

The degree of law-fact uncertainty on a high-profile issue can also be affected by the degree to which a current decision might influence the decision-making institution's future identity or composition.¹¹⁰ A classic example (and one usually viewed today as positive)¹¹¹ is the U.S. Supreme Court's change of heart—in the wake of President Franklin Roosevelt's Court-packing plan—on the constitutionality of New Deal programs.¹¹² A more recent example is the U.S. Supreme Court's decision in *Bush v. Gore*, which effectively determined the outcome of the 2000 presidential election.¹¹³ Had a justice retired or passed away during the first term of George W. Bush's presidency, President Bush's opportunity to appoint a Supreme Court justice would have been a fairly direct result of the *Bush v. Gore* decision.¹¹⁴ Other significant examples tied less to a decision in a single case include the possible role of the Warren Court's pro-defendant criminal procedure decisions in leading to the establishment of the Burger and Rehnquist Courts.¹¹⁵

This Part (III.C) has focused on law-fact uncertainty. It has suggested that law-fact uncertainty is tied to four related factors: the decision-maker's competence; the range of attitudes or ideologies potentially held by the relevant decision-maker; the decision-maker's susceptibility to outside influence; and the degree to which the current decision may increase or decrease the decision-maker's future discretion.

from existing precedent. See, e.g., MICHAEL J. KLARMAN, *Foreword to FROM JIM CROW TO CIVIL RIGHTS: THE SUPREME COURT AND THE STRUGGLE FOR RACIAL EQUALITY*, at vii (2004) ("Every teacher of constitutional law must ultimately make peace with *Brown v. Board of Education* (1954) . . ."); Herbert Wechsler, *Toward Neutral Principles of Constitutional Law*, 73 HARV. L. REV. 1, 31–35 (1959) (strongly criticizing *Brown's* reasoning while implying substantive agreement with the outcome).

110. This is apparent with respect to a limited number of high profile cases in the U.S. Supreme Court, but a similar phenomenon likely affects other courts (especially state courts chosen by election) and politically appointed agency officials (in both independent and non-independent agencies).

111. See, e.g., CALABRESI, *supra* note 94, at 15.

112. See *W. Coast Hotel Co. v. Parrish*, 300 U.S. 379 (1937).

113. *Bush v. Gore*, 531 U.S. 98 (2000). On the *Bush v. Gore* decision, see generally THE VOTE: BUSH, GORE, AND THE SUPREME COURT (Cass R. Sunstein & Richard A. Epstein eds., 2001).

114. The chain of causation is far more attenuated with respect to the two nominations President George W. Bush was able to make following his 2004 re-election.

115. See Eric A. Posner, *Casual with the Court*, NEW REPUBLIC (Oct. 23, 2011), <https://newrepublic.com/article/94516/nixons-court-kevin-mcmahon> (reviewing KEVIN J. MCMAHON, *NIXON'S COURT: HIS CHALLENGE TO JUDICIAL LIBERALISM AND ITS POLITICAL CONSEQUENCES* (2011)) (noting that "[Nixon] sought a justice who would support his anti-busing and pro-law-and-order position" and accordingly "chose Warren Burger, who had delivered speeches taking Nixon's line on law-and-order"); *id.* ("[Nixon] wanted a court that would moderate the Warren Court's opinions on busing and the rights of criminal defendants, and that is what he got.").

To summarize, three broad types of uncertainty affect regulation of conduct by the legal system: legal uncertainty; factual uncertainty; and law-fact uncertainty. Examining the broad range of fact and law-fact uncertainty, however, it appears that the concern frequently focused on legal uncertainty may be overstated. Legal certainty is often desirable, but it is insufficient to give primary actors a solid background against which to plan. Factual uncertainty is pervasive, and law-fact uncertainty reduces the degree to which legal certainty gives parties any definite information about how the law will be applied to their conduct. The next Part focuses on the relationship between legal uncertainty, legal complexity, and legal form—and questions whether legal certainty can be realized.

IV. THE LIMITS OF LEGAL CERTAINTY

This Part argues that there are fundamental limits on how much certainty can be achieved through the law.¹¹⁶ These limits can be illuminated by discussion of the relationship between legal uncertainty and legal form. Legal requirements can be understood as points or regions in a space with two axes¹¹⁷—a horizontal axis ranging from rules to standards and a vertical axis ranging from simple to complex.¹¹⁸

Under this model, there are two basic ways of changing the degree of certainty that characterizes a particular legal

116. The focus of this discussion is on uncertainty about *present* content of the law, but much of the discussion should also apply to uncertainty about past or future content of the law as well.

117. A prior article by this Author uses the term spectrum rather than axis, and models both spectra as extending in a potentially infinite space in each direction. Muchmore, *supra* note 21, at 180. After further discussions with a colleague, I now believe that this should be modified as follows. First, the rule-standard axis should be bounded at each end, as there do seem to be pure rules and pure standards. A pure rule would be a requirement that indicated “no” to any question about whether something was permitted or, alternatively, a requirement that indicated “yes” to any question about whether something was permitted. A pure standard would be something that instructed a decision-maker to use his or her unbounded discretion. Second, the simple-complex axis should be bounded at the “simple” end but extend to infinity on the “complex” side. At one end, with pure simplicity, no legal requirement would exist at all. With no law to constrain behavior, the legality of every action can be determined with no effort. Complexity extends to infinity because it should always be possible to make something more complex by adding additional specificity or creating additional, related requirements. It also follows that there should be a precise midpoint on the rule-standard axis, but no precise midpoint on the simple-complex axis.

