

INFORMATION AND THE AIM OF ADJUDICATION: TRUTH OR CONSEQUENCES?

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Adjudication is fundamentally about information, usually concerning individuals' previous or proposed behavior. Legal system design is challenging because information ordinarily is costly and imperfect. This Article analyzes a broad array of system features, asking throughout whether design should aim at the truth or at consequences, how these approaches may differ, and what general lessons may be drawn from the comparison. It will emerge that the differences in approach are often large and their character is sometimes counterintuitive. Accordingly, system engineers concerned with social welfare need to aim explicitly at consequences. This message is not one opposed to truth per se but rather a strong admonition: it is dangerous to be attached to the alluring view that adjudication is primarily about generating results most in accord with the truth of the matter at hand.

INTRODUCTION	1304
I. INFORMATION AND SUBSTANTIVE LEGAL COMMANDS	1311
A. <i>Rules Versus Standards</i>	1312
B. <i>Precision</i>	1315
II. DECISION CRITERIA IN ADJUDICATION	1318
A. <i>Burden of Proof</i>	1318
1. <i>Regulation of proposed conduct</i>	1319
2. <i>Incentives for ex ante behavior</i>	1323
B. <i>Pretrial Terminations</i>	1327
C. <i>Substance Versus Procedure</i>	1330
III. ACCURACY IN ADJUDICATION	1332
A. <i>Liability</i>	1334
B. <i>Damages and Ex Ante Behavior</i>	1337

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C. <i>Damages and Compensation</i>	1341
IV. ENDOGENOUS BEHAVIOR IN ADJUDICATION	1344
A. <i>Decision to File</i>	1345
1. <i>Private suits</i>	1345
2. <i>Public enforcement</i>	1350
B. <i>Incentive to Generate Information</i>	1352
V. ADDITIONAL CONSEQUENCES OF TRUTH	1355
A. <i>Legitimacy</i>	1356
B. <i>Abuse of Power and Corruption</i>	1359
C. <i>Participation and Other Process Values</i>	1361
D. <i>Preferences for Truth Per Se</i>	1363
VI. TRUTH INSTEAD OF CONSEQUENCES	1364
CONCLUSION	1369

INTRODUCTION

Adjudication, at its core, is a process by which information is generated and assessed for purposes of obtaining an appropriate legal outcome. In some domains, adjudication concerns individuals' previous behavior (contract breaches, torts, crimes), wherein the prospect of legal redress may deter harmful acts and also, as a side effect, chill benign conduct. In others, often involving specialized agencies, adjudication determines whether proposed behavior will be allowed or prohibited. Legal system design is challenging in significant part because information ordinarily is costly and imperfect.

This Article analyzes a broad array of features of the legal system, asking throughout whether system designers should aim at the truth or at consequences. Here, truth is not taken as an abstract concept or a normative principle. Nor is it taken to have a unitary meaning in different realms. Instead, the notion is to be understood as a proxy criterion (or even a metaphor) that seems appealing in particular domains and thereby is often taken as an appropriate target by policy analysts when they assess pertinent elements of the legal system.

This Article will assume, until the final Part, that system engineers are in fact concerned entirely with consequences for social welfare. The question then is whether, in undertaking their work, it is a plausible strategy to aim at the truth with the expectation that this protocol will ordinarily lead to good consequences. Perhaps there are some moderate deviations, occasional exceptions, and limitations, but nevertheless the applicable notion of truth might typically provide a workable guide or at least a sensible starting point. A competing view is that system engineers need to focus quite explicitly on consequences themselves, largely setting truth to the side; indeed, perhaps they need to strive to ignore truth's siren call.

The Article examines how these two methodologies differ and what general lessons may be drawn from the comparison. It will emerge that a large divergence often exists and that its character can be counterintuitive. Accordingly, system engineers really do need to concentrate on consequences. This message is not one that is opposed to truth per se but rather a strong admoni-

tion: it is dangerous to be attached to the alluring view that adjudication is primarily about generating results most in accord with the truth of the matter at hand.

To frame the inquiry, it is useful to consider the underlying reason that truth and consequences can produce such divergent prescriptions. Start in an idealized world in which it is possible to achieve perfect accuracy in adjudication—such that every outcome corresponds to the truth—at zero cost. In such a world, in most instances and with some further simplifications, social welfare would be maximized by going with the truth. Adjudication would aim at the truth, it would in fact hit the bull's-eye every time, and it would achieve the best consequences. Harmful acts would always result in the appropriate sanction, benign acts would not be discouraged at all by the prospect of the mistaken imposition of sanctions, and system costs would be nonexistent. This is a first-best setting (or close to it), an analogue to a frictionless universe. Here, we do not see much reason for truth and consequences to conflict.

Our actual system design problem, of course, is in the world of the second best. Nontrivial system costs must usually be incurred to obtain even an approximation of the truth. Attempting to move closer is increasingly costly, and perfect truth is unobtainable. Should we nevertheless pretty much always aim at the truth?

The obvious answer is in the negative. The presence of costs alone tells us that we will need to make tradeoffs. Spending the entire GDP to get as close as possible to the truth in a single torts dispute would destroy society, not maximize social welfare. This simple point instructs us to avoid excess, but it fails to illuminate a course of analysis that can prescribe what moderation would look like and what it should depend on.

