SAFE HARBORS, SURE SHIPWRECKS

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ABSTRACT

Safe harbors and sure shipwrecks are rule-standard hybrids that appear throughout statutory, regulatory and case law. Safe harbors guarantee compliance, and also leave open the question of compliance for fact situations not described by the safe harbor. Sure shipwrecks provide a conclusive noncompliance result and also leave open the question of compliance outside the sure shipwreck. Safe harbors and sure shipwrecks produce asymmetric behavioral incentives for persons subject to them. Like bright-line rules, safe harbors encourage behavior to converge from both sides of the line drawn by the safe harbor. This is because of the advantage of a zero chance of liability within the safe harbor. Sure shipwrecks generally encourage convergence only from the noncompliant side of the line. Ex ante versus ex post policy making, overinclusion and underinclusion, interest group influence, and other factors also affect safe harbor and sure shipwreck policy making.

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INTRODUCTION

The choice between rules and standards has received lavish attention from legal scholars. But this choice fails to capture how the law actually works. On the ground, legal regimes use combinations of rules and standards. The interaction among rule and standard building blocks, as much as the choice between rules and standards, influences the behavior of persons subject to legal regimes.

This Article analyzes safe harbors and sure shipwrecks. These hybrids between rules and standards exist everywhere in the law. Yet the literature lacks any theory that explores the effects, advantages and disadvantages of safe harbors and sure shipwrecks. This Article supplies such a theory.

To briefly define the key terms:

A bright-line rule applies a categorical legal result to a set of facts. It provides the result ex ante, before the facts have arisen in a particular case. Examples include statutes of limitations and the requirement that drivers drive on one side of the road. An environmental law that prohibits emissions of a particular substance at or above 10 parts per million and permits emissions of that substance below 10 parts per million is a bright-line rule.

Standards provide general considerations for reaching a decision, but leave the determination of legal results to future decisionmakers. Standards reach legal results on an ex post basis. Examples include "undue burden" tests in constitutional law and the requirement of "just and reasonable" rates in the regulation of public utility monopolies. An environmental law that only allows "safe and healthy" emissions levels is a standard.

A safe harbor combines a rule and a standard. It provides by rule that certain facts comply with the law and will result in no penalty. It leaves other facts to be judged by a standard.

Handing a subpoena to a summoned individual is generally accepted as valid "delivery" of the subpoena. If a jurisdiction allows a court to conclude that other methods also qualify as a "delivery," handing a subpoena to an individual is a safe harbor (from the perspective of the server). Other methods of delivery, such as showing the subpoena to the individual through the window of her home, will be judged according to a standard.

A safe harbor applies to internet service providers who might face a violation for hosting online material posted in violation of copyright law. If an

internet service provider removes material immediately upon receiving a complaint (and other elements within the safe harbor are also met), the provider will not face penalties for a copyright law violation. If the provider fails to remove the material in response to a complaint, a copyright law standard will apply to determine whether the provider's liability.

A sure shipwreck also combines a rule and a standard. It is the mirror image of a safe harbor. A sure shipwreck provides that certain facts will definitely violate the law, while other facts remain subject to a standard as applied by the ex post judgment of future decisionmakers.

Strict liability regimes generally function as sure shipwrecks. For example, a rule that provides for strict liability when a driver rear-ends another car functions as a sure shipwreck. If a driver contributes to an accident, but does not hit another car from behind or otherwise fall within a strict liability rule, her negligence will be judged according to a standard.

If an environmental law permits emissions of a particular substance at or below 1 part per million, and leaves higher emissions levels to be evaluated by future decisionmakers under a "safe and healthy" emissions standard, then the law is a safe harbor. If an environmental law prohibits emissions of a particular substance at or above 10 parts per million, and permits lower emissions if a later decisionmaker decides that such lower emissions are acceptable under a "safe and healthy" emissions standard, then the environmental law is a sure shipwreck.

Safe harbors and sure shipwrecks are pervasive in the law. Judicial case law, statutory drafters, and administrative adjudicators and regulators constantly provide legal answers for specific fact patterns. But they do not provide all of the answers. Safe harbors and sure shipwrecks result.

This Article shows that safe harbors and sure shipwrecks affect behavior differently, and indeed asymmetrically. Safe harbors encourage the convergence of the behavior of persons affected by the rule at the line drawn by the safe harbor. Both parties less compliant than required by the safe harbor and parties more compliant than described by the safe harbor face an incentive to change their behavior so that the behavior walks the line drawn by the safe harbor. This convergence from both sides of the line is similar to, but weaker than, similar behavior incentives produced by bright-line rules.

Sure shipwrecks do not work the same way. They encourage parties who are in the sure shipwreck to change their behavior in order to avoid certain

penalties. But under most assumptions, they do not cause persons subject to the standard outside the sure shipwreck to change their behavior so that the behavior more closely approaches the line drawn by the sure shipwreck. Thus sure shipwrecks encourage behavior convergence from only one side of the line drawn by the sure shipwreck.

Consider a strict liability drunk driving rule that provides for misdemeanor criminal penalties for a driver with a blood alcohol content (BAC) of .08%. This is a sure shipwreck. Drivers will, on the margin, limit their drinking so that their BAC does not exceed the legal limit. But the sure shipwreck generally will not encourage drivers to increase their drinking so that their BAC measures .079% rather than, say, .07%.

In contrast, a safe harbor law that provided that drivers with a BAC of .04% or below could not be charged with any driving offense related to alcohol use would encourage convergence. Some drivers who previously drove only if they had abstained from drinking would now drive with a BAC of up to .04%. Also, some drivers who previously drove if their BAC equaled .05% would be encouraged to limit their drinking so that their BAC met the .04% safe harbor.

Safe harbors and sure shipwrecks present overinclusion problems, just like bright-line rules. In the case of a safe harbor, overinclusion means that the safe harbor protects too much behavior from penalties or liability. In the case of a sure shipwreck, overinclusion means that the sure shipwreck penalizes too much behavior.

The problem of underinclusion is more subtle, and is generally relevant only for safe harbors. When a safe harbor protects only some of the behavior that should produce a finding of compliance, some persons will change their behavior in order to fit within the safe harbor. This is so even if their previous behavior complied with underlying policy of the general standard. In the 1990s, some colleges cut men's wrestling programs following safe harbor "proportionality" guidance under Title IX. The wrestlers argued that the safe harbor was underinclusive, or in other words that the existence of the wrestling teams did not undermine Title IX goals. The D.C. Circuit, perhaps misunderstanding the incentives to colleges by the proportaionality safe harbor, refused the wrestlers standing.

The changes to persons' behavior that result from safe harbors and sure shipwrecks can produce positive or negative externalities. For example, the use of a safe-harbor format for collecting information can reduce transaction costs associated with different types of reporting. But entrenching behavior

that should be open to technological change can produce a negative externality.

Safe harbors and sure shipwrecks also present other unique problems for policy makers. They raise the question of whether only sure shipwrecks should be used to regulate bad behavior. And they present the problem and the opportunity that safe harbors are particularly vulnerable to interest group influence.

Part I of this Article defines safe harbors and sure shipwrecks, as well as bright-line rules and legal standards. Part II presents the core conclusion of this Article that placing a safe harbor against the background of a legal standard encourages two-way convergence, while placing a sure shipwreck against a legal standard encourages convergence only from the noncompliance side of the line. Part III evaluates this core conclusion if the probability of liability within the general standard space might change as a result of the appearance of a safe harbor or sure shipwreck. Part IV explains how policymakers should use safe harbors and sure shipwrecks. It briefly considers safe harbors' and sure shipwrecks' combination of ex ante and ex post qualities, their overinclusion and underinclusion features and other policy considerations.

I. BRIGHT-LINE RULES, LEGAL STANDARDS, SAFE HARBORS, SURE SHIPWRECKS

A. Key Terms

Policy makers have different kinds of rule/standard structures in their toolbox. These include not only bright-line rules and legal standards, which are the paradigm building blocks examined in the literature.[1] They also include combinations of rules and standards, such as safe harbors and sure shipwrecks.

A rule constrains a decision maker's discretion ex ante by requiring a particular result to follow from a particular set of facts. True, or bright-line, rules divide conduct between that which complies and that which does not.

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[1] *E.g.* Colin S. Diver, *The Optimal Precision of Administrative Rules*, 93 YALE L. J. 65 (1983); Isaac Ehrlich & Richard A. Posner, *An Economic Analysis of Legal Rulemaking*, 3 J. LEG. STUD. 257 (1974); Louis Kaplow, *Rules Versus Standards: An Economic Analysis*, 42 DUKE L.J. 557 (1992); Frederick Schauer, *Formalism*, 97 YALE L. J. 509, 520–38 (1988); Pierre Schlag, *Rules and Standards*, 33 U.C.L.A. L. REV. 379 (1985); Cass R. Sunstein, *Problems with Rules*, 83 CALIF. L. REV. 953, 969 (1995); David Weisbach, *Formalism in the Tax Law*, 66 U. CHI. L. REV. 860 (1999).

Bright-line rules include time deadlines for court filings, minimum education prerequisites for professional practice, and the requirement that liquids (aside from prescription medicines and baby bottles) must fit into three-ounce bottles at airport security checkpoints.

A legal standard allows a decision maker discretion to apply a general legal policy to a particular situation after the facts of the situation have developed.[2] This ex post feature of legal standards permits answers to be specifically tailored. At the same time, standards present regulated parties with ex ante uncertainty about what the results will be. An "undue burden" standard developed under Constitutional law limits state regulation of abortion clinics, for example.[3] A federal statute imports the common law negligence standard into the maritime employment context.[4] This Article seeks to contribute to a developing literature that theorizes the behavior of persons subject to irreducible legal uncertainty presented by standards.[5] Safe harbors and sure shipwrecks typically bound this uncertainty.

A safe harbor guarantees compliance for described behavior, without foreclosing the possibility that activities outside the safe harbor are also compliant.[6] Election law includes a famous example of a safe harbor, in the

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[2] *See* Louis Kaplow, *Rules Versus Standards: An Economic Analysis*, 42 Duke L. J. 557, 568–69, 621 (1992) (contrasting ex ante costs of promulgating rules with ex post costs of applying standards); Frederick Schauer, *The Tyranny of Choice and the Rulification of Standards*, 14 J. CONTEMP. L. ISS. 804, 804 (2005) (calling "tediously familiar" the distinction between rules, "which reflect choices made by the rule-maker;" and standards, which "leave most of the important choices to be made by the subject, the enforcer, or the interpreter . . . at the moment of application"); Kathleen Sullivan, *The Justices of Rules and of Standards*, 106 Harv. L. Rev. at 58-59 (1992) (emphasizing that rules remove decision maker discretion while standards preserve such discretion).

[3] *See* Planned Parenthood v. Casey, 505 U.S. 833 (1992).

[4] *See* [46 U.S.C. § 688 (Jones Act) (extending common law of personal injury); 45 U.S.C. §§ 51, 53 (providing employees with negligence actions).]

[5] *See* Alex Raskolnikov, *Rational Decisions Under Legal Uncertainty* (working paper, 2014) (modeling persons' optimal behavior choices under uncertainty, including accounting for costs).

[6] I know of two efforts to analyze systematically safe harbors. Andrew Stumpff Morrison suggests analyzing safe harbors and "unsafe harbors" as "'synthetic case law'"; he argues that such rules should address "easy cases" against the background of a standard. *See* Andrew Stumpf Morrison, *Case Law, Systemic Law, and a Very Modest Suggestion*, 59 Statute L. Rev. 159 (2013). Emily Cauble has analyzed the impact of safe harbors in tax law. *See* Emily Cauble, *Safe Harbors in Tax Law*, ___ Conn. L. Rev. ___ (forthcoming 2015) , manuscript at 14-48 (suggesting that safe harbors are more "forgiving" than bright-line rules and less likely to distort behavior). Other articles have detoured to suggest limited theoretical implications of safe harbors. *See*, *e.g.*, Clayton P. Gillette, *Pre-Approved Contracts for Internet Commerce*, 42 Hous. L. Rev. 975, 988-1000 (2005) (exploring the possibility that a trade group might seek a safe harbor and noting that the cost of possible punishment under a general standard should

provision that guarantees that Congress will accept a state's list of electors in a Presidential election if the list is submitted by an appointed day in early December.[7]   Safe harbors emerge from case law, statutory law, and regulatory and adjudicatory administrative action.   They are particularly visible in administrative action, in part because they are often labeled as such.   The Federal Register typically reports 15 or more unique "safe harbor" references every month.

Sure shipwrecks[8] provide that activity within the sure shipwreck is definitely noncompliant, while activity outside the line may or may not be compliant. Thus the activity described by the safe harbor or sure shipwreck is subject to a rule, while activities outside the safe harbor or sure shipwreck remain subject to a standard.[9]   If the European Union prohibits the sale of fish caught by vessels flagged in certain jurisdictions, it creates a sure shipwreck. The sale of fish caught by other vessels may also be prohibited, depending on the application of the EU's legal standard applicable to illegal, unreported and unregulated fishing.[10]

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influence the incentive to seek a safe harbor); Saul Levmore, *Double Blind Lawmaking and Other Comments on Formalism in the Law*, 66 U. CHI. L. REV. 915, 920 (1999) ("[S]afe harbors [may] minimize the problem of discontinuity."); Peter P. Swire, *Safe Harbors and a Proposal to Improve the Community Reinvestment Act*, 79 VA. L. REV. 349, 371-75 (1993) (suggesting that safe harbor may increase certainty, reduce under/overinclusion, and/or serve transitional purpose).