118. For a detailed illustration, see Muchmore, *supra* note 21, at 180. This models the horizontal axis with rules on the left and standards on the right. It models the vertical axis with simple at the top, and complex at the bottom. This puts *simple rules* in the upper-left quadrant, *simple standards* in the upper-right quadrant, *complex rules* in the lower-left quadrant, and *complex standards* in the lower-right quadrant.

requirement. The first is moving a legal requirement between the “rule” and “standard” ends of the horizontal axis. This can be done by either amending or re-interpreting the requirement to fall at a different place on the horizontal axis. The second is moving the requirement to a new point between the “simple” and “complex” ends of the vertical axis. This can be done by either amending or re-interpreting the requirement to fall at a different place on the vertical axis.¹¹⁹

There are limits on how much certainty can be increased by moving from standards to rules, or from simple to complex legal requirements. After a given point is reached, further movement in these directions can decrease, rather than increase, legal certainty. As developed in this Part, there are two limits on the degree to which making a requirement more rule-like can increase certainty. Those limits result from the presence of other, related rules¹²⁰ and from the tendency of many human decision-makers to seek justice in an individual case.¹²¹ Likewise, there are two limits on the degree to which making a requirement more complex can increase certainty.¹²² Those limits result from the resources required to understand complex rules¹²³ and from the fact that each additional consideration in a standard provides a different ground on which a decision might wholly or partly be based.¹²⁴

A. *Making Requirements More Rule-Like*

1. *The Problem of Inconsistent Rules.* As discussed in more detail below, the certainty of rules is reduced to the degree that the choice between two or more rules leading to different outcomes is underdetermined.¹²⁵ The more related rules there are

119. On characteristics that increase or decrease the complexity of a legal requirement, see *supra* notes 38–50 and accompanying text.

120. See *infra* Part IV.A.1.

121. See *infra* Part IV.A.2.

122. For simplicity, the discussion in the following paragraphs will refer to rules and standards as ideal types, even though real legal requirements instead exist as a range between those two extremes. See *supra* Part II.A.

123. See *infra* Part IV.B.1.

124. See *infra* Part IV.B.2.

125. The argument in this Article does not depend on any specific claim about what is and is not part of the same legal requirement. For fascinating empirical work on what is—and is not—part of the same legal subject, see the work Michael Gilbert has done on single-subject rules in direct democratic elections. Robert D. Cooter & Michael D. Gilbert, *A Theory of Direct Democracy and the Single Subject Rule*, 110 COLUM. L. REV. 687 (2010); Michael D. Gilbert, *Does Law Matter? Theory and Evidence from Single-Subject Adjudication*, 40 J. LEGAL STUD. 333 (2011); Michael D. Gilbert, *Single Subject Rules and the Legislative Process*, 67 U. PITT. L. REV. 803 (2006).

to apply, the more likely any given rule is to conflict with the other, related rules.¹²⁶

Rule systems are internally inconsistent when, on the same set of facts, two rules leading to two different outcomes can legitimately be applied.¹²⁷ For example, multiple rules may purport to dictate the outcome of particular cases, with no broadly accepted meta-rule to determine which of those rules should be applied to a particular set of facts.¹²⁸ In such a situation, the regulatory scheme contains multiple, similarly authoritative rules that would, if applied, lead to conflicting outcomes.¹²⁹ Common illustrations of conflicting rules include lines of precedent in courts that rarely overrule old decisions (such as those in place in the U.S. Supreme Court);¹³⁰ canons of statutory construction;¹³¹ and characterization decisions of courts applying the *Restatement (First) of Conflict of Laws*.¹³² In these situations, uncertainty comes not from the application of any particular rule, but from the fact that the choice of which rule to

126. Cf. Tullock, *supra* note 13, at 204–06 (noting the tendency of highly detailed legal systems to contain inconsistent requirements).

127. See Sunstein, *supra* note 20, at 989. A simple example is a situation where mainstream right-leaning jurisprudential views can be used to justify one outcome and mainstream left-leaning jurisprudential views can be used to justify the opposite outcome.

128. Cf. CALABRESI, *supra* note 94, at 179 (suggesting, with Justice Black's advocacy of absolutes as an example, that structuring legal requirements as rules puts power in the hands of those in a position to choose which of various competing rules to apply to a particular case); Karl N. Llewellyn, *Remarks on the Theory of Appellate Decision and the Rules or Canons About How Statutes Are to Be Construed*, 3 VAND. L. REV. 395, 401–06 (1950) (suggesting that, in statutory interpretation, “there are two opposing canons on almost every point,” and listing twenty-eight pairs of opposing canons).

129. The most accessible example here is the body of precedent produced by many courts in the United States. As court personnel (and the rest of society) have changed over time, many courts have been left with lines of jurisprudence setting out competing rules. Even if courts did not have the option of modifying their precedent (or choosing to apply standards instead of rules), it would still be difficult to predict, in many situations, which of the competing lines of rules the relevant court would apply in the future.

130. Wade, *supra* note 9, at 196 & n.32 (citing *Comm'r v. Coronado Oil & Gas Co.*, 285 U.S. 393, 405 (1932) (Brandeis, J., dissenting)). A colleague has suggested that the U.S. Supreme Court's failure to overrule older precedents explicitly does not create a system of conflicting rules, because it is standard doctrine that the newer case governs. I agree to a point. Sometimes it is sufficiently obvious an older case is no longer valid that, in practice, there is no real conflict with the newer case. But there are also situations where the Court sets out a conflicting rule in a newer case while distinguishing the old case on highly debatable grounds. In this situation, future Courts can pick between two conflicting rules without any clear meta-rule to aid in making that choice.