[7] Bush v. Palm Beach County Canvassing Board, 531 U.S. 70, 78 (2000) (labeling a "safe harbor" the statute that guaranteed the acceptance of Florida's elector list by December 12, 2000). *See also* Bush v. Gore, 531 U.S. 98, 149 (2000) (Breyer, J., dissenting) (emphasizing that the "safe harbor" statute is not a "mandate").   In reversing the Florida Supreme Court's Presidential election recount order, the Court majority put significant weight on the assumption that the Florida legislature meant to take advantage the safe harbor. *See* Bush v. Gore, 531 U.S. 98, 110 (2000) (articulating assumption based on statement by Florida Supreme Court). *But see* Bush v. Gore, 531 U.S. 98, 143 (2000) (Ginsburg, J., dissenting) ("[The] safe harbor lacks the significance the Court assigns it.").

[8] I use "sure shipwreck" as the descriptive mirror image of "safe harbor" rather than other terms previously used, including "unsafe harbor," *see, e.g.*, Morrison; and "dangerous cliff," *see, e.g.* Cauble.

[9] These definitions comport with previous observations that a safe harbor is a rule/standard hybrid, *see, e.g.* Swire at 370; and with previous definitions offered for "safe harbor" and (in lieu of "sure shipwreck") "unsafe harbor" and "dangerous cliff." *See* Cauble; Morrison. Gideon Parchomovsky and Alex Stein have recently offered an analysis of a concept related to the sure shipwreck idea, which they call a "catalog," and define as "an outright ban on a detailed, but incomplete, list of specific activities and a general prohibition of all activities falling into the same category." Gideon Parchomovsky & Alex Stein, *Catalogs*, 115 Colum L. Rev. ___ (forthcoming 2015).

[10] *See* Council Regulation (EC) no 1005/2008 of 29 September 2008.

B. *Constant Accumulation of Safe Harbors and Sure Shipwrecks*

Court decisions and regulatory action constantly populate legal standards with ever-increasing numbers of safe harbors (and sure shipwrecks).[11] For example, the Fourth Amendment provision prohibiting "unreasonable searches and seizures"[12] is a standard.   The series of Supreme Court decisions permitting police officers to conduct warrantless searches of areas close to the location of a stop or arrest – for example, within the "passenger compartment" of a car[13] -- are "safe harbor rules" from the perspective of the police officers.[14] This is because these cases set out facts that preclude a criminal defendant from contending that the search violated the Fourth Amendment; and because, outside the safe harbor facts described by the cases, the criminal defendant may raise the argument of Fourth Amendment violation, in which case the court will decide the matter according to the background Constitutional standard   of   unreasonableness.[15]

As another example, consider the background negligence standard in tort law. A court might decide that a ship owner and employer is negligent and liable for injuries resulting from the precarious stacking of lumber on deck, even in port.[16] To the extent binding, this precedent creates a sure shipwreck from the perspective of maritime employers.

Safe harbors and sure shipwrecks also develop as an administrative agency interprets a legal standard set forth in a statute. A federal statutes charges the Occupational Safety and Health Administration (OSHA) with ensuring "safe and healthful" workplaces.   When OSHA concludes that the maximum permissible exposure limit for formaldehyde is 2 parts per million for a 15-

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[11] Cf. Schauer

[12] U.S. Const. Am. IV.

[13] New York v. Belton, 453 U.S. 454, 463 (1981); *see also* Arizona v. Gant, 556 U.S. 332, 344 (2009) (limiting <u>Belton</u> where police could not reasonably think that detainee could access car at time of search).

[14] Susan R. Klein, *Identifying and (Re)formulating Prophylactic Rules, Safe Harbors,and Incidental Rights in Criminal Procedure*, 99 Mich. L. Rev. 1030, 1044-47 (2001). *See also* William J. Stuntz, *Warrants and Fourth Amendment Remedies*, 77 Va. L. Rev. 881, 918 (1991) ("In a damages system, warrants can correct overdeterrence problems by providing a safe harbor for police.").

[15] *See* Susan R. Klein, *Identifying and (Re)formulating Prophylactic Rules, Safe Harbors,and Incidental Rights in Criminal Procedure*, 99 Mich. L. Rev. 1030, 1044-47 (2001).

[16] *Cf.* Beadle v. Spencer, 298 U.S. 124 (1936) (holding that contributory negligence did not need to be included in jury instructions as a defense to employer negligence in Jones Act-based tort case).

minute exposure, it has produced a sure shipwreck.[17]   Other procedural, information, training and medical attention requirements may produce a violation even if an employer ensures that formaldehyde exposure stays below the legal maximum.[18]

Another federal statute charges the Treasury Department and Internal Revenue Service with treating transactions "substantially similar" to short sales against the box as recognition events.[19] Safe harbor IRS guidance describes a transaction in which an owner retains between 100% and 125% of the asset price at the time of a derivative transaction.[20] Such a safe-harbor derivative transaction will not constitute a recognition event.   Other derivative transactions might; they remain subject to the "substantially similar" standard.

As a final example, which serves as the basis for a model presented in the Appendix, consider state statues that ask agencies to establish "just and reasonable rates" for public utility monopolies.[21]   Agency guidance might provide that a charge of, say, 15 cents per kilowatt hour satisfies the just and reasonable standard; while a charge of 25 cents per kilowatt hour violates the just and reasonable standard.   Such guidance has established both a safe harbor, at 15 cents; and a sure shipwreck, at 25 cents. Rates between those two guideposts are judged ex post according to the background "just and reasonable" standard.

C. The Issue of Precision

Some safe harbors and sure shipwrecks are specific[22] and "transparent."[23] For example, an individual who spends 500 hours or more annually actively working in a business activity avoid the undesirable "passive activity loss" tax rules.[24] This safe harbor leaves little doubt as to whether a person falls inside or outside it.

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[17] *See* 29 C.F.R. 1910.1048 (formaldehyde limits).

[18] *See* 29 C.F.R. 1910.1450 (rules for [chemical labs]).

[19] I.R.C. 1259.

[20] Rev. Rul. 2003-7. *See* Thomas Brennan, *Law and Finance: The Case of Constructive Sales*, 5 ANN. REV. FIN. ECON. 259 (2013) (modeling the failure of the existing safe harbor rule to account for volatility).

[21] *E.g.*, New York Public Service Law § 65(1) (also requiring safe and adequate service and non-discriminatory rates and service); Texas Utilities Code Title 3, § 104.003 (requiring "just and reasonable," as well as "sufficient, equitable and consistent" rates).

[22] *See* Ehrlich & Posner at 259 (describing rules and standards as existing along a "specificity-generality axis").

[23] *See* Diver at 67 (stating that "transparent" rules use "words with well-defined and universally accepted meanings within the relevant community").

[24] Treas. Reg. [1.469-___]

Sometimes the "safe harbor" label is used to describe a less specific regime that requires the application of a multifactor test, such as the Rule 10b5-1[25] insider trading "safe harbor" under the federal securities law or the Digital Millenium Copyright Act "safe harbor" insulating service providers from liability for permitting the posting of sure online content.[26] Sure shipwrecks may also take a standard-like form, as does the 8-factor general anti-avoidance rules applicable in Australian tax law.[27]

Less ex ante specificity and/or transparency makes a safe harbor or sure shipwreck less rule-like. But if there is more ex ante specificity and/or transparency in the safe harbor or sure shipwreck compared to the adjacent standard space, the regime meets the definition of safe harbor or sure shipwreck as used here. The incremental precision offered by a multifactor safe harbor or sure shipwreck also may prompt the formation of more specific and transparent market rules, such as compliance plans adopted by private firms.[28] Or the availability of a multifactor safe harbor or sure shipwreck test may facilitate adjudications that begin to populate the space with more specific and transparent examples.[29]

D. Safe Harbors Good, Sure Shipwrecks Bad

In this discussion of safe harbors and sure shipwrecks, it is assumed that persons subject to the rule desire a "compliance" result. For example, a safe harbor does not merely give assurance that a person fits into category A as

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[25] *See* 17 CFR § 240.10b5-1 (providing, inter alia, an "affirmative defense" for the purchase or sale of a security made according to a "written plan" that exists before a person is "aware of … information" where the person is not allowed "to exercise any subsequent influence over … purchases or sales.").

[26] *See* 17 USC § 512(a) (insulating service provider against liability if each of five requirements are met, including requirement that another person initiated content transmission and that service provider does not select material).

[27] The Australian tax general anti-avoidance rule, or GAAR, voids some transactions with "the dominant purpose" of avoiding tax. 177A(5). The statute offers an eight-part balancing test to determine the dominant purpose of the transaction. 177D.

[28] Both the insider trading safe harbor and the DMCA safe harbor described above apparently have had this market rule effect. *See, e.g.*, DavisPolk, Client Memorandum: Rule 10b5-1 Plans: What You Need to Know 2 (January 18, 2013), *available at* davispolk.com (listing "practical guidelines" for companies who develop "10b5-1 plans"); White & Case, Client Alert, Intellectual Property: Second Circuit Clarifies DCMA Safe Harbor in *Viacom v. YouTube* 3 (April 2012), *available at* whitecase.com (advising online service providers to "examine internal policies and procedures" following the reported case).

[29] *Cf.* Gideon Parchomovsky & Alex Stein, *Catalogs* at TAN 23-24 (giving the example of a sure shipwreck prohibiting leaving a "dog, cat, or another pet" in an unattended car and anticipating that courts will consider whether rabbits count as pets in future adjudications).

opposed to category B, where both categories are acceptable answers.[30]
Rather, a person that falls within a safe harbor avoids adverse government
action. Similarly, a person that fits within a sure shipwreck will face an
undesirable noncompliance result.

These assumptions of a "good" safe harbor result and a "bad" sure
shipwreck result support the key conclusion, developed below, that the
behavior of persons subject to safe harbors converges around the line drawn by
the safe harbor, while persons subject to a sure shipwreck only move toward
the line drawn by the sure shipwreck if they would otherwise obtain a bad,
noncompliance result.   In many cases of interest, these assumptions are
reasonable. For example, a regulated party subject to a safe harbor permitting
a certain level of environmental pollutant will experience avoiding adverse
administrative action as a "good" result. Perhaps someone will become ill
because of the permitted level of emissions, which is an inextricably linked
"bad" result. But it cannot be said that the person who becomes ill is "subject"
to the rule; the rule does not target the behavior of the person who becomes ill,
but rather seeks to influence directly the behavior of the polluter. So such an
environmental pollution rule functions as a safe harbor, and features the key
incentive for regulated parties to seek to fit within it, as explored further below.

Sometimes, a rule/standard hybrid produces a good result for some persons
subject to the regime and a bad result for other persons subject to the regime.
Conclusive evidentiary presumptions,[31] such as the famous presumption that a
man that lives with his wife is the father of her child,[32] produce this result.
Such a presumption produces an advantage for one party in litigation and an
offsetting and explicit disadvantage for the opposing party in litigation. Such a
presumption is a safe harbor from the perspective of one litigant and a sure
shipwreck from the perspective of the other litigant.

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[30] This distinguishes safe harbors and sure shipwrecks from elections, since in many cases
elections anticipate persons' choice between two alternatives whose desirability depends in
part on the person's circumstances. *See, e.g.*, Heather M. Field, *Choosing Tax: Explicit
Elections as an Element of Design in the Federal Tax System*, 47 HARV. J. LEGIS. 21, 23
(2010) (characterizing implicit and explicit elections as extending to taxpayers the right to
choose between different tax treatments).

[31] *Cf.* Jeremiah Smith, *Surviving Fictions*, 27 YALE L. J. 147, ___ (1917) ("[T]he
expression 'conclusive presumption' is used to-day as a clumsy and roundabout method of
stating a rule of substantive law; or rather, as giving a fiction reason for a rule of substantive
law."); *see also* W. Page Keeton, *Statutory Presumptions – Their Constitutionality and Legal
Effect*, 10 TEX L. REV. 34, ___ (1931) ("In many instances rules of law have originated by
means of the adoption of the fiction of a conclusive presumption.").

[32] *See* Michael H. v. Gerald D., 492 U.S. 937 (1989) (upholding conclusive presumption
of paternity under California law).

A rule of contract drafting may also produce a good safe harbor result for some contract parties and a bad sure shipwreck result for others. Consider a rule that enforces an arbitration clause in an employment contract if the clause is worded in a certain way. If an arbitration clause lacks the magic words, it is subject to generally applicable contract drafting standards to determine its enforceability. This rule/standard arbitration clause enforcement regime, let us assume, systematically advantages employers and systematically disadvantages employees.[33] It is a safe harbor from the perspective of an employer and a sure shipwreck from the perspective of an employee.

When a rule/standard hybrid produces a bad result for some persons subject to a the regime and a good result for other persons subject to the regime, it may function as a safe harbor or as a sure shipwreck, depending on the relative abilities of the persons subject to the regime to change their behavior in response to the hybrid regime.[34] Consider the rule enforcing an employment contract arbitration clause written in a certain way. If the employer presents contracts of adhesion to hourly seasonal workers not represented by a union, the employer will likely act as if the arbitration clause enforcement provision is a safe harbor, and the employees will not resist. But if an employer negotiates with a highly-sought-after CEO who views the rule as a sure shipwreck, the CEO may have the negotiating power to ensure that the arbitration clause does *not* fit the terms of the rule/standard hybrid, which is a sure shipwreck from the CEO's perspective.