131. See Llewellyn, *supra* note 128, at 401–06.

132. See WALTER WHEELER COOK, *THE LOGICAL AND LEGAL BASES OF THE CONFLICT OF LAWS* 233–35 (2d prt. 1949) (criticizing the *Restatement (First) of Conflict of Laws* for providing little guidance on how courts should make the often outcome-determinative decision of how to characterize—assign to a legal category, such as tort or contract, substance or procedure, etc.—a particular legal issue).

apply is legally underdetermined.¹³³ And here is the irony. In this case, the presence of conflicting rules pushes the legal requirement closer to the standard end of the continuum as it becomes increasingly difficult to know *ex ante* which of the various competing “rules” to apply.

2. *The Pressure for Justice in the Individual Case.* As a requirement becomes more rule-like, it becomes increasingly likely that a human decision-maker will seek to evade the requirement to avoid an outcome the decision-maker believes to be unjust. The possibility that this will happen creates some (though perhaps a low) level of uncertainty. Once a given rule has been evaded on multiple occasions, however, future primary actors face a situation increasingly similar to one with multiple, conflicting rules.¹³⁴

B. Adding Complexity

1. *To Rules.* Up to a point, adding complexity to rules can increase legal certainty by specifying predetermined outcomes in a greater range of fact situations. But adding complexity to rules reduces legal certainty in at least two situations.¹³⁵

First, it reduces legal certainty to the extent a decision-maker lacks the capacity to understand the more complex rule (either in terms of mental capacity, resources, or time available).¹³⁶ For a system of rules, complexity begins to decrease certainty when the rule-based system becomes so complex that it is difficult for a decision-maker to determine how rules interact to govern the primary actor’s conduct. This effect is

133. This is the case because rules license decision-makers to reach decisions that do not require any justification beyond—“this is the rule that applies.” The determinism of rules is not problematic, from a rule of law perspective, when a single rule governs the situation at issue. However, it is problematic when decision-makers are faced with two similarly authoritative rules that, if applied, generate conflicting outcomes.

134. See Sunstein, *supra* note 20, at 986 (“[O]nce it is decided that a single exception will be allowed, it is always open, in principle, to decide that another exception should be made too.”).

135. Of course, when a rule or rule system is not yet overly complex, adding complexity can increase certainty—up to a point.

136. Legal requirements are frequently applied not by the stereotypical federal judge assisted by law clerks, but by busy bureaucrats (who may not have any formal legal training) or overworked state trial judges (who may have a caseload so heavy that they are rarely able to conduct any legal research before ruling on an issue).

On the idea that increasingly detailed legal requirements can reduce, rather than increase, certainty, see Endicott, *supra* note 13, at 383; Schuck, *supra* note 34, at 12, 18–19; Stevenson, *supra* note 34, at 1160. In speaking about the legal system generally, Harry Wellington observed: “In our system the law is much too complex to be very clear even to specialists, and almost surely must remain so.” WELLINGTON, *supra* note 101, at 6.

similar to a situation involving multiple, conflicting rules, but is caused by complexity within one requirement rather than complexity across multiple, related requirements.

Second, complexity reduces legal certainty to the extent that a decision-maker determines it is not worth the trouble to understand the rule's complexity. The difference here is that the reduced certainty comes not from limits on the decision-maker's capacity, but from the decision-maker's cost-benefit calculation.¹³⁷

In either case, the certainty of the legal requirement is reduced to the degree that the choice between two or more legal requirements (leading to different outcomes) is underdetermined. For example, there is relatively little uncertainty about the technical meaning of a simple rule such as “[speed] limit of 55 miles per hour.”¹³⁸ At the opposite end of the spectrum, the U.S. tax code is a notoriously complex system primarily composed of purportedly certain rules.¹³⁹ Despite seeking to specify outcomes in advance, the various statutes, regulations, and interpretive documents can make it difficult for a decision-maker to determine the precise tax implications of an individual transaction or event. In other words, decision-makers applying simple rules will be less error-prone than those applying complex ones.¹⁴⁰

2. *To Standards.* As with rules, adding complexity to standards can increase certainty up to a point. For standards, the type of complexity that is likely to decrease their certainty is the presence of a large number of distinct factors that must be considered in the analysis. As the effect of complexity varies for different actors, this number will vary from situation to

137. See Kaplow, *supra* note 34, at 151, 161.

138. Note that uncertainty about the technical meaning of a legal requirement is different from uncertainty about whether a technical violation (say, driving 56, 60, or 65 mph rather than 55 mph) will be enforced. On the possibility that legal requirements may at times be intended to force compliance with a standard lower than that actually set out in the rule itself (such as a 55 mph speed limit enforced only when drivers exceed it by 20 mph), see Michael D. Gilbert, *Insincere Rules*, 101 VA. L. REV. 2185, 2193 (2015). For a suggestion that a speed limit sign is a “rather misleading advertisement” of the content of the law, see Tullock, *supra* note 13, at 206.

139. Like any system of rules, it has some embedded standards. See Muchmore, *supra* note 21, at 178 & n.17 (noting existence of the standard-like economic loss doctrine in largely rule-based tax law).

140. See LARRY ALEXANDER & EMILY SHERWIN, *THE RULE OF RULES: MORALITY, RULES, AND THE DILEMMAS OF LAW* 31 (2001) (citing the tax code as an example of a situation where “the presence of a lot of specific rules . . . create[s] indeterminacy about what ought to be done even if the individual rules are quite specific”).

situation.¹⁴¹ However, it seems likely that moving from one factor to two or three factors will at times increase legal certainty. Conversely, moving from two-to-three factors to ten-to-twelve factors will often decrease legal certainty.¹⁴²

Once multiple factors are relevant, the decision-maker is faced with a situation that presents some (but not all) of the same problems as a situation involving multiple inconsistent rules. This is not because it is impossible to know in advance what the decision-maker will do—that is also true (at least in borderline cases) with simple standards. It is instead because the presence of multiple factors allows the decision-maker to choose which of the multiple factors to privilege in the balancing process. This results in a range of realistically possible outcomes that is likely larger than would be present with a single-factor standard.¹⁴³

Classic examples of legal requirements that at least verbally are structured as simple standards include: the various “reasonable person” and “reasonableness” tests;¹⁴⁴ the “clear and

141. See *supra* Part II.C.

142. This may derive in part from basic limits on human capacity to process information. The classic article is George A. Miller, *The Magical Number Seven, Plus or Minus Two: Some Limits on Our Capacity for Processing Information*, 63 PSYCHOL. REV. 81 (1956), reprinted in 101 PSYCHOL. REV. 343, 348 (1994) (suggesting that humans can typically identify around seven different magnitudes of any “unidimensional stimulus variable”). For a discussion of the significance of Miller’s observations for legal decision-making, see CLERMONT, *supra* note 100, at 62–66.

143. William Eskridge has made a similar point with respect to legislative history, which “opens up the judicial mind to possibilities that might not have occurred to the judge.” William N. Eskridge, Jr., *The New Textualism and Normative Canons*, 113 COLUM. L. REV. 531, 562 (2013) (book review). Eskridge refers to this as the “hermeneutical value of legislative history.” *Id.* (emphasis omitted). This is also related to the literature questioning Ronald Dworkin’s chain-novel theory of judicial precedent. Compare Dworkin, *supra* note 61, at 228–38 (setting out chain-novel theory that judicial discretion decreases as precedent increases), with Stefanie A. Lindquist & Frank B. Cross, *Empirically Testing Dworkin’s Chain Novel Theory: Studying the Path of Precedent*, 80 N.Y.U. L. REV. 1156, 1204 (2005) (concluding, based on empirical analysis of civil cases under 42 U.S.C. § 1983, that judicial discretion begins high in cases of first impression, decreases up to a point as precedent accumulates, then begins to increase again—likely because a sufficiently large number of precedents gives judges the ability to pick and choose which of multiple contradictory precedents to rely on). However, an early-stage working paper by Adam Samaha suggests that—under certain assumptions—an increase in the number of available sources reduces, rather than increases, judicial discretion. See Adam Samaha, *Looking over a Crowd—Do More Interpretive Sources Mean More Discretion?* (draft on file with author).

144. These tests, of course, are only “simple” standards when they do not include a sub-test requiring courts to consider or balance specific, additional factors. See EPSTEIN, *supra* note 22, at 160 (discussing complexity of case law on “just cause” requirement in employment law).

convincing evidence”¹⁴⁵ standard in certain civil cases;¹⁴⁶ the “beyond a reasonable doubt” standard in criminal law;¹⁴⁷ the “unconscionability” exception in contract and sales law;¹⁴⁸ and the “unreasonable search”¹⁴⁹ prohibition and “probable cause” requirement in criminal procedure.¹⁵⁰

The paradigmatic example of a complex standard is a multifactor balancing test.¹⁵¹ A balancing test can be either exhaustive (specifying all factors that can be considered)¹⁵² or non-exhaustive (specifying that factors other than the ones listed can also be considered).¹⁵³ The balancing test can specify relative weights for the individual factors or can allow the decision-maker to give each factor the weight he or she deems appropriate.

In other words, policy-driven decisions may be more common when decision-makers are asked to apply complex standards such as non-exhaustive, multifactor balancing tests instead of

145. See, e.g., MODEL CIVIL JURY INSTRUCTIONS FOR THE DIST. COURTS OF THE THIRD CIRCUIT § 1.11 (Comm’n on Model Civil Jury Instructions Within the Third Circuit 2015) (explaining “[c]lear and convincing evidence”).

146. I do not include the normal, “preponderance of the evidence” requirement in civil cases here because that requirement is quite certain in the abstract. It requires a judge or jury to find in favor of a plaintiff so long there is ever-so-slightly more than a 50% probability favoring the plaintiff. See, e.g., *id.* § 1.10 (explaining preponderance of the evidence). This is still a standard rather than a rule, as it operates *ex post* rather than *ex ante*. However, the uncertainty here is not “legal uncertainty,” as the legal requirement is precise. It is, instead, uncertainty about the application of law to fact. See *infra* Part III.C. By contrast, both “clear and convincing evidence” and “beyond a reasonable doubt” are legally uncertain, as they are deliberately structured to avoid providing a precise quantity or percentage likelihood that a decision-maker must calculate.

On the possibility that some amount of legal uncertainty remains even in the preponderance of the evidence standard, see CLERMONT, *supra* note 100, at 210–11, 275–78.

147. See, e.g., MODEL CRIMINAL JURY INSTRUCTIONS FOR THE DIST. COURTS OF THE THIRD CIRCUIT § 3.06 (Comm’n on Model Civil Jury Instructions Within the Third Circuit 2015) (explaining proof beyond a reasonable doubt). On the requirement of proof beyond a reasonable doubt, see *In re Winship*, 397 U.S. 358, 364 (1970).

148. U.C.C. § 2-302(1) (AM. LAW INST. & UNIF. LAW COMM’N 2013) (providing that a court can refuse to enforce all or part of a contract on the ground of unconscionability); see also U.C.C. § 2-302 cmt. 1 (explaining unconscionability test).