II. How Safe Harbors and Sure Shipwrecks Affect Compliance Incentives

Safe harbors and sure shipwrecks affect behavior asymmetrically. In particular, persons subject to a safe harbor converge on the line drawn by the safe harbor both from the noncompliance side of the line and from the compliance side of the line. That is, safe harbors encourage regulated parties on either side of the line drawn by the safe harbor to change their behavior so that the behavior adheres to the line drawn by the safe harbor. This is similar to, but generally weaker than, the convergence behavior encouraged by bright-line rules. Others have observed this convergence, or "bunching," result.[35]

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[33] [*See* Myriam Gilles, Mandatory Arbitration and the Anti-lawsuite Movement (2014 contribution/working paper)]

[34] *Cf.* Steven Shavell, *Strict Liability Versus Negligence*, 9 J. Leg. Stud. 1, 2-9 (1980) (arguing that the appropriate use of strict liability and negligence rules depends in part on what party has the capacity to avoid an accident and distinguishing unilateral case from bilateral case).

[35] In contemporaneous work, Alex Raskolnikov provides a theoretical model that shows that the closer a standard moves to a bright-line rule, the more "bunching" is observed for

Sure shipwrecks, on the other hand, do not encourage convergence. They encourage regulated parties initially on the noncompliant side of the line to change their behavior so that it is more compliant. But they do not encourage regulated parties initially on the compliant side of the line to change their behavior.

This Part II presents a misdemeanor drunk driving example and a lobbyist-legislator gift example to illustrate this point about asymmetric convergence. Appendix 1 offers a logically identical argument presented as a visual and arithmetic model and illustrated with an electric utility regulation example.

Consider a misdemeanor law, drafted as a standard, that prohibits driving if "intoxicated"[36] or "under the influence of alcohol."[37] Drivers who estimate the likelihood of their liability under this standard will estimate a range of probabilities that starts at 0 and increases to 100%. Perhaps the standard produces a 10% probability of liability at .04% BAC; and a 90% probability of liability at 08% BAC.[38]   One drink, let us assume, corresponds to .04% BAC and four drinks to .08% BAC.

Assume that a safe harbor rule appears and guarantees no liability under this law if a person drives after one drink. Some individuals who used to abstain from drinking before driving will change their behavior and have one drink before driving. This is because the reduction from a 10% probability of

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different actors' behavior. A bright-line rule is equivalent to the absence of uncertainty in Raskolnikov's model. He represents increasingly uncertain regimes with curves that show increasing standard deviations. See Alex Raskolnikov, *Rational Decisions Under Legal Uncertainty* Part II.B (working paper 2014). *See also* Richard Craswell & John E. Calfee, *Deterrence and Uncertain Legal Standards*, 2 J. L. Econ. & Org. 279, 285 (1986) ("The standard deviation can be interpreted as a measure of the amount of uncertainty in the legal system. . . . .[T]he effect of a shift in the mean if much greater when the standard deviation is small than when it is large."). The observation that a bright-line rule causes persons subject to the rule to converge around the rule also underlies David Weisbach's work on line drawing. *See, e.g.*, David A. Weisbach, *Line Drawing, Doctrine, and Efficiency in the Tax Law*, 84 Cornell L. Rev. 1627, 1661 (1999) (arguing that the deadweight loss produced by the shifting of behavior to the more favorable side of a line should be minimized by keeping transactions that are close substitutes together).

[36] *E.g.* Texas Penal Code Title 10 § 49.01(2).

[37] *E.g.* California Vehicle Code § 23152.

[38] The probability of liability increases with greater noncompliance. An S-curve-shaped distribution accommodates the sensible assumption that the probability of liability approaches zero for extreme compliance and 1 for extreme noncompliance. *See* Alex Raskolnikov, *Rational Decisions Under Legal Uncertainty* (working paper 2014). The Appendix follows this observation and uses such an S-curve distribution, but this shape is not necessary to support the asymmetric convergence point.

liability to a 0% probability of liability for one drink under the safe harbor makes the one-drink option more attractive than it was before the safe harbor. Also, some drivers who used to drink two drinks will change their behavior to one drink, because the one-drink alternative with a 0% probability of liability is more attractive than the one-drink alternative with a 10% probability of liability. The safe harbor thus encourages behavior convergence from both sides of the line.

Alternatively or in addition, a strict liability rule might appear that automatically provides the result of a misdemeanor conviction if a person drives after four drinks. This is a sure shipwreck. Some persons who used to drink four drinks will no longer do so, because the option of drinking four drinks with a 100% probability of liability is less attractive than the option of drinking four drinks with a 90% probability of liability.

But persons accustomed to drinking, say, three drinks before driving will have no incentive to drink more. This is because the sure shipwreck makes the four-drink option less attractive, not more attractive, for the driver. The sure shipwreck thus generally encourages behavior convergence only from the noncompliant side of the line.

A key assumption underlying this analysis is that the probability of liability for the behavior that lies outside the safe harbor and sure shipwreck – that is, for drinking between one and four drinks – is not affected by the appearance of the safe harbor and/or certain shipwreck. This assumption of exogeneity is relaxed in Part III. Part III acknowledges that a safe harbor could increase or decrease the probability of liability outside the safe harbor; and that a sure shipwreck could also increase or decrease the probability of liability outside the sure shipwreck. Part III.D connects most closely to the theoretical literature on legal uncertainty,[39] since it explores possible results in the space that remains uncertain after the appearance of a safe harbor and/or sure shipwreck.

As another example, consider a law, drafted as a standard, that prohibits a gift from a lobbyists to a legislator if the gift carries an "inference of intent to influence" under this example.[40] A "cup-of-coffee" safe harbor under this law might provide that gifts of food or drink worth $10 or less will definitely not violate the underlying standard. The cup-of-coffee safe harbor leaves open for

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[39] E.g. Calfee/Craswell; Raskolnikov

[40] *Cf.* New York State Public Integrity Reform Act ("PIRA"), Chapter 399 of the Laws of 2011. The New York law does not follow a safe harbor format, but its "inference of intent to influence" standard is used here to frame a hypothetical example of a safe harbor.

determination under the standard the question of whether food or drink transfers worth more than $10 violate the law.

A "fancy dinner" sure shipwreck under the background standard might provide that gifts of food or drink worth more than $100 definitely violate the law. Under this sure shipwreck, gifts of food or drink worth $100 or less may or may not violate the law. Future decisionmakers will determine results for food or drink gifts worth $100 or less by applying the background standard.

Consider the impact of the $10 cup-of-coffee safe-harbor rule on two lobbyists, A and B. A spent $5 per legislator cup of coffee before the imposition of the safe harbor; B spent $15. Before the safe harbor, the $5 cup of coffee was the optimal point for lobbyist A and the $15 cup was the optimal point for lobbyist B. The safe harbor provides an incentive for both lobbyists to choose $10 cups of coffee instead.

Imagine that A chose a $5 cup of coffee because, although a $10 cup would produce slightly more net benefit, without considering possible penalties, A was concerned that a $10 cup would produce the noncompliance result of inference of intent to influence. After a $10 safe harbor is put into place, A faces the same possible penalty for a $5 or $10 cup -- $0. As a result, the slightly higher net benefit of a $10 cup of coffee drives A's decision, and he will switch to the $10 cup.

Note that not every $5-per-cup lobbyist will switch to $10 cups. Some may prefer – aside from any possible penalty – cheap coffee at run-down diners. It is those lobbyists that prefer $10 cups to $5 cups in the absence of any penalty considerations who drive this "going up to the line" tendency when a safe harbor is imposed. The analysis is marginal.

Lobbyist B illustrates the convergence tendency from the other side of the safe harbor line. B paid $15 per cup of coffee before the imposition of the safe harbor. In other words, the difference between the net benefit of the coffee for B and the probability-adjusted fine for noncompliance was at a maximum at $15. The appearance of the safe harbor changes B's calculus. Because the possibility of a fine for noncompliance for a $10 cup of coffee is now zero, B must now compare her previous maximum – equal to the difference between the net benefit of $15 coffee and the probability-adjusted fine for noncompliance at $15 – to the net benefit of $10 coffee, unadjusted for any fine, since a fine will definitely not be imposed at $10. As a result of this different calculus, Lobbyist B may switch.

Next consider the results of the imposition of a fancy-dinner sure-shipwreck providing that gifts of food or drink costing over $100 will definitely be penalized. Consider first lobbyist C, who spent $90 on dinner prior to the imposition of the sure shipwreck. C will not face an incentive to increase the price of a meal he provides to a legislator. This is because the sure shipwreck does not change the attractiveness of different compliance choices outside its bounds, and because it makes choices costing over $100 less attractive, not more attractive, to C.

In contrast, consider lobbyist D. Assume that, prior to the imposition of the $100 sure shipwreck, D spent $110 on dinner and that the probability of violating the standard with a $110 dinner was less than 100%. After the sure shipwreck, the probability of the imposition of a fine for a $110 dinner is equal to 100%. This changes D's calculus. D faces an incentive to choose a different price point, such as a $100 meal, because the probability of the imposition of a fine for a $100 dinner is less than 100%.

Finally, consider lobbyist E, who typically spends $500 on dinner with a legislator. Lobbyist E, let us assume, was certain in the absence of any sure shipwreck that $500 dinners violated the inference of intent to influence standard. E accepted that penalties would apply; and even considering the penalties that would apply, E concluded that $500 dinners maximized E's net benefit. The appearance of a sure shipwreck for dinners costing more than $100 will not change E's behavior. Lobbyist E illustrates that persons at noncompliance extremes that produce the same penalties with or without a sure shipwreck face no incentive to change their behavior as a result of the sure shipwreck.

The inference of intent to influence standard might produce a bright-line rule, instead of the safe-harbor and sure-shipwreck interpretation analyzed above. A bright-line rule, like a safe harbor, encourages convergence from both sides of the line.[41] To illustrate the impact of a bright-line rule, consider a bright-line rule that permits gifts of $100 or less, and prohibits gifts in excess of $100. This rule draws the same lines as the fancy-dinner sure shipwreck discussed above, but does so in a bright-line fashion.

The $100 bright-line rule encourages a person who bought $90 dinners to buy $100 dinners, if the person prefers $100 dinners without regard to a possible fine. This is because the $100 dinner carries a probability-adjusted penalty equal to zero under a bright-line rule. This result contrasts with the sure shipwreck, which provided no incentive for the $90 dinner lobbyists to

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[41] *See supra* note 35.

increase their spending, under the assumption that the sure shipwreck did not affect the probability of liability for $100 dinners. A "going up to the line" incentive exists for bright-line rules (as well as safe harbors) but not for sure shipwrecks.

Table 1 compares regulated parties' incentives when a safe harbor, sure shipwreck or bright-line rule appears against a background legal standard. Like Part II in general, Table 1 assumes no change in the probability of a penalty outside the space explicitly occupied by a safe harbor or sure shipwreck.

TABLE 1: INCENTIVES TO BEHAVIOR WHEN LEGAL STANDARD MODIFIED ONLY WITHIN BOUNDS OF SAFE HARBOR OR SURE SHIPWRECK

Incentives for persons subject to legal regime	Safe harbors	Sure shipwrecks	Bright-line rules
Incentive to decrease compliance for persons initially on compliant side of line	Yes "Going up to the line" incentive	No Assuming sure shipwreck does not decrease probability of liability in adjacent space	Yes "Going up to the line" incentive
Incentive to increase compliance for persons initially on noncompliant side of line	Yes Incentive to comply if initially outside safe harbor because safe harbor offers 0% chance of liability	Yes Incentive to comply because sure shipwreck characterizes earlier behavior as noncompliant	Yes Incentive to comply because bright-line rule characterizes earlier behavior as noncompliant

III. WHEN LIABILITY PROBABILITIES CHANGE IN GENERAL STANDARD SPACE

A. Liability Probabilities May Increase, Decrease or Stay the Same

The discussion in Part II assumes that the appearance of a safe harbor or certain shipwreck only affects the probability of liability within the boundaries of a safe harbor or sure shipwreck. It assumes that the probability of liability outside these boundaries is exogenous to the safe harbor or certain shipwreck. This is a strong assumption.

In contrast, this Part III acknowledges that the probability of liability could increase, decrease, or stay the same at the boundary between a safe harbor (or

sure shipwreck) and an adjacent general standard. In other words, there might or might not be a discontinuity in the probability of liability at the boundary of a safe harbor or sure shipwreck.[42]

Factors that influence the probability of liability in the adjacent space as a result of a safe harbor or sure shipwreck include: the framing given by the policy maker, the uniqueness of the facts within the safe harbor or sure shipwreck, the use of lists, any gap between the safe harbor or sure shipwreck and previous beliefs about the content of the law, and third-party or gatekeeper influence.

For example, an administrative agency might interpret a statutory requirement of "reasonable rates" for the delivery of packages to prisons[43] with a safe harbor allowing delivery companies to charge the same rates as the postal service, such as $20 for three-day delivery of a medium-size box. Does this decrease, maintain, or increase the possibility of liability for delivery of such a box for $25? It depends in part on how the agency frames the safe harbor.

Say the guidance is accompanied by the agency's statement that the safe harbor is a preliminary guideline and invitation to delivery services to suggest additional rules protecting higher rates based on evidence of higher cost structures. With this message, a delivery company that charged $25 would reasonably conclude that the appearance of the safe harbor decreased its chance of liability. But the agency might alternatively state that after exhaustive research it has concluded that delivery companies can "make a fair profit" at the stated safe harbor rate in most cases. This suggests that the agency believes that its safe harbor covers most of the landscape; a delivery company that charged $25 would reasonably conclude that the appearance of the safe harbor increased its chance of liability.

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[42] As discussed more fully in Part III.D, some theoretical work proceeds from more tractable assumptions about legal uncertainty. *See* Alex Raskolnikov, *Rational Decisions Under Legal Uncertainty*, working paper 2014 (using and justifying an S curve to describe the distribution of probability of success); Richard Craswell & John E. Calfee, *Deterrence and Unsure Legal Standards*, 2 J. L., ECON. & ORG. 279, 291 (1986) (using normal distribution primarily and briefly considering biased distribution).

[43] The business of prison package delivery faces layers of additional regulation. *See* Alan Feuer, The Cellblocks' Amazon.com, N.Y. Times, Nov. 3, 2013, p. MB1 (reporting on specialized prison delivery firm Sendapackage.com). Rules regulating charges for prison phone calls refer to industry-provided index benchmarks. Rates for Inmate Calling Services, Federal Communications Commission Rule, 78 Fed Reg. 67956 (Nov. 13, 2013) (explaining that permitted rates are based on industry data relating to costs).

The exceptional nature of a conclusion on certain facts can also affect how the conclusion influences the probability of liability on other facts. If a court decided that a railroad retained an abandoned right-of-way, rather than suffering the reversion of the right-of-way to the government, the court might explain that the decision arose from the unique or "*sui generis*" nature of railroad-government relations.[44] The case might produce a safe harbor for railroads holding similar property interests. But it should not affect the likelihood of liability for non-railroad persons who abandon right-of-ways, because the court has taken care to confine the case to its facts.[45]

It is also possible for the presence or absence of a list or "catalog" to influence the probability of liability in the general standard space. A statute might prohibit leaving a "dog, cat or another pet" in an unattended car.[46] Or case law, addressing the same issue, might conclude that the owner of a dog or a cat is liable under common law for animal endangerment as a result of leaving the animal in an unattended car. The statute, which explicitly anticipates application to other situations, will likely increase the probability of liability for leaving a pet rabbit in a car. The case may be easier to confine to the cat-and-dog facts.

The presence or absence of a gap between pre-existing beliefs about the content of the law and the result given in a safe harbor or certain shipwreck may also influence whether the probability of liability changes in the adjacent standard space. If pet owners always assumed that it was illegal to leave a dog in an unattended car, then a case so holding may not change their understanding of the law applicable to leaving pet rabbits in cars. If they previously thought that leaving a dog in an unattended car was perfectly legal, the news that it is illegal may increase pet owners' concern that leaving a rabbit unattended in a car is also illegal.[47]

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[44] *Cf.* Marvin M. Brandt Revocable Trust v. United States, 134 S. Ct. 1257, 1269 (2014) (Sotomayor, J., dissenting).

[45] It is possible that non-railroad persons will mistake such a unique holding as one that should apply more generally to allow the retention of property rights in abandoned easements. However, this would misunderstand the law. *See* Bert I. Huang, *Shallow Signals*, 126 Harv. L. Rev. 2229, 2232, 2237-38 (2013) (exploring the possibility that "[w]hen the law quietly permits Actor 1 to act in a way that is usually forbidden, Actor 2 may be misled into taking the liberties with the law that he (mistakenly) perceives Actor 1 as taking" and giving the example of "misleading" "hidden permissions" the possibility that the presence of a ticket seller on the sidewalk outside a theater will lead to the incorrect conclusion that ticket scalping is legal).

[46] This example is offered and developed in Gideon Parchomovsky & Alex Stein, *Catalogs* at TAN 23-24 (giving the example of a sure shipwreck prohibiting leaving a "dog, cat, or another pet" in an unattended car and anticipating that courts will consider whether rabbits count as pets in future adjudications).

[47] Emily Cauble analyzes the interaction between the appearance of a safe harbor and

Third-party or gatekeeper influence might also affect the probability of liability outside the bounds of a safe harbor or sure shipwreck. Consider for example an accounting rule that requires disclosure of a penalty if the penalty is sure to be imposed, but not if penalty imposition is unsure.[48]   A sure shipwreck, like a rule prohibiting 10 ppm emission of a certain pollutant could induce some persons subject to the rule to go up to the line drawn by the sure shipwreck, since a choice to emit, say, 9.9 ppm would permit them to avoid disclosure.   The accounting rule would decrease persons' estimate of (collateral consequence) liability right next to the sure shipwreck line.

B. Two-Way Convergence If a Sure Shipwreck Resembles a Bright-Line Rule

The question of how a sure shipwreck affects liability probabilities outside its boundaries is particularly important. Part II expressed the core idea that a safe harbor prompts convergence of behavior from both directions, while a sure shipwreck prompts convergence only from the noncompliant side of the line. This is consistent with most possible changes in the probability of liability outside the boundaries of the safe harbor or sure shipwreck, as explored further below. The exception is that a sure shipwreck may produce convergence from both sides of the line if the probability of liability in the standard space decreases as a result of the sure shipwreck. The reason for this is that a decrease in the probability of liability in the standard space next to a sure shipwreck makes the sure shipwreck more like a bright-line rule.[49]

A court might hold libelous a newspaper's false report about a private individual's [view on same-sex marriage]. Say that this creates a sure shipwreck for media companies with respect to certain public-issue views reportedly held by private persons. The sure shipwreck might increase or decrease the chance of liability for libel when newspapers report on politicians' views on same-sex marriage. The idea of a "chilling effect" suggests that the libel result in the private individual case will deter reporting on politicians' views,[50] or in other words that the chance of liability will increase, or at least will be perceived to increase, in the general standard space right next to the sure shipwreck. But the libel case might also decrease the chance of liability

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parties' preexisting expectations about results.

[48] ABA/AICPA treaty and definition of liability under FASB

[49] This is consistent with the observation that a bright-line rule encourages behavior convergence. *See supra* note 35.

[50] *See* Frederick Schauer, *Fear, Risk, and the First Amendment: Unraveling the Chilling Effect*, 58 Harv. L. Rev. 685, 693, 700-01 (1978) (arguing generally that, due in part to legal uncertainty and risk aversion, "[a]ny regulation will deter someone somewhere from engaging in conduct that the regulation does not purport to control.").

right next to the sure shipwreck. For example, if the case emphasized that the holding was not relevant to reporting on politicians and explained that the First Amendment offers much broader protections to speech in the political context, it might decrease the chance of liability for other possible libel suits involving reporting on politicians' views.

Consider also an environmental sure shipwreck that prohibits emissions of 10 ppm or more of a pollutant and leaves open the question of whether lower emissions will comply with the underlying legal standard requiring "safe and healthy" emissions. It is possible that persons subject to the rule will increase their estimate of the probability of liability for 9.9 ppm emissions as a result of the sure shipwreck. But it is also possible that persons subject to the rule will decrease their estimate of the probability of liability for 9.9 ppm emissions. This depends on factors including those outlined above. For example, if the agency frames the sure shipwreck as a regime that emerges from thorough research and covers nearly all of the legal landscape, it is more likely that the probability of liability for emissions at 9.9 ppm will decrease.

A migration of a sure shipwreck regime toward bright-line status in this fashion weakens the core conclusion set forth above in Part II that sure shipwrecks prompt convergence only from the noncompliance side of the line. For example, it is possible that the 10-ppm emissions sure shipwreck will lower the chance of liability at 9.9 ppm, compared to the earlier risk of liability under the background "safe and healthy" emission standard. If this is the case, then more persons subject to the rule will choose to emit at the 9.9 ppm level, compared to their behavior before the appearance of the sure shipwreck.

Stated differently, the core conclusion in Part II that a sure shipwreck encourages convergence from one direction only is subject to the caveat that a sure shipwreck lives on a continuum with a bright-line rule. The more the sure shipwreck resembles a bright-line rule, the more likely that persons subject to the legal regime will converge on the line drawn from both sides of the line. And a sure shipwreck increasingly resembles a bright-line rule the more it produces a decrease in the probability of liability in the standard space adjacent to the border of the facts described by the sure shipwreck.

C. Robust Convergence Result for Safe Harbors

Part II also presents the core conclusion that a safe harbor encourages persons subject to the legal regime to converge on the line drawn by the safe harbor from both the compliant side of the line and the noncompliant side of the line. This convergence result holds even if the probability of liability

outside the boundaries of the safe harbor increases or decreases. In the case when the probability of liability outside the boundaries of the safe harbor decreases and approaches zero, risk aversion, uncertainty aversion and/or satisficing produce the convergence result.

To illustrate the robust convergence result for safe harbor regimes, consider a background standard requiring a student to "regularly attend" a school or face repeating the year. A safe harbor rule might provide that a student absent for 15 days or less will meet the "regular attendance" standard, so long as the student does not frequently come late to school or leave early. The safe harbor would leave open the possibility that students absent for more than 15 days would also meet the standard. It might decrease, increase or maintain the chance that a student absent for 16 days will

If the 15-day safe harbor increases the probability that 16 days of absence will violate the regular attendance standard, then the safe harbor begins to resemble more closely a bright-line rule. That is, it approaches a regime under which some behavior (15 days of absence) is permitted and other behavior (16 days of absence) is proscribed. Bright-line rules, like safe harbors, produce convergence[51] and so the result of convergence is robust in this case.

But the appearance of the 15-day safe harbor against the background of the "regular attendance" standard alternatively may decrease the likelihood that 16 days of absence will also comply with the underlying standard. For example, it could be that prior to the safe harbor, students believed that only five days of absence would be allowed under the regular attendance standard.   When they learn that 15 days of absence is acceptable, the probability of liability at 16 days of absence may decrease.

Yet even if the probability of liability at 16 days of absence equals the probability of liability at 15 days of absence, students will on the margin choose 15 days of absence over 16 days of absence.   This is because risk and uncertainty aversion and satisficing will influence student behavior.   These behavioral economics factors support the result that a safe harbor produces convergence even if the expected-value fine is the same for behavior immediately on either side of the line drawn by the safe harbor.

Risk aversion means the tendency to avoid situations where a greater variance of outcomes is possible, and uncertainty aversion means the tendency to avoid situations where the probabilities of outcomes are not known.[52]

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[51] *See supra* note 28.
[52] FRANK H. KNIGHT, RISK, UNCERTAINTY & PROFIT Part III Ch VIII (1921)

Satisficing refers to persons' tendency to use rules of thumb, or heuristics, to guide decision making.[53] It describes a solution to the problem of resource constraints, which limit individuals' ability to fully analyze every decision.

Consider a student trying to decide whether to spend an extra quiet weekday on the ski slopes rather than recording a 16th day of absence at school. Her best estimate of the probability of a fine at 16 days of absence may equal the probability at 15 days. Perhaps both probabilities are 1%. (They are slightly positive to account for the possibility that frequent tardies or early departures will cause a student to fail the regular attendance standard.) But the 16-day probability arises not from a clearly drafted safe harbor, but rather from the student's expected-value weighted estimate of different probabilities of liability. Moreover, the student is not sure about any of the probability inputs used in his estimate.

Risk and uncertainty aversion encourage the student to choose 15 days of absence. This is because a risk-adjusted and/or estimated 1% liability probability is less attractive than a for-sure 1% probability of liability.[54] Also, satisficing will encourage the student to choose 15 days of absence. Generally, it will require fewer resources to analyze behavior covered by a safe harbor, both because the rule tends to be more specific and transparent; and because it allows a person to focus only on the terms of the safe harbor, without engaging with the range of factual situations that are possible under the general standard.

The uncertainty aversion and satisficing tendencies of third parties also encourages the use of safe harbors even if behavior immediately outside a safe harbor also has an estimated 0% chance of liability. For example, recommending safe harbor use may serve advisors' individual reputational

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(using "risk" to mean a measurable or mathematical uncertainty like that faced in a game of chance and "uncertainty" to mean an unmeasurable uncertainty). *See also* KENNETH J. ARROW, ASPECTS OF THE THEORY OF RISK-BEARING (1965) (providing risk aversion model); Sarah B. Lawsky, *Modeling Uncertainty in Tax Law*, 65 STAN. L. REV. 241, 259- 61 (2013) (citing Daniel Ellsberg, *Risk, Ambiguity, and the Savage Axioms*, 75 Q. J. OF ECON. 643 (1961)).

[53] *See* Herbert A. Simon, *Rational Decision Making in Business Organizations*, 69 AM. ECON. REV. 493, 498 (1979) (connecting the resource constraints that limit the ability to fully analyze every decision with the use of rules of thumb to guide decisionmaking).