149. U.S. CONST. amend. IV.

150. *Id.*

151. See Muchmore, *supra* note 21.

152. See Sunstein, *supra* note 20, at 964 (using as an example the Emergency Petroleum Allocation Act of 1973, which mandated that the agency “provide for” nine diverse factors “to the maximum extent practicable” and “added that each of the nine factors is equally important” (citing Act of Nov. 27, 1973, § 4(b)(1), Pub. L. No. 93-159, 87 Stat. 627, 629–30)).

153. See, e.g., *Daubert v. Merrell Dow Pharm., Inc.*, 509 US 579, 593 (1993) (prominently explicating four or five factors for evaluating the admissibility of scientific evidence but noting that “[m]any factors will bear on the inquiry, and we do not presume to set out a definitive checklist or test”).

simple, single-factor standards. Similarly, from a behavioral economic perspective, something similar to the availability heuristic might make it more likely that a decision-maker would rely on a particular, otherwise-unlikely factor when it is listed in a multifactor test than if the decision-maker is presented with a straightforward single-factor test.¹⁵⁴

For example, the basic torts choice-of-law provision of the *Restatement (Second) of Conflict of Laws* directs courts to apply the law of the state that has “the most significant relationship to the occurrence and the parties” with respect to the particular issue in question.¹⁵⁵ In making that determination, courts are to consider four physical locations, “evaluat[ing] [them] according to their relative importance with respect to the particular issue”: the “place where the injury occurred,” “the place where the conduct causing the injury occurred,” “the domicil[e], residence, nationality, place of incorporation and place of business of the parties,” and “the place where the relationship, if any, between the parties is centered.”¹⁵⁶ This works well if all four factors point to the same state—but if that is the case, the court does not have a conflict-of-laws problem and simply applies the law of the only relevant state. When the different factors point in different directions, the *Restatement* may legitimize greater reliance on one of these factors than courts might have been willing to use had the requirement simply been to apply the law of the place with the “most significant relationship” to the case as a whole.¹⁵⁷

Of course, the point at which additional complexity begins to decrease certainty is an empirical question. Barton Beebe has

154. To be clear, I am not suggesting that the availability heuristic (which is generally taken as the tendency to consider memorable or emotionally salient outcomes to be more likely than they in fact are) is directly applicable here. For a classic work on the availability heuristic, see generally Amos Tversky & Daniel Kahneman, *Availability: A Heuristic for Judging Frequency and Probability*, in *JUDGMENT UNDER UNCERTAINTY: HEURISTICS AND BIASES* 163, 163–65 (Daniel Kahneman et al. eds., 1982).

155. RESTATEMENT (SECOND) OF CONFLICT OF LAWS § 145(1) (AM. LAW INST. 1971).

156. *Id.* § 145(2).

157. It isn't even this simple. Section 145(1) doesn't just point to “the most significant relationship” to the case as a whole. It directs court to look to “the most significant relationship to the occurrence and the parties under the principles stated in § 6.” *Id.* § 145(1). The occurrence (territory) and the parties (nationality/residence/domicile) are two diametrically opposed bases on which conflict-of-law regimes can be based. See LEA BRILMAYER, *CONFLICT OF LAWS: FOUNDATIONS AND FUTURE DIRECTIONS* § 1.13 (1995). Moreover, section 6 is an even broader multifactor balancing test, including factors such as “the needs of the interstate and international systems” and “the basic policies underlying the particular field of law.” RESTATEMENT (SECOND) OF CONFLICT OF LAWS § 6(2)(a), (e). Finally, it is not at all clear whether one begins by applying section 145 and then moves to section 6, or vice-versa (beginning with section 6 and moving to section 145).

done pioneering empirical analysis of the way judges actually apply two doctrinally important multifactor tests in intellectual property law: the test for trademark infringement and the test for copyright fair use.¹⁵⁸

Beebe's trademark infringement results suggest that judges applying multifactor tests tend to rely on "a limited number of core factors" to determine the outcome of complex multifactor tests.¹⁵⁹ In doing so, they appear to employ a "*core attributes heuristic*," which leads them to "stop acquiring and analyzing information once the last in their set of most important, determinant attributes has been acquired and analyzed."¹⁶⁰ Once judges have determined the test outcome based on these core factors, they tend to "stampede"¹⁶¹ the other factors to "subsequently fall in line to support that outcome."¹⁶²

Beebe's copyright fair use results suggest that conventional academic and judicial perceptions may be poor predictors of how particular multifactor tests operate in practice.¹⁶³ In particular, on-the-ground application of multifactor tests may diverge substantially from what is suggested by a review of traditional "leading cases" in the field.¹⁶⁴

Overall, adding complexity to standards does the same thing it does for rules. Up to a point, complexity increases legal certainty; past that point, it decreases legal certainty.

Thus, there are limits on how much legal certainty can be increased by either making a requirement more rule-like or making a requirement more complex. At some point, further movement in these directions can decrease, rather than increase, legal certainty.

158. The first is the multifactor test for likelihood of confusion in trademark law. Barton Beebe, *An Empirical Study of the Multifactor Tests for Trademark Infringement*, 94 CALIF. L. REV. 1581 (2006) [hereinafter Beebe, *Trademark Infringement*]. The second is the multifactor test for fair use in copyright law. Barton Beebe, *An Empirical Study of U.S. Copyright Fair Use Opinions, 1978-2005*, 156 U. PENN. L. REV. 549 (2008) [hereinafter Beebe, *Copyright Fair Use*].

159. Beebe, *Trademark Infringement*, *supra* note 158, at 1600.

160. *Id.* at 1602.

161. *Id.* at 1600.

162. *Id.* at 1615.