[54] However, a risk-adjusted and/or estimated 99% liability probability is *more* attractive than a for-sure 99% probability of liability. *See* Amos Tversky & Daniel Kahneman, *The Framing of Decisions and the Psychology of Choice*, 211 Science 453, 454 (1981) (presenting evidence of loss aversion or "risk seeking" when persons are faced with the choice of (a) a sure loss versus (b) a chance of losing a larger amount, even where (a) and (b) have equal expected value). This is why equivalent probabilities of liability at a sure shipwreck line do not cause persons subject to the rule to choose to move inside the boundaries of the sure shipwreck.

interests.[55]   The use of safe harbors may also serve risk management or other interests of contract counterparties.[56]

D. Theorizing the Whole Remaining General Standard Space

This Part III has analyzed the behavior incentives of persons subject to a safe harbor and/or sure shipwreck while acknowledging that the probability of liability might change outside the safe harbor and/or sure shipwreck boundaries. It has analyzed mainly the behavior of persons who fall relatively close to the line drawn by a safe harbor or sure shipwreck. If we set aside this focus on boundaries and zoom out to the full remaining general standard space, issues appear that are the subject of more general, and developing, work on legal uncertainty. This developing work produces certain predictions about how the appearance of a safe harbor or certain shipwreck might change the probabilities of liability across the whole remaining general standard space.

It is useful to state what results would obtain in the general standard space after the appearance of a safe harbor and/or sure shipwreck under assumptions that underlie, for example, Alex Raskolnikov's contemporaneous work on legal uncertainty. These assumptions include (1) an S-curve distribution of liability probability that approaches zero and 1, respectively, at extremes of guaranteed compliance and noncompliance and (2) a normal distribution of uncertainty.[57]

Consider for example the "inference of intent to influence" standard for lobbyist-legislator gifts, and assume that a $10 cup-of-coffee safe harbor appears (and that no certain shipwreck appears). The S-curve distribution translates to an assumption that the probability of liability approaches zero at just over $10. Under the S-curve distribution assumption, the probability of

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[55] For example, advisors appear to recommend Delaware corporate because of satisficing or "familiarity" as well as because of the substantive features of Delaware law. *See* Brian J. Broughman, Jesse Fried & Darien M. Ibrahim, *Delaware Law as Lingua Franca: Theory and Evidence*, working paper dated January 1, 2014, *available at* ssrn.com, abstract id=2117967.

[56] *See, e.g.,* Renal Physicians Ass'n v. U.S. Dep't of Health & Human Serv., 489 F.3d 1267 (2007) (explaining that dialysis clinics, rather than directly regulated nephrologists, adjusted contracts to comply with safe-harbor compensation levels).

[57] *See* Alex Raskolnikov, *Rational Decisions Under Legal Uncertainty* (working paper 2014) (presenting and defending a model based on an S-curve probability of liability distribution and the assumption of a normal distribution of uncertainty). Calfee/Craswell also normal distribution. *See also* John E. Calfee & Richard Craswell, *Some Effects of Uncertainty on Compliance With Legal Standards*, 70 VA. L. REV. 965, 983 (1984) (presenting table with liability percentages approaching 0%, 100%); Mark P. Gergen, *The Logic of Deterrence: Corporate Tax Shelters*, 55 Tax L. Rev. 255, 282 (2002) (using S-shaped curve to describe the probability of success in a tax shelter transaction).

liability continues to approaches 1 at the opposite extreme of noncompliance. This means that the downward shift in the probability of liability for meals that cost just over $10 will logically produce lower probabilities of liability across the board – not only for $11 meals, but also for $25, $50, and $100 meals.

A mirror-image logic chain exists for sure shipwrecks. If a $100 fancy-dinner sure shipwreck increases the likelihood of liability immediately to the compliance side of the sure shipwreck (i.e., for $99 dinners) then it follows under the S-curve assumption that it will cause a systematic increase in the possibility of liability across the entire adjacent legal standard space.[58]

If both a safe harbor and a sure shipwreck appear in the same regulatory space, these effects produced by the S-curve assumption offset each other, although not perfectly. The safe harbor effect of lowering the probability of liability in the general standard space will predominate closer to the safe harbor's line, and the sure shipwreck effect of increasing the probability of liability in the general standard space will predominate closer to the sure shipwreck's line.[59]

In addition, the assumption of a normal distribution of legal uncertainty within the remaining general standard space yields certain systematic conclusions about the effect of the appearance of a safe harbor or sure shipwreck. Safe harbors and sure shipwrecks reduce the size of the uncertain regulatory space. If uncertainty is distributed normally over an uncertain space, then reducing the dimensions of the uncertain regulatory space reduces the variance, or standard deviation, of the assumed normal distribution of uncertainty. Raskolnikov analyzes a reduction in the variance of uncertainty together with increasing cost functions and concludes that actors' behavior will increasingly "bunch" around a particular point within the general standard space, again under stated assumptions.[60]

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[58] *See* Alex Raskolnikov, *Rational Decisions Under Legal Uncertainty* (working paper 2014) (explaining that changes in the location, or mean, of the legal standard prompt analogous changes to actor behavior; a "less demanding standard" would prompt more aggressive behavior, for example).

[59] If the safe harbor and sure shipwreck each occupy equal compliance and noncompliance extremes (i.e., if the safe harbor and sure shipwreck combination effectively winsorizes the distribution of uncertainty) then the safe harbor effect will predominate until the midpoint of the preexisting distribution and the sure shipwreck thereafter. If safe harbors and sure shipwrecks appear in asymmetric fashion, they have more capacity to effect skewed changes to the probabilities of liability in the general standard space.

[60] [60] *See* Alex Raskolnikov, *Rational Decisions Under Legal Uncertainty* (working paper, 2014) (modeling persons' optimal behavior choices under uncertainty, including accounting for costs).

The core contribution of this Article identifies two different likely points of behavior convergence: at the line drawn by a safe harbor (from both directions); and at the line drawn by a sure shipwreck (from the direction of noncompliance only).   This conclusion plays alongside the developing legal uncertainty literature.   For example, a theoretical outcome of bunching at a particular point in the general standard space is not inonsistent with the idea presented here of convergence at the boundaries of safe harbors and sure shipwrecks.   What emerges is a rich, if empirically contingent, picture of several different typical points of gravity within a regulatory space.

IV. WHEN AND HOW TO USE SAFE HARBORS AND SURE SHIPWRECKS

A. *Ex Ante and Ex Post*

Safe harbors and sure shipwrecks have a temporal dimension.   A safe harbor or sure shipwreck provides an ex ante answer for some factual situations covered by the legal standard. The remainder of the legal standard is left open for future development.[61]   The ex post space exists not only because later decisionmakers[62] have the responsibility to determine the results of cases not covered by the safe harbor or sure shipwreck[63] but also because the same decisionmaker (such as an administrative agency) that created the safe harbor or sure shipwreck may later continue to populate the background legal standard.[64]

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[61] *Cf.* Parchomovsky & Stein, supra note __ (describing the population of catalogs as analogous to the development of case law); Morrison, *supra* note __ (comparing the articulation of of safe harbors and "unsafe harbors" to the development of case law).

[62] Rules-versus-standards choices also allocate decision making among different decision makers, for example between legsislators and judges. Schauer. The question of allocating authority among decision makers is less acute for administrative agency policy making, although a rules/standards choice will allocate power between current and future iterations of the agency and between its rulemaking and adjudicatory functions.

[63] *See*, *e.g.*, Frederick Schauer, *The Tyranny of Choice and the Rulification of Standards*, 14 J. CONTEMP. L. ISSUES 803, 806 (2005) (arguing that "interpreters and enforcers of standards have tried to convert those standards into rules to a surprising degree").

[64] The temporal feature of safe harbor and sure shipwreck rulemaking also raises the question of interest group influence.   *See* Colin Diver, *Policymaking Paradigms in Administrative Law*, 95 HARV. L. REV. 393, 399, 402-03, 430-31 (1981) (arguing that making rules "piecemeal" over time is a more legitimate approach in the presence of "decentralized decisionmaking"); Saul Levmore, *Interest Groups and the Problem With Incrementalism*, 158 U. PA. L. REV. 815, 855 (2010) (outlining the possibility of an interest group's plan to accomplish a regulatory goal incrementally over time and thus fragment possible opposition); *see also* SIDNEY A. SHAPIRO & ROBERT L. GLICKMAN, RISK REGULATION AT RISK: RESTORING A PRAGMATIC APPROACH 158-68, 175 (2003) (stating support for exceptions and other "back-end adjustments" "only if the opportunities for participation afforded interested

The costs of an ex ante rule compared to the costs of an ex post standard properly influence a choice to pursue a safe-harbor or sure-shipwreck path. As prior literature has observed, if the content of an ex ante rule and an ex post standard are the same, then a rule is efficient when the rulemaking, compliance and enforcement costs of an ex ante rule are less than the costs of ex post decision making.[65] A determination that the costs of an ex ante rule are lower for only some factual situations supports a decision to establish a safe harbor and/or sure shipwreck.[66]

Relevant costs for the ex ante / ex post contrast among general standards, safe harbors and sure shipwrecks, and bright-line rules include rulemaking, compliance and enforcement costs.[67] These factors translate to several reasons why a decision maker might choose to replace only part of a legal standard with a safe harbor or sure shipwreck.[68]   Some reasons have to do with the qualities of persons subject to the legal regime, and some have to do with the institutional capacity of courts, agencies or other decision makers.

If persons subject to a legal regime are more numerous, there is a better chance that an ex ante rule will make sense, all else equal, because of greater ex post enforcement costs due to the larger number of parties. If persons subject to a legal regime are more homogeneous, an ex ante rule makes sense,

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persons are essentially equivalent to those that govern adoption of regulatory standards in the first place." .

[65] *See* Louis Kaplow, *Rules Versus Standards: An Economic Analysis*, 42 DUKE L. J. 557, 570 (1992) ("It should be emphasized that the "appropriate" content is taken to be the same *ex ante* and *ex post*."). *See also* Isaac Ehrlich & Richard A. Posner, *An Economic Analysis of Legal Rulemaking*, 3 J. LEG. STUD. 257, 281 (1974) (defining efficient rules to "exclude any rules that … list the 'wrong' set of conditions and circumstances to which a legal sanction is attached").

[66] In contemporaneous work, Parshomovsky and Stein list similar prerequisites for the development of a catalog, or a list of fact situations that produce a result. Parchomovsky and Stein at TAN 24 ("Our legal system uses catalogs when the cost of formulating a spot-on rule and the unpredictability associated with standards are prohibitively high). Parchomovsky and Stein offer a view of a catalog that functions as a subset of the category described here as a sure shipwreck. *See id.* ("[A] catalog can ban outright recurrent behaviors that are readily identifiable and use those as a basis for establishing a more general prohibition on activities falling into the same family or genre.")

[67] The distributive question of whether to weight costs differently depending on who bears them lies beyond the scope of this article. *Cf.* Louis Kaplow & Steven Shavell, *Why the Legal System is Less Efficient than the Income Tax in Redistributing Income*, 23 J. LEG. STUD. 667 (1994).

[68] See Louis Kaplow, *Rules Versus Standards: An Economic Analysis*, 42 DUKE L.J. 557, 568–69, 621 (1992) (contrasting ex ante costs of promulgating rules with ex post costs of applying standards).

all else equal, because of lower ex ante rule creation costs where regulated parties present the same facts. If the court or agency possesses the information necessary to develop a rule on particular facts, then an ex ante rule with respect to those facts makes more sense, all else equal.[69] If a court or agency faces an area featuring unsure and rapidly developing technology, then an ex ante rule makes less sense, all else equal.[70]

Assume that the $10 "cup-of-coffee" safe harbor for permissible transfers from lobbyists to legislators responds to the following situation: Lobbyists and legislators communicate regularly, and the purchase of an inexpensive meal or drink is a universally accepted part of their relationships. In addition, some lobbyists and legislators, but not many, have family relationships or close friendships outside of work.   Within the context of those family relationships and close friendships, larger transfers might take place which would not give rise to an "inference of intent to influence" within the meaning of the general standard. This background, featuring a large number of transactions that will fall under the safe harbor and a small number of transactions left to the general standard, supports developing a safe harbor.

As a contrasting example, consider the bright line rules that apply for liquids in airplane carry-on luggage. Assume that aside from infants and individuals taking prescription medicine, very few individuals would experience real hardship as a result of the three-ounce rule. This could be because an individual who requires more liquid cosmetics than those allowed by the three-ounce rule has likely embarked on a lengthy trip and will likely check luggage or have access to a drugstore. These assumptions support using a bright-line rule.

The institutional capacity of an agency, court, or other decisionmaker also affects the decision whether to adopt a safe harbor or sure shipwreck. Sometimes, an agency may only have the capacity to immediately solve part of the problem before it. This may be because of resource constraints that include the challenge of too little information, or because of information overload;[71]

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[69] *See generally* Kaplow.

[70] Other solutions to developing technology also exist, including automatically dynamic rulemaking approaches. *See, e.g.*, Lynn Blais & Wendy Wagner, *Emerging Science*, 86 TEX. L. R. 1701, 1731-37 (considering adjustment mechanisms including "contemporaneous revision planning," "revision rulemaking" and periodic review).

[71] *See, e.g.*, Wendy E. Wagner, *Administrative Law, Filter Failure, and Information Capture*, 59 DUKE L. J. 1321, 1371-72 (2010) (explaining that interest groups' provision of voluminous information to agencies together with agencies' concern about protecting rulemaking against judicial review produces interest group influence absent agency self-

because of the "ossification" that can follow from agency risk aversion and the threat of judicial review[72] and/or because of political considerations outside the agency.[73]   Courts may face similar information constraints, and also must operate within the limitation that requires judges to decide cases presented, not hypothetical cases.

Consider for example an agency in possession of clear evidence that a 10x emissions level for a pollutant materially increases cancer risk. The agency, let us assume, also knows that a substantial number of regulated parties emit substantial amounts of pollution at levels at or above 10x. The agency faces inconclusive evidence for lower emissions levels and lacks the resources to quickly develop more information. This ex ante/ex post cost comparison thus supports the promulgation of a sure shipwreck.[74]

The qualities of regulated parties and/or the institutional capacity of an agency or court can change over time, and safe harbors and sure shipwrecks accommodate this within the ex post standard space. In other words, safe harbors and sure shipwrecks can help decision makers use the dimension of time[75] to break rulemaking tasks into smaller, more manageable parts.[76] Using

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interest).

[72] *Compare* Thomas McGarity, *Some Thoughts on "Deossifying" the Rulemaking Process*, 41 DUKE L. J. 557 (1992) *with* Mark Seidenfeld, *Why Agencies Act: A Reassessment of the Ossification Critique of Judicial Review*, 70 OHIO ST. L. J. 251 (2009).

[73] *See, e.g.*, Elena Kagan, *Presidential Administration*, 114 HARV. L. REV. 2245 (2001) (exploring increased impact of presidential priorities on some rulemaking projects under the Bush 1 and Clinton administrations); Jennifer Nou, *Agency Self-Insulation Under Presidential Review*, 126 HARV. L. REV. 1755 (2013) (noting agencies' use of timing strategies to reduce the chance of close Presidential review). *See also* Thomas O. McGarity, *Administrative Law as Blood Sport: Policy Erosion in a Highly Partisan Age*, 61 DUKE L. J. 1671 (2012) (describing Congressional challenges to some administrative policies).

[74] *Cf.* Industrial Union Dept. v. Amer. Petroleum Inst., 448 U.S. 607 (1980) (invalidating OSHA benzene exposure regulation interpreting a "safe and healthful" standard and reasoning that OSHA had insufficient evidence to show that an emission level of 1 ppm or less was required to accomplish the goal of a safe and healthful workplace).

[75] *See also* Parchomosky & Stein (making a similar point regarding "catalogs" in contemporaneous work). Others have observed that administrative rulemaking has a temporal dimension. *See, e.g.* Yoon-Ho Alex Lee, *An Options Approach to Rulemaking*, 65 Admin. L. Rev. 881 (2013) (arguing based on option theory that agencies should carefully consider "policy reversibility" and should face a more lenient standard of judicial review for rules that permit "ex post exemptions"); Saul Levmore, *Interest Groups and the Problem With Incrementalism*, 158 U. PA. L. REV. 815, 855 (2010) (outlining the possibility of an interest group's plan to accomplish a regulatory goal incrementally over time and thus fragment possible opposition); Yair Listokin, *Learning Through Policy Variation*, 118 YALE L.J. 480, 499-500, 522-23 (2008) (arguing that reversible policies should pursue a high-risk, or high-variance approach, while a policymaker might choose to delay the implementation of an irreversible policy).

time in this way may permit decision makers to increase the efficiency of their work.[77]

As an example of the development of a safe harbor or sure shipwreck program over time, consider the safe harbor for compliance with Title IX gender equity requirements in sports programs, which allowed undergraduate programs to establish compliance if they offered "substantially proportionate" "participation opportunities."[78] In 1996, the Department of Education offered this safe harbor in informal guidance as part of a three-prong test, and some university decision makers cut men's programs to fit within the safe harbor. But later, the Department of Education modified the underlying guidance to give universities more flexibility to show Title IX compliance, for example by gathering survey data to demonstrate that a program meets levels of "interest" in sports participation on a campus.[79]

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[76] In other words, safe harbors and sure shipwrecks can combine features of "comprehensive rationality" and incremental "muddling through." Colin S. Diver, *Policymaking Paradigms in Administrative Law*, 95 HARV. L. REV. 393 (1981) (describing "comprehensive rationality" and "incrementalism"); Charles Lindblom, *The Science of Muddling Through*, 19 PUB. ADMIN REV. 79 (1959). Various scholars recommend that agencies take a more comprehensive rationality view in specific subject areas. *See, e.g.*, Daniel J. Gifford, *Labor Law and Its Reform*, 80 IOWA L. REV. 201, 203 (1994) (NLRB); Allen Rostron, *Incrementalism, Comprehensive Rationality, and the Future of Gun Control*, 67 MD. L. REV. 511, 513-14 (2008) (gun control law); J.B. Ruhl & James Salzman, *Climate Change, Dead Zones, and Massive Problems in the Administrative State: A Guide for Whittling Away*, 98 CAL. L. REV. 59, 119-20 (2010) (administrative agency coordination and climate change). *See also* David Super, *Against Flexibility*, 96 CORNELL L. REV. 1375, 1378-79 (2011) (stating a preference for earlier decisions on the theory that this reduces policymaker bias and citing the case of disaster relief regulation). But the practical reality of "muddling through" is widely acknowledged. *See, e.g.*, Lynn M. LoPucki, *The Systems Approach to Law*, 82 CORNELL L. REV. 479, 521 (1997) (acknowledging descriptive importance of incremental account of rulemaking).   Other scholars acknowledge the policy potential of incrementalism. *See, e.g.*, Rachel Brewster, *Stepping Stone or Stumbling Block: Incrementalism and National Climate Change Legislation*, 28 YALE L. & POL'Y REV. 245, 311-12 (2010) (arguing that incrementalism can create feedback loops that feature in a productive interaction between national legislation and international negotiation); Daniel R. Cahoy, *An Incrementalist Approach to Patent Reform Policy*, 9 N.Y.U. J. LEGIS. & PUB. POL'Y 587, 635-640 (2006) (advocating trial-and-error analysis in patent reform due to limited availability of empirical inputs); Robert L. Glicksman & Sidney A. Shapiro, *Improving Regulation Through Incremental* Adjustment, 52 U. KAN. L. REV. 1179, 1180-81 (2004) (suggesting greater reliance on back-end regulatory adjustment and recommending public access to process).

[77] *See* Parchomovsky & Stein at TAN 26 (arguing that catalogs, or open-ended lists of situations that give sure legal results, have an advantage over rules and standards because they "can be expeditiously and cheaply adapted to accommodate changes while reducing information costs for actors").

[78] National Wrestling Coaches Ass'n v. Dep't of Education, 366 F.3d 930, 935 (D.C. Cir. 2004).

[79] *See* Catherine F. Pieronek, *The 2010 "Dear Colleague" Letter on Title IX Compliance*

B. Overinclusion and Underinclusion

Like bright-line rules, safe harbors and sure shipwrecks present problems of overinclusion and underinclusion.[80]   These problems relate to the quality or congruence of the safe harbor or sure shipwreck. Just like other regimes, safe harbors and sure shipwrecks can reflect better and worse judgments about what behavior ought and ought not be punished according to the underlying policy and wisdom of the relevant law.

The tax law safe harbor that a person that spends 500 hours a year on a business activity avoids an adverse "passive activity loss" consequence is a good safe harbor if we agree that spending a quarter of one's working time on a business venture is a sufficient commitment given the purposes of the rule.[81] The tax law safe harbor that a person who retains between 100% and 125% of an asset's value in a derivative transaction avoids an adverse "constructive sale" result[82] is a bad safe harbor if we acknowledge the fact of material differences in asset volatility.[83]   This is because the constructive sale safe harbor gives an inappropriate advantage to a person who wishes to monetize a high-volatility stock (like Groupon) relative to a person who wishes to monetize a low-volatility stock (like General Electric).

Problems with the congruence of safe harbors or sure shipwrecks (like congruence problems with bright-line rules) can arise from overinclusion or underinclusion.[84]   The problem of overinclusion is more obvious. It means that, relative to the policy that underlies a background legal standard, a safe harbor protects some behavior that ought to produce a noncompliance result. Similarly, relative to the underlying policy, a sure shipwreck punishes some

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for College Athletic Programs: Pointing the Way to Proportionality . . . Again, 38 J. Coll. & Univ. L. 277, 299-306 (2012) (describing "clarification" guidance issued in 1996, 2003, 2005 and 2010).

[80] Sunstein, *Problems with Rules*. The idea that an ex ante rule and and ex post standard could have exactly the same legal content, or and thus exactly the same congruence, underlies some prior literature. E.g. Kaplow   Assuming identical legal content in rules and standards focuses attention on comparing ex ante and ex post costs. However, the assumption that rules and standards will have exactly the content is a too strong for purposes of this Article.

[81] I.R.C. § 469; [Leg his?]

[82] I.R.C. § 1259; Rev. Rul. 2003-7

[83] *See* Thomas Brennan, *Law and Finance: The Case of Constructive Sales*, 5 ANN. REV. FIN. ECON. 259 (2013) (modeling the failure of the existing safe harbor rule to account for volatility).

[84] Others have suggested that safe harbors produce fewer "discontinuities", Levmore at 920; or less acute "overinclusion and underinclusion" problems compared to bright-line rules, Swire at 373.

behavior that ought to produce a compliance result.

The problem of overinclusion in safe harbors and sure shipwrecks is identical to the problem presented by bright-line rules, assuming that the line is drawn in the same place each time. A regime might provide that an individual who spends 100 hours a year on a real estate activity will avoid the adverse result of the passive activity loss tax rules. Perhaps 100 hours per year is really an insufficient amount of time, given the purpose of the law, to support immunity from the passive activity loss rules. If so, the individual who spends 100 hours per year on a real estate activity receives a windfall inconsistent with underlying policy whether the rule is drafted as a bright-line rule or a safe harbor. Also, an individual who used to spend 200 hours a year on a real estate activity, in part to increase the chance of compliance with the tax rule, will now face an incentive to spend only 100 hours per year, again whether the rule is drafted as a bright-line rule or as a safe harbor.

But the problem of overinclusion is less acute in safe harbors and sure shipwrecks, compared to bright-line rules, if it is true that a policy maker tends to draft safe harbors and sure shipwrecks more narrowly compared to bright-line rules. When a policy maker gives a bright-line rule, the policy maker must embrace both the result that behavior on one side of the line is compliant and the result that behavior on the other side of the line is not compliant. In contrast, safe harbors and sure shipwrecks invite policy makers to make decisions incrementally,[85] and to decide only that a narrow set of facts produces compliance (for safe harbors) or noncompliance (for sure shipwrecks). As a result, safe harbors and sure shipwrecks likely present less of a risk of overinclusion as a practical matter.

For example, the European Union prohibits "illegal, unreported and unregulated" (IUU) fishing.[86] Its regulatory scheme includes port inspections and other enforcement mechanisms, together with a capacity to blacklist specific vessels and/or all vessels flagged in certain countries from sourcing European fish imports.[87] The country blacklist serves as a sure shipwreck, not a bright-line rule, since fishing vessels flagged in a country that is not on the

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[85] Part III.A

[86] Council Regulation (EC) No 1005/2008 of 29 September 2008 establishing a Community system to prevent, deter and eliminate illegal, unreported and unregulated fishing, amending Regulations (EEC) No 2847/93, (EC) No 1936/2001 and (EC) No 601/2004 and repealing Regulations (EC) No 1093/94 and (EC) No 1447/1999

[87] Commission Regulation (EC) No 1010/2009 of 22 October 2009 laying down detailed rules for the implementation of Council Regulation (EC) No 1005/2008 establishing a Community system to prevent, deter and eliminate illegal, unreported and unregulated fishing

blacklist could still face sanctions for IUU fishing under other portions of the regulatory scheme. Because of the possibility of other sanctions, the EU is relatively less likely to blacklist a country. In other words, the EU is relatively less likely to make an overinclusion mistake. It has issued "yellow cards" to countries with specific suggestions for improvement, rather than putting the countries on the sure-shipwreck blacklist.[88]

The analysis of underinclusion is more subtle. Underinclusion means the failure of a safe harbor to protect some behavior that is compliant; and also the failure of a sure shipwreck to punish some behavior that is noncompliant. For example, the lobbyist/legislator ten-dollar cup-of-coffee safe harbor might not protect a $20 lunch at a thinktank conference offered to all attendees including legislators. The hundred-dollar fancy-dinner sure shipwreck fails to give an automatic noncompliance result for an $80-dollar dinner at the best restaurant in one legislator's rural district.

Both safe harbors and sure shipwrecks are intentionally underinclusive. Indeed, this is the key point that separates safe harbors and sure shipwrecks from bright-line rules. Safe harbors and sure shipwrecks acknowledge that they are not solving the questions presented by fact patterns outside their boundaries; they leave that to future decisionmakers, who apply the background standard. A $20 sandwich at a thinktank conference can comply with the inference of intent to influence standard despite the $10 cup-of-coffee safe harbor. The $80 dinner at the best restaurant in a legislator's small town can violate it despite the $100 sure shipwreck.

Nevertheless, underinclusion is a problem for safe harbors. This is because the guaranteed result of zero liability provided by a safe harbor makes the behavior outside the safe harbor less attractive than that behavior was under the background general standard. Some persons initially outside the safe harbor will therefore change their behavior to fit within it. The incentive is gentler compared to the convergence incentive for a bright-line rule, but it exists.