163. Beebe, *Copyright Fair Use*, *supra* note 158, at 552-54. Beebe's results also suggest an additional layer of complexity for multifactor tests. To the extent conventional perceptions do not reliably predict how multifactor tests operate in practice, empirical analysis beyond the capabilities of most practicing lawyers may be necessary to determine the effective content of the law. In other words, even if some multifactor tests turn on a relatively small number of core factors, the fact that empirical analysis is required to identify those core factors itself increases the complexity of the relevant legal requirement.

164. *Id.* at 555.

V. THE ROLE OF LEGAL UNCERTAINTY IN REGULATORY DESIGN

Up to now, the Article has focused on establishing two primary points. First, legal uncertainty is a smaller practical problem than it is often thought to be because it is dwarfed by other types of uncertainty. Second, interaction between legal certainty and legal complexity limits the amount of legal certainty that can be achieved.

The framework developed to establish those primary points suggests further possibilities for analyzing the role of legal uncertainty in regulatory design. This Part will advance four tentative propositions for further research.¹⁶⁵ A thorough examination of each of them is beyond the scope of this Article, but they suggest the value of a solid analytical framework for analyzing the role of uncertainty in regulatory design.

The four propositions are: (1) pockets of legal uncertainty are often a desirable characteristic of regulatory systems; (2) large swings over time between high levels of certainty and uncertainty are less desirable than a consistent, moderate level of legal uncertainty; (3) arguments for legal certainty are rarely distributionally neutral and are often window dressing for what are fundamentally distributional arguments; and (4) uncertainty about the content of future legal requirements is qualitatively different from uncertainty about the application of existing legal requirements.

A. *Pockets of Legal Uncertainty*

The first proposition is that pockets of uncertainty are desirable in many, and perhaps most, regulatory systems. There are several reasons for this. There are times when a seemingly uncertain legal requirement may in fact be more certain in practice than a seemingly precise one.¹⁶⁶ Requirements setting a precise limit on socially undesirable behavior can encourage primary actors to come as close to that limit as possible.¹⁶⁷ And,

165. To which the Author of this Article hopes to contribute soon.

166. See, e.g., Rose, *supra* note 21, at 609 (“At least in some instances, there is a great deal more clarity and certainty about a mud rule than a crystal one. This view is reflected in the Uniform Commercial Code, where a muddy term like ‘commercial reasonableness’ is regarded as a standard that is more predictable to business people than such arcana as the mailbox rule of offer and acceptance.” (footnote omitted)).

167. See Parchomovsky & Stein, *supra* note 9, at 179–80; see also Kennedy, *supra* note 21, at 1695–96 (“Rules, on the other hand, allow the proverbial ‘bad man’ to ‘walk the line,’ that is, to take conscious advantage of under-inclusion to perpetrate fraud with impunity.”). However, this can also cut the other direction, especially if the regulatory goal is an optimal level of the behavior rather than a minimal politically achievable level. Uncertain legal requirements can in some circumstances encourage either under- or

as described above, efforts to eliminate uncertainty by adding additional specificity can simply result in complex, uncertain requirements.¹⁶⁸

Together, this means that promulgating certain requirements in all circumstances would result in a deadweight social loss. It is easy to see why this can happen. Promulgating a legal requirement, whether by the Legislative, Executive, or Judicial Branch, consumes resources that will not be usable elsewhere.¹⁶⁹ Those involved in developing regulatory systems have limited factual information about the present and even more limited factual information about the future. Simple requirements may require less effort than complex requirements, but they will nearly always be over- or under-inclusive.¹⁷⁰ More complex requirements may be less over- or under-inclusive, but will require a correspondingly larger investment of resources to develop.

Even with a substantial investment of resources, regulators will still have limited factual information about relevant current and future states of the world. It is highly unlikely that they will be able to anticipate all future situations to which the regulatory system they are developing will be applied. Without this predictive ability, it may be wasteful to invest the resources necessary to develop a system of certain, *ex ante* rules.

Instead, those involved in regulation should seek to determine which aspects of the regulatory system should be governed by certain legal requirements and which aspects should be governed by uncertain requirements. Once the appropriate locations for uncertainty have been identified, regulators should focus on the manner in which the legal requirement is structured¹⁷¹ and the individual or entity to whom the duty to interpret and apply the uncertain requirement is delegated.¹⁷²

over-compliance. *See generally* John E. Calfee & Richard Craswell, *Some Effects of Uncertainty on Compliance with Legal Standards*, 70 VA. L. REV. 965, 966 (1984).

168. *See supra* Part IV.B.

169. *See generally* Kaplow, *supra* note 21.

170. *See, e.g.*, SCHAUER, *supra* note 21, at 31–34, 50; Sunstein, *supra* note 20, at 990.

171. *See supra* Part IV (discussing simple rules, complex rules, simple standards, and complex standards).

172. On the incentive structures involved in decisions to delegate authority, see generally DAVID EPSTEIN & SHARYN O'HALLORHAN, *DELEGATING POWERS: A TRANSACTION COST POLITICS APPROACH TO POLICY MAKING UNDER SEPARATE POWERS* (1999). For an analysis of potential problems involved in delegating enforcement authority in a specific field (imported-food safety), see Muchmore, *supra* note 3, at 397–416.

B. Taming the Certainty-Uncertainty Cycle

The second proposition is that large swings over time between high levels of certainty and uncertainty are less desirable than a consistent, moderate level of legal uncertainty. Many legal theorists have detected a cycle between rules and standards, rigidity and flexibility.¹⁷³ This is itself a source of legal uncertainty, either because the content of legal requirements are changed repeatedly, or because legal requirements are repeatedly reinterpreted to meet the mood of the time.¹⁷⁴ Careful attention to where legal uncertainty exists in a particular regulatory scheme can help minimize the frequency and severity of these swings. Moderate levels of legal uncertainty, placed appropriately, can perhaps contribute to overall stability and predictability.