This presents the problem of underinclusion if such persons' previous behavior was perfectly fine under the background general standard. For instance, in the 1990s, some colleges cut men's wrestling programs following safe harbor "proportionality" guidance under Title IX. The wrestlers and their

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[88] European Commission, Fisheries, Questions and Answers on the EU's fight against illegal, unreported and unregulated (IUU) fishing, December 12, 2014, *available at* http://ec.europa.eu/information_society/newsroom/cf/mare/itemdetail.cfm?item_id=19549&subweb=343&lang=en.

coaches made an underinclusion argument: they contended existence of the wrestling teams did not undermine Title IX goals.   But the D.C. Circuit refused standing in the wrestling case.[89]

The D.C. Circuit also refused standing in another safe harbor case, *Renal Physicians*, where the safe harbor guaranteed Medicare reimbursement for dialysis facilities if the referring physician's compensation did not exceed midpoints derived from survey evidence. Dialysis centers reduced nephrologists' compensation to safe harbor rates. Nephrologists challenged the safe harbor with an underinclusion argument, which contended that their previous compensation satisfied the underlying law.[90]

In both *National Wrestling Coaches* and *Renal Physicians*, the court assumed injury in fact, but concluded that the causation and redress prongs of the standing analysis were not met.[91]   Since a safe harbor is only a voluntary method of complying with the law, the *Renal Physicians* court emphasized, it could not be said that the safe harbor caused dialysis centers to cut nephrologist compensation.[92] In contrast, sure shipwrecks and bright-line rules directly burden regulated parties initially on the noncompliant side of the line., and can be said to cause changes in behavior[93]

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[89] *See* National Wrestling Coaches Ass'n v. Dep't of Education, 366 F.3d 930, 938 (D.C. Cir. 2004)

[90] Renal Physicians Ass'n v. U.S. Dep't of Health & Human Serv., 489 F.3d 1267 (2007).

[91] *See* National Wrestling Coaches Ass'n v. Dep't of Education, 366 F.3d 930, 938 (D.C. Cir. 2004) (assuming an injury in fact); *see also* Renal Physicians Ass'n v. U.S. Dep't of Health & Human Serv., 489 F.3d 1267, 1277 (2007) (same).   *See generally* Wright & Miller, Fed. Prac. & Proc. § 3531.10 and 3531.10(a) (discussing, respectively, citizen and taxpayer standing). "Suffer[ing] in some indefinite way in common with people generally" is not a sufficient injury. Frothingham v. Mellon, 262 U.S. 447, 488 (1923). *See* Lawrence Zelenak, *Custom and the Rule of Law in the Income Tax*, 62 DUKE L. J. 829, 847 & n. 84 (2012) (cataloguing Supreme Court taxpayer standing precedent and giving examples of denial of taxpayer standing in a variety of cases, including cases raising First Amendment concerns).

[92] *See* Renal Physicians Ass'n v. U.S. Dep't of Health & Human Serv., 489 F.3d 1267, 1277 (2007) ("We have no way of knowing why the dialysis facility … reduced Dr. Anzalone's hourly wage. . . ."). The *National Wrestling* Court of Appeal majority did not explicitly engage the issue of causation, although the dissent did, pointing to a GAO report cited by plaintiffs that stated that "of 272 schools that cut a men's team, 83 … cited the need to meet gender equity goals or requirements." *See* National Wrestling Coaches Ass'n v. Dep't of Education, 366 F.3d 930, 953 (D.C. Cir. 2004) (Williams, J., dissenting).

[93] *See, e.g.*, Nat'l Wrestling Coaches Ass'n v. Dep't of Education, 366 F.3d 930, 941 (D.C. Cir. 2004) (noting cases in which parties alleging injury caused by a sure shipwreck-type rule had standing). The Nat'l Wrestling Coaches Ass'n court cited Tozzi v. U.S. Dep't of Health & Human Serv., 271 F.3d 301, 309 (D.C. Cir. 2001), which involved guidance classifying a chemical used in the plaintiff manufacturer's goods as a carcinogen. It also cited Block v. Meese, 793 F.2d 1303, 1308 (D.C. Cir. 1986), which involved guidance labeling some movies, including some distributed by plaintiff, as "political propaganda."

This standing analysis misunderstands the problem of underinclusion in a safe harbor regime. Safe harbors' underinclusion problems generally are less acute than those of bright-line rules, since underinclusion does not produce an automatically bad result for compliant fact patterns omitted from the safe harbor. But the problem still exists.

The problem of underinclusion challenges the view that safe harbors should be used in "easy cases."[94]   We should expect a safe harbor to have effects beyond the result of confirming that behavior within the safe harbor is acceptable: a safe harbor will on the margin encourage changes in behavior so as to fit within the safe harbor. A safe harbor confined to a very easy case may have the undesirable effect of prompting persons subject to the rule to engage in unnecessarily conservative compliance behavior.

Underinclusion is less of a problem for sure shipwrecks. This is because a sure shipwreck is less likely to affect the behavior of persons outside the boundary of the sure shipwreck. Unless a sure shipwreck produces a decrease in the probability of liability outside the bounds of the sure shipwreck (and thus resembles a bright-line rule) a sure shipwreck encourages behavior convergence only from the noncompliance side of the line and as a practical matter does not present an underinclusion problem.

C. Externalities of Convergence

Sometimes the convergence produced by safe harbors and by bright-line rules is an advantage in itself. Consider the promulgation of a safe harbor providing that financial institutions comply with requirements under a disclosure act if they use a certain set of forms for consumer lending transactions.[95] The very uniformity of the form provides a positive externality efficiency advantage if consumers more readily absorb information presented in a familiar fashion. Also, a uniform form or other practice can help institutions solve monitoring problems and ensure that employees follow compliant courses of action.[96]

But sometimes convergence may produce a negative externality, such as the discouragement of innovation.   Consider the example of a regulatory policy in an area subject to rapid technological change, such as electronic data privacy. An agency in charge of protecting consumer data would have been

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[94] Morrison.
[95] Truth in Lending Act.
[96] Ehrlich/Posner on principal/agent market rules; Klein on police departments.

ill-advised to promulgate a safe harbor or a bright-line rule in the 1980s stating that compliance with contemporary software standards would satisfy the requirements of a standard protecting consumer privacy.[97] Such a rule would become overinclusive over time, because hacker technology will outpace the safe harbor. On the other hand, a 1980s sure shipwreck stating that internet service providers could not share customers' email addresses without consent may have been congruent with the charge of protecting consumer privacy.

D. Safe Harbors and the Problem of Capture

Because safe harbors produce a good result for persons subject to them, there is an increased risk of interest group influence for safe harbor rulemaking.[98] Interest-group theory predicts regulatory rules benefiting small, well-organized interest groups even if such rules present detriments to larger, more diffuse groups.[99]   It thus offers the paradigm of an industry or other regulated-party group quietly and successfully pushing for a safe harbor while potential opponents remain paralyzed by collective action problems.[100] The incremental nature of safe harbor policy making may also present an unusually high risk of capture.[101] Indeed, a pure form of public choice theory[102] might well predict that safe harbors will bring out the most extreme forms of rent-

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[97] There is a related example in Sunstein, Problems with Rules

[98] The nuances of interest group influence over policymakers is affected by the particular characteristics of the individual decisionmakers, for example because of their future plans and goals, whether inside or outside government. Thanks to George Yin for this observation about individual policy maker incentives.

[99] *See, e.g.* James Q. Wilson, *The Politics of Regulation*, *in* SOCIAL RESPONSIBILITY AND THE BUSINESS PREDICAMENT 135, ___ (James W. McKie ed. 1978) ("[R]egulatory constraints often arise out of a political situation in which a small, relatively homogeneous group can make substantial gains by imposing unobtrusive costs on large number of others."). *See also, e.g.* Colin Diver, *Policymaking Paradigms in Administrative Law*, 95 HARV. L. REV. 393, 399, 402-03, 430-31 (1981) (noting that making rules "piecemeal" over time is a more legitimate approach in the presence of "decentralized decisionmaking" where interest parties have access to decisionmakers); Cass R. Sunstein, *Interest Groups in American Public Law*, 38 Stan. L. Rev. 29, 48 (1985) (suggesting a continuum where at one pole "interest group" controls and where at the other pole faction pressures are unimportant).

[100]Olson

[101]*See* Saul Levmore, *Interest Groups and the Problem With Incrementalism*, 158 U. PA. L. REV. 815, 855 (2010) (outlining the possibility of an interest group's plan to accomplish a regulatory goal incrementally over time and thus fragment possible opposition); *see also* SIDNEY A. SHAPIRO & ROBERT L. GLICKMAN, RISK REGULATION AT RISK: RESTORING A PRAGMATIC APPROACH 158-68, 175 (2003) (stating support for exceptions and other "back-end adjustments" "only if the opportunities for participation afforded interested persons are essentially equivalent to those that govern adoption of regulatory standards in the first place."

[102] *See* DANIEL A. FARBER & PHILIP P. FRICKEY, LAW AND PUBLIC CHOICE: A CRITICAL INTRODUCTION 7 (1991) (explaining the idea that economic rent-seeking motivates bureaucrats' actions).

seeking cronyism.

The vulnerability of safe harbors to the influence of protected parties does results not only from the collective action problem faced by potential opponents of safe harbors. It also results from a framing issue. That is, the provision of a safe harbor to one group of regulated parties is not necessarily experienced as a loss by other regulated parties, because it does not appear to take away something that the other regulated parties had prior to the promulgation of the safe harbor.[103] A $10 cup-of-coffee safe harbor does not mention or explicitly affect large expense-account lobbyists' previously existing privileges. It therefore may not present as a loss, even though it may disadvantage a large expense-account lobbyists relative to a frugal diner-coffee lobbyist, since the diner-coffee lobbyist now has certainty that his method of entertainment does not violate the law.

Of course, safe harbors may face opposition from organized opposing groups, whether of industry competitors, public interest protectors, or otherwise. In addition, agencies may develop safe harbor rules despite the fact that no interest group requests them. Nevertheless, there remains a vulnerability: because safe harbors protect an identified group of regulated parties, it is likely that such protected parties will seek a safe harbor; while, in general, others will have less reason to oppose the safe harbor compared to the protected parties' incentive to pursue it.

But other ideas about bureaucratic behavior, which modify strong-form public choice theory, are also available.[104] One idea rests on multiple motivating factors for bureaucrats, such as job security, institutional power, and good policy.[105] Another suggests that administrators strive for good policy decisions subject to resource, institutional, exogenous political and other constraints.[106]

Safe harbor policy making thus presents a familiar tension between interest group influence and agency expertise. To the extent the expertise story is

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[103] *See* Daniel Kahneman & Amos Tversky, *Prospect Theory: An Analysis of Decision Under Risk*, 47 ECONOMETRICA 263, 281 (1979) (introducing "prospect theory" and arguing that "[a] salient characteristic of attitudes to changes in welfare is that losses loom larger than gains".)

[104] *Cf.* STEPHEN G. BREYER, REGULATION AND ITS REFORM 9 (2009) (arguing that relative political power cannot explain regulation).

[105] *Cf.* Richard F. Fenno Jr., Congressmen in Committees (1973) (identifying goals of influence, re-election and policy for members of congressional committees).

[106] *See* Thomas McGarity, *Regulatory Analysis and Regulatory Reform*, 65 TEX. L. REV. 1243, ____ (1987) (defining "technobureaucratic rationality).

right, or that another solution to the problem of capture or interest group influence is available,[107] agencies have interesting opportunities to use leverage over regulated parties who desire safe harbors.[108]   For example, an agency might force regulated parties to internalize some rulemaking costs,[109] for example by providing better and more usable information.[110]

E. Regulating Bad Behavior

A sure shipwreck generally does not encourage convergence from both sides of the line. But it pushes regulated parties who initially under complied to comply, in order to avoid a noncompliance result. In contrast, a safe harbor encourages convergence from both the compliance and the noncompliance side of the line. If the optimum level of a certain behavior is zero, then what role do sure shipwrecks and safe harbors have to play?

If a policy maker is only interested in encouraging less of a certain

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[107] *See, e.g.*, Ronen Avraham, *Private Regulation*, 34 HARV. J. L. & PUB. POL'Y 543, 591-93 (2011) (recommending that private regulators develop medical standards of care for use in malpractice law and that "the firms promulgating these guidelines would be subject to liability only as determined from the ex ante perspective, for writing guidelines that are inefficiently risky"); Omri Ben-Shahar and Kyle D. Logue, *Outsourcing Regulation: How Insurance Reduces Moral Hazard*, 111 MICH. L. REV. 197, 197 (2012) (arguing that the insurance industry regulation together with strict- or no-liability legal rules can substitute for government safety regulation).

[108] Bradley Karkkainen has analyzed California's Proposition 65 emissions standard, *see* Cal. Health & Safety Code §§ 25249.5-.13, as an unattractive default rule in the form of the general standard which encourages regulated parties to seek safe harbors. He reports that it took "only a few months" for California regulators to establish safe harbor levels for hundreds of substances under this regime. Bradley Karkkainen, *Bottlenecks and Baselines: Tackling Information Deficits in Environmental Regulation*, 86 TEX. L. REV. 1409, 1430 (2008) ("[B]y shifting the default position to one of uncertainty and risk on the part of polluters, Proposition 65 profoundly changes the dynamics of information flow.").   *See also* John S. Applegate, *Bridging the Data Gap: Balancing the Supply and Demand for Chemical Information*, 86 TEX. L. REV. 1365, 1400-01 (2008) (noting the burden-shifting properties of Proposition 65 and analogizing to after-the-fact adjustments to rules). Ira Rubinstein has proposed a similar "negotiated rulemaking" experiment to implement online consumer privacy policy. Ira S. Rubinstein, *Regulating Privacy by Design*, 26 Berkeley Tech. L. J. 1409, 1452-53 (2011).