C. Disguised Distributional Arguments

The third proposition is that arguments for legal certainty are rarely distributionally neutral and are often window dressing for what are fundamentally distributional arguments.¹⁷⁵ Once baselines are taken into account, arguments for legal certainty are rarely distributionally neutral.¹⁷⁶ Pareto superior changes are rare; replacing an uncertain legal requirement with a certain legal requirement ordinarily will harm at least one person or group.¹⁷⁷ This group consists of those who would have benefited from the decision-maker's discretion under the existing standard, but do not qualify for similar beneficial treatment under the new, more certain legal requirement. Similarly, it will benefit at least one group—those who would not have benefited from the decision-maker's discretion under the existing standard, but who will benefit from the arbitrary cutoff inherent in a certain legal requirement.

Additionally, lawyers, regulatory compliance specialists, accountants, and everyone else who earns money providing advice on compliance with legal requirements will feel

173. See *supra* note 31 and accompanying text.

174. On changes in law to meet the overall mood of the time, see GILMORE, *supra* note 94, at 68–70.

175. I develop this point further in a separate paper focused on the regulation of civil litigation.

176. On the concept of baselines, see generally WARD FARNSWORTH, *THE LEGAL ANALYST: A TOOLKIT FOR THINKING ABOUT THE LAW* 198–206 (2007).

177. Unless it is truly a Pareto superior change, which is highly unlikely in the real world. And, of course, the converse is also true—replacing a certain legal requirement with an uncertain legal requirement will necessarily harm at least one person or group.

distributional effects from increases or decreases in legal certainty. However, at least a portion of those distributional effects is unrelated to the distributional impact created by the substantive law itself. Generally speaking, these professionals will be harmed by increases in the simplicity of legal requirements and will benefit from increases in their complexity.¹⁷⁸

This suggests that regulatory designers¹⁷⁹ should be skeptical of those who claim that there is a need for certainty in a particular legal requirement.¹⁸⁰ It is likely that there are many areas of law where more certain legal requirements would increase overall social welfare. Many proposals to increase legal certainty will be Kaldor-Hicks efficient, and some may even approach Pareto superiority.¹⁸¹ But other proposals to increase certainty are likely to reduce overall social welfare by directing resources to a small group of distributional winners. Moreover, it is likely that arguments for increased certainty will be made least forcefully in situations where the benefits of certainty are broadly dispersed. This is because lobbying¹⁸² for legal certainty is not costless, and in situations with widely dispersed certainty-related benefits, the individual or entity incurring the lobbying costs only captures a small portion of the benefits.¹⁸³ Instead, an individual or entity investing resources to lobby for certainty is likely to structure the proposed legal requirement in such a way that it has at least sufficient distributional benefits to cover the related lobbying costs.

Distributional decisions can be implemented through rules or standards and can involve simple or complex requirements. The degree to which the relevant legal requirements are certain will influence primary behavior, but often to a lesser degree than

178. Cf. Ehrlich & Posner, *supra* note 21, at 270–71; Wade, *supra* note 9, at 194 (noting that, in places where law was “predetermined and exactly predictable . . . there would be no lawsuits, and consequently . . . no lawyers”).

179. On the “structural differences” between the perspectives on rules of those who impose rules and those who are subject to them, see Frederick Schauer, *Imposing Rules*, 42 SAN DIEGO L. REV. 85, 85–86 (2005).

180. On the possibility that those seeking a regulatory change are often seeking a redistribution of public resources toward themselves, see George J. Stigler, *The Theory of Economic Regulation*, 2 BELL J. ECON. & MGMT. SCI. 3, 3–4 (1971).

181. See generally RICHARD A. POSNER, *ECONOMIC ANALYSIS OF THE LAW* § 1.2 (8th ed. 2011) (explaining Pareto superiority).

182. In this context, “lobbying” denotes any effort to influence the content of a legal requirement. This could include academic articles, public relations efforts, and other activities that would not formally qualify as lobbying under U.S. federal or state law.

183. On industry’s tendency to lobby primarily for regulatory changes with concentrated (rather than widely dispersed) distributional benefits, see Stigler, *supra* note 180, at 4–5.

their distributional implications. For example, consider two classic distributional issues in tort law. One is phrased in the form of rules, the other mostly in the form of standards.

Let's start with standard-like requirements. A choice between negligence, gross negligence, and willful misconduct as a basis for liability is a decision among legal requirements structured as standards. But the standard chosen carries major distributional consequences for potential tortfeasors and potential tort victims. Of the three standards of care, a willful misconduct standard imposes the lowest costs on potential tortfeasors. In turn, a gross negligence standard imposes fewer costs on potential tortfeasors than a negligence standard. This is the case even though all are structured as standard-like requirements rather than rule-like requirements.¹⁸⁴ And potential tortfeasors will care far more about the level of care they are required to exercise than about whether it is structured as a rule or a standard.¹⁸⁵

Of course, I have left off an important alternative to negligence, gross negligence, and willful misconduct—strict liability. Strict liability, however, is a rule rather than a standard, at least at the liability phase.¹⁸⁶ But its rule-like nature is not why a primary actor might prefer it over the other three standards. What is important to most primary actors is the distributional decision strict liability entails. Strict liability is more favorable to potential victims (and less favorable to potential tortfeasors) than each of the other three standards of care.¹⁸⁷

Now consider a choice between two rule-like requirements of tort law with major distributional consequences: contributory and comparative negligence. Both are rule-like in their classic

184. Willful misconduct is probably more rule-like than negligence or gross negligence, especially if one adopts an objective (rather than subjective) approach to willfulness. But, since it is an intent requirement and we do not currently have ways of precisely measuring an individual's intent, it still seems closer to the standard end than the rule end of the rule-standard continuum.