[109] *See* A. Mitchell Polinsky & Steven Shavell, *The Economic Theory of Public Enforcement of Law*, 37 J. ECON. LIT. 45, 57-58 (2000) (explaining rationale for requiring internalization of public enforcement costs). *See generally* Farnsworth, Legal Analyst re: single owner. *See, e.g.*, Daryl J. Levinson, *Making Government Pay: Markets, Politics, and the Allocation of Constitutional Costs*, 67 U. CHI. L. REV. 345, 346-47 (2000) (suggesting that private firms may be better than government at cost-benefit analysis).

[110] *See* Wendy E. Wagner, *Administrative Law, Filter Failure, and Information Capture*, 59 DUKE L. J. 1321 (2010) (suggesting "information filter" measures such as length-limited policy briefs).

behavior – such as illegal fishing, or drunk driving, or tax avoidance – then sure shipwrecks have an obvious use. They are designed to stamp out behavior on the noncompliance side of the sure shipwreck line. The sure shipwreck structure underlies, for example, the blacklisting of specific noncompliant fishing vessels and prohibited tax shelter transactions.

A sure shipwreck generally will cause regulated parties to move out of the space that is definitely not compliant under the sure shipwreck, but will not encourage increased noncompliance for parties initially in the compliance space adjacent to the sure shipwreck. A strict liability rule that produces a misdemeanor conviction when a driver has a blood alcohol content of .08% or more is designed to stamp out excessive drinking and driving, such as drinking 4 drinks before driving. This one-way convergence, or movement only toward more compliant behavior, is attractive if the ideal amount of a certain behavior is zero.

In contrast, safe harbor rules have a less obvious, and more contingent, use where a policy maker prefers none of a certain behavior. A safe harbor stating that individuals with a BAC level of .04% will not be charged with any driving offense having drug or alcohol use as a factor would have the disadvantage of encouraging some drivers who previously abstained from all alcohol to drink, say, one drink. This would increase the dangers of driving under the influence. But the safe harbor would also encourage some drivers who used to drive with a BAC of .06 – say, after two drinks – to change their behavior and only drink one drink before driving.   This convergence on a safe harbor from the noncompliant side of the line would decrease the dangers of driving under the influence. Thus safe harbors have offsetting disadvantages and advantages in a regulatory environment where the policy goal is to eliminate a targeted behavior.

<div align="center">CONCLUSION</div>

Safe harbors and sure shipwrecks are rule-standard hybrids that appear throughout statutory, regulatory and case law. Safe harbors guarantee compliance, and also leave open the possibility of compliance for fact situations not described by the safe harbor. Sure shipwrecks provide a conclusive noncompliance result and also leave open the possibility of a noncompliance result for fact situations outside the sure shipwreck.

Safe harbors and sure shipwrecks produce asymmetric behavioral incentives for regulated parties. Like bright-line rules, safe harbors encourage behavior to converge from both sides of the line drawn by the safe harbor.

This is because of the advantage of a zero chance of liability within the safe harbor. Sure shipwrecks generally encourage convergence only from the noncompliant side of the line drawn by the sure shipwreck

Policy makers should use safe harbors and sure shipwrecks when an ex ante rule would be most cost effective for only some fact situations covered by a legal standard. Overinclusion and underinclusion considerations, possible positive and negative externalities of convergence, and safe harbors' heightened vulnerability to interest group influence should affect safe harbor and sure shipwreck policy making.   Finally, sure shipwrecks have a clear place in legal policy making if a policy maker prefers none of a particular activity, while safe harbors' role turns on the relative disadvantage and advantage of convergence behavior from the compliant and noncompliant side, respectively, of the safe harbor line.

APPENDIX

Consider an example involving the regulation of prices charged for delivery of utility service. The hypothetical background standard requires "just and reasonable" prices.[111] Each utility first solves the problem of profit maximization under the background "just and reasonable" standard.   It compares (a) the profit generated by charging a certain rate for utility services (disregarding the possibility of a noncompliance fine) and (b) the probability-weighted cost of a noncompliance fine.[112]

In Figure 1, the short red/black line segments show portions of the unique before-fine profit function for each of utilities A, B, C, D and E. [113]   These generally increase with the rate charged. The blue/grey S curve shows the probability-weighted fine, which also increases with the rate charged. The S curve reflects the assumption that although the utilities face uncertainty about how the "just and reasonable" background standard will apply, there are some outcomes virtually certain to be compliant (such as charging 2 cents per kWh) and some range of outcomes virtually certain to be noncompliant (such as charging 50 cents per kWh).[114]

Against this background standard, each utility arrives at a profit-maximizing rate, or price to be charged per kWh of power.   These profit-maximizing rates are represented in Figure 1 by the points A, B, C, D and E. The entire before-fine profit function of each of A, B, C, D and E is not shown. However, the assumption is that no other point on the utility's unique before-fine function produces a greater difference between the before-fine profit and the probability-adjusted fine.[115]

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[111] NY state law, TX state law. My thanks to Jean Cleary for her help in developing this example. Regulated rates for utilities are often expressed in terms of cost recovery multiplied by a permitted factor. They are expressed in monetary terms here for ease of exposition.

[112] My thanks to Andrew Hayashi for suggesting this exposition.   The probability of nonenforcement is disregarded here. *Compare* Kyle D. Logue, *Optimal Tax Compliance When the Penalties Are Unsure*, 27 Va. Tax Rev. 241 (2007)

[113] The utilities may have unique profit-before-fine functions because of consumers' different energy source preferences. Perhaps consumers prefer greener energy, and Utility A burns coal, while Utility C burns natural gas and Utility E harvests geothermal energy.

[114] This curve is like that presented and defended in Alex Raskolnikov, *Rational Decisions Under Legal Uncertainty* (working paper 2014). *See supra* notes 29, 34 (describing use of S curve in legal uncertainty literature).

[115] Before-fine profit functions might or might not be smooth; this analysis does not intend to make any general comment about their shape except to acknowledge that in at least some regions the before-fine profit increases with the rate charged.

FIGURE 1: PROFIT-MAXIMIZATION INCENTIVES
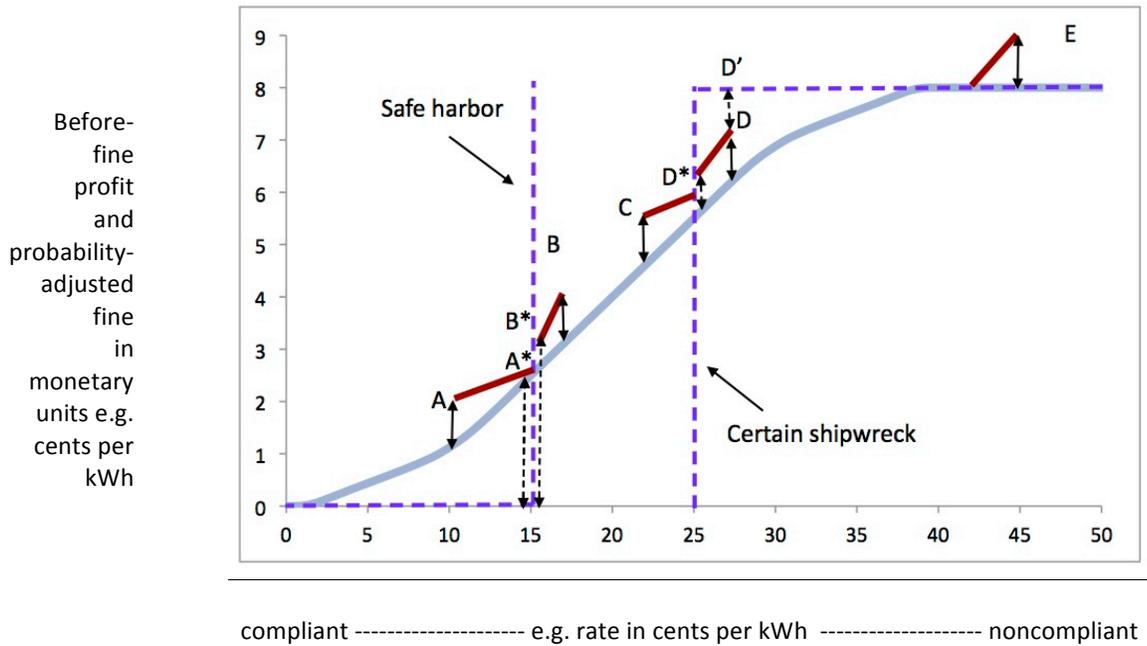UNDER SAFE HARBOR, SURE SHIPWRECK

compliant -------------------- e.g. rate in cents per kWh ------------------- noncompliant

TABLE 1: PROFIT CALCULATIONS BASED ON FIGURE 1
BEFORE AND AFTER SAFE HARBOR / SURE SHIPWRECK
(units = cents per kwh)

	Before Safe Harbor / Sure Shipwreck					After Safe Harbor / Sure Shipwreck			
	Max profit rate	Before-fine profit	Probability-adjusted fine	Net profit		Max profit rate	Before-fine profit	Probability-adjusted fine	Net profit
A	10	2	1	1		15	2.5	0	2.5
B	17	4	3	1		15	3	0	3
C	22	5.5	4.5	1		22	5.5	4.5	1
D	27	7	6	1		25	6	5.5	0.5
E	45	9	8	1		45	9	8	1

Table 1 shows the profit-maximizing rates, and the profit calculations, for each of A, B, C, D and E, both before and after the promulgation of the safe harbor and sure shipwreck. Prior to the imposition of a safe harbor and/or sure shipwreck, A's profit-maximizing rate is 10 cents per kWh, B's is 17 cents, C's is 22 cents, D's is 27 cents, and E's is 45 cents. Each utility shows a net profit, equal to its before-fine profit minus its probability-adjusted fine, of 1 cent per kWh before the promulgation of a safe harbor or sure shipwreck.

Figure 1 and Table 1 next assume the promulgation of a safe harbor at a rate of 15 cents per kWh and a sure shipwreck at a rate of 25 cents per kWh. Each of A*, B* and D* shows the new optimal compliance points chosen by utilities A, B and D, respectively, after the imposition of the safe harbor and sure shipwreck shown. The optimal compliance points C and E, for utilities C and E, do not change. Like Part II, this core exposition assumes that there is no change in the probability of liability outside the bounds of the safe harbor and/or sure shipwreck.

Utilities A and B illustrate the incentive changes produced by the safe harbor. The reason that the profit-maximizing rate changes for utility A is that the safe harbor reduces to zero the probability-adjusted fine for all rates at or below 15 cents per hour. This produces a "going-up-to-the-line" incentive. A's pre-safe-harbor choice of a rate of 10 cents an hour was based in part on the positive and increasing probability that a fine would be imposed for rates increasing from zero to 15 cents per kWh. The safe harbor makes that probability zero. As a result, A's new profit-maximizing rate equals the safe harbor rate of 15 cents per hour. This rate provides a before-fine profit of 2.5 cents per kWh and no risk of a fine, which is better than A's previous optimum of 2 cents of before-fine profit and a 1-cent probability-adjusted fine.

The profit-maximizing rate for utility B under the safe harbor also changes because the safe harbor reduces to zero the probability-adjusted fine for all rates at or below 15 cents per kWh. In the example illustrated in Figure 1, B's profit-maximizing rate under the general standard alone is 17 cents. This rate provides B with before-fine profit of 4 cents and probability-adjusted fine equal to 3 cents, a difference of 1 cent. After the safe harbor, B will choose a rate of 15 cents rather than a rate of 17 cents. Although the 15-cent rate provides B with a lower before-fine profit of 3 cents, it presents no risk of a fine, so the 3 cents is all profit.

Utilities C and D illustrate the incentive changes produced by the sure shipwreck. There are no such changes for Utility C, located on the compliance side of the line drawn by the sure shipwreck. Utility C has a profit-maximizing

rate of 22 cents per hour before and after the imposition of the sure shipwreck, again under the assumption that liability probabilities outside the safe harbor and sure shipwreck are exogenous. The sure shipwreck only makes some rate choices worse relative to various utilities' before-fine profit; it does not make rate choices better for a utility. And the sure shipwreck does not make the probability-adjusted penalty attached to Utility C's ex ante profit-maximizing rate worse, because it does not cover Utility C's behavior.

In contrast, the sure shipwreck does encourage Utility D to change its behavior. Before the imposition of the sure shipwreck regime for rates above 25 cents per kWh, Utility D had a profit-maximizing rate of 27 cents per kWh. At that rate, its D's before-fine profit equaled 7 cents and probability-adjusted fine equaled 6 cents, without the sure shipwreck. But the 100% certainty of fine imposition within the sure shipwreck causes the probability-adjusted fine for a 27-cent rate to jump to 8 cents. As a result, a 27-cent rate will produce one cent of loss for each kWh sold for D; this is shown by the point D'. D will instead prefer to charge 25 cents per kWh. A 25-cent rate will produce a before-fine profit of 6 cents and a probability-adjusted fine of 5.5 cents, or a net profit of half a cent. This is better than a net loss of one cent for D.

Not all regulated parties who initially land on the noncompliant side of a sure shipwreck line will be encouraged to move to the compliant side of the line. Take for example Utility E. Prior to the sure shipwreck, Utility E sees a profit-maximizing point at a rate where E already faces a virtually sure penalty of 8 cents per kWh. The sure shipwreck does not increase the probability-adjusted cost of the penalty. Thus E's optimal rate remains 45 cents, which provides before-tax profit of 1 cent per kWh.