185. At least if they are sufficiently sophisticated or acting at a large enough scale to consider the risk of lawsuits in making decisions about the standard of care to exercise, how much insurance to purchase, or how much to set aside as self-insurance.

186. It is likely more standard-like at the damages phase, but that should not affect this analysis.

187. Assuming, of course, that the damages a tortfeasor must pay for any accident are equal among the three models. In real life, the political bargain is often different. Potential tortfeasors at times agree to support a compromise—such as that involved in workers compensation schemes—that substitute strict liability for negligence, but in turn provide for a lower level of damages than were available under the previous negligence regime.

form. Under a contributory negligence regime, a tort victim cannot recover anything if his or her own negligence contributed in any way to the injury.¹⁸⁸ Under a comparative negligence regime, a tort victim's recovery is reduced by the degree to which his or her own negligence contributed to the injury.¹⁸⁹ Both are equally rule-like, and it is possible to imagine various rule-like alternatives in between the two.¹⁹⁰ Again, a primary actor's preferences between these two regimes will be based on their distributional consequences, not on the (roughly equal) level of legal certainty they display.

D. Present and Future Legal Requirements

The fourth proposition is that uncertainty about the content of future legal requirements is qualitatively different from uncertainty about the application of existing legal requirements.

Predicting outcomes under an existing legal requirement may involve some degree of uncertainty, in the general sense that the term is used in this Article. However, it is a process that comes closer to Frank Knight's concept of quantifiable Knightian Risk rather than non-quantifiable Knightian Uncertainty.¹⁹¹ It is also a fundamental part of what lawyers are trained to do—Karl Llewellyn called it the lawyer's "hunching-power."¹⁹² Generally speaking, predicting outcomes under current legal requirements involves choosing among a fairly limited range results reasonably possible under current law.¹⁹³

188. In other words, if the injury is 20% the fault of the victim, and 80% the fault of the tortfeasor, the victim recovers nothing.

189. In other words, if the injury is 20% the fault of the victim, and 80% the fault of the tortfeasor, the victim recovers 80% of his or her damages.

190. For example, one could provide that the victim recovers nothing if the injury is more than 50% due to the victim's negligence, but recovers proportionally if the victim's negligence contributed less than 50% to the injury. And this of course suggests additional—and perhaps increasingly complex—rule-like variations.

191. For Frank Knight's concepts of "risk" and "uncertainty," see *supra* note 1. In other words, with existing law (and existing legal institutions) as a background, experienced lawyers are often able to give a rough numerical estimate of the likely case outcome.

192. See KARL N. LLEWELLYN, *THE BRAMBLE BUSH* 113 (1930) (exhorting law students to "school[] . . . your *hunching-power* as to the outcome of a case, as to the way a court will jump"); see also *id.* ("Your client pays you to hunch right. Of course, he pays you too, if you hunch wrong. Once.").

193. The degree of certainty involved in a standard-like legal requirement depends on the identity of the individual (or groups of individuals) to whom application of the standard is delegated. To the extent decision-makers share similar backgrounds and policy views (and are insulated from corrupting influences), the range of likely outcomes is relatively limited. In such a situation, the outcome in a particular fact situation may be fairly predictable even when the legal requirement is uncertain. (The converse also applies.)

Predicting the content of future legal requirements of course involves some quantifiable Knightian Risk. But it also involves a far greater degree of Knightian Uncertainty than predicting outcomes under existing requirements. Thinking purely in terms of formal law, the content of future legal requirements turns on election results, the life span of particular office holders, and the bargaining that takes place among different public and private actors. And each of these depends on all of the events that take place in the world—from the discovery of DNA to the development of atomic weaponry to the capture of an individual terrorist. These inputs into the law-making process are things that lawyers and their clients are poorly equipped to predict in anything beyond the very short term. They are perhaps closer to the expertise of political scientists, macro-economists, and cutting-edge scientists—but none of these groups have proved particularly successful in long-term prediction either.

Uncertainty about future legal requirements impacts long-range planning by both public and private entities. And uncertainty about future law is more problematic, in terms of long-range planning, than uncertainty about present law. This is more so when the uncertainty is about—as it often is—the distributional decisions that the future law will make.

This Part has set out four tentative propositions about the role of legal uncertainty in regulatory design. Those four propositions are reviewed at the end of the concluding Part below.

VI. CONCLUSION

This Article has focused on the role of legal uncertainty in regulatory design. First, it highlighted the relationship between legal uncertainty, factual uncertainty, and law-fact uncertainty. It demonstrated that factual uncertainty and law-fact uncertainty play a major role in the decision-making of primary actors. Accordingly, even complete legal certainty cannot come close to eliminating the uncertainty faced by primary actors in their interactions with the law.

Second, the Article focused on legal uncertainty, viewing it from two perspectives: legal form (the range from rules to standards) and legal complexity (the range from simple to complex). It demonstrated that there are limits to the degree of legal certainty that can be obtained by making legal requirements either more rule-like or more complex. These are limits of internal consistency; the pressure for justice in the individual case, and the tendency of additional complexity—past

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a certain point—decrease, rather than increase, the certainty of legal requirements.

Third, the Article set out four propositions, for further research, arising out of the framework developed here: (1) pockets of legal uncertainty are often a desirable characteristic in regulatory systems; (2) large swings over time between high levels of certainty and uncertainty are less desirable than a consistent, moderate level of legal uncertainty; (3) arguments for legal certainty are often disguised distributional arguments; and (4) uncertainty about the content of future legal requirements is qualitatively different from uncertainty about the application of existing legal requirements.