Moreover, once complete truth is off the table, we confront significant hurdles: the lack of an obvious metric for degrees of truth or of a way to place a value on truth units, whatever they may be. Inquiries are sometimes conducted as if there were some sort of Platonic truth measure, but little reflection is required to appreciate the need to dig deeper. More explicit treatments may invoke various criteria, such as the command to minimize the number of errors in adjudication or the command to aim at some ratio of true positives to false positives. Such guidelines, however, are ad hoc and conflicting, and they can have absurd implications. For example, it is obvious that adjudicative errors are minimized by eliminating adjudication, and further analysis indicates that some proposed performance ratios are improved by raising the flow of innocent acts into the system (because such may well improve the system's batting average). To foreshadow a bit, we can see from these examples that it is grossly insufficient to consider only what happens in adjudicated cases; underlying behavior and determinants of what enters the legal system will be central. The main purpose of the legal system is not for adjudication to look good according to some abstract standard but rather for its operation—including the anticipation thereof—to foster productive activity, restrain harmful conduct, and avoid undue expense.

More fundamentally, such precepts—whether focused entirely on some notion of truth or on related considerations involving types of errors—are ungrounded. As already mentioned, the approach this Article adopts is that legal system engineers should be guided by the maximization of social welfare. That is, adjudication should, in principle, aim at consequences. Whether, how, and to what extent truth is important will emerge in the course of the analysis. Any truth metric or valuation of truth will be a byproduct of the inquiry, not its driver. Aiming at the truth may sometimes be a good summary or proxy for part of what matters, but it is never the entire story (if for no other reason than cost), and is often a misleading guidepost.

In complex systems, this sort of perspective is familiar. Indeed, even when the setting is simpler, one does not always aim directly as one would in an idealized world. A marksman might optimally aim high and to the left to account for distance and wind. But that involves just a modest refinement: the maxim that one should aim true is approximately correct. When building a road to the top of a mountain, however, aiming straight for the top—following the precept that the shortest distance between two points is a straight line—is a prescription for disaster. Switchbacks will be required, so that much of the time the road is actually going in the wrong direction by reference to the ultimate endpoint. Moreover, depending on the conditions, it might be best to go down, not up; around to the other side; and only then begin a zigzagged ascent.

The foregoing should lead us to wonder whether adjudication design that aims primarily at the truth will perform poorly, but it does not tell us how worried we should be. That depends on whether this domain is more like a gradual incline with a few bumps or a treacherous mountainside with imposing obstacles. There are two general reasons to expect our challenge to be more like the latter.

The first is the presence of costs. Not only will we want to stop short of the top, but once we know this, it is impossible to determine how far to go without an explicit determination of the social value of moving closer. One can contemplate the meaning of truth until the end of days without illuminating that question. The value of truth in adjudication depends on its consequences, and valuing various outcomes is outside the realm of truth *per se*. As a comparison, how can we value an additional medical test of a stated precision without assessing the consequences of one or another course of treatment under different medical conditions? In this type of setting, truth is indeed something that matters, but it is only one element of a larger calculus. It is a start to recognize that tradeoffs must be made, but this recognition alone tells us little of their anatomy.

The second reason is that the design of adjudication in many settings influences behavior. We are centrally concerned about deterring harmful acts and avoiding the chilling of benign conduct. Such primary behavior, and also litigation itself, is endogenous; social welfare depends on the operation and feedbacks of the system as a whole. In such a complex and interactive environment, moving somewhat closer to truth in adjudication, by any simple metric, need

not improve social welfare even without regard to costs. In addition, seemingly more expensive systems can be cheaper (for example, via deterrence, reducing the frequency of adjudication) and less expensive ones more costly. Due to these multiple and moving targets, the optimal design of adjudication may be more roundabout than building a road up a treacherous mountain: at least the mountain stands still.

This Article explores multiple dimensions of legal system design with a focus on information and, in particular, how information costs and limitations bear on the nexus between truth and consequences. Its scope is broad and, accordingly, the analysis is limited and often selective. In the process, however, we will see how key aspects of the interaction play out in many contexts and also identify some systematic similarities and differences across domains.

As mentioned at the outset, one should keep in mind that the core message here is not anti-truth. Truth, after all, is usually the right guide in an idealized world, which suggests that sometimes we should expect it to point us in a good direction. As a motivation for analysis, at least, thinking about truth is useful. Moreover, truth may be consequential for social welfare for additional reasons. The claim throughout this Article is that careful analysis must aim at consequences, not at truth, because the dictates of truth are almost always seriously incomplete and often enough misleading that we must be careful not to have our imagination, investigation, and prescription distorted by an infatuation with truth in adjudication.

Part I begins by examining information and substantive legal commands because the purpose of adjudication is to effectuate substantive law. The analysis of information and the aim of adjudication are inevitably about the relationship between procedure and substance. Accordingly, it is important to start with central design features of substantive legal commands—specifically, those that most directly implicate the core informational dimensions that will be emphasized later. Notably, primary behavior is influenced by the expected consequences of adjudication, which accordingly is the core information about the legal system, procedure and substance, that proves to be consequential. Of course, administrative costs matter as well.

Specifically, Part I addresses the two dimensions of a taxonomy employed in some of the literature. One involves the distinction between rules and standards, wherein a rule for this purpose refers to specification of the content of a legal command *ex ante*, before parties engage in the primary behavior governed by the pertinent law, whereas under a standard the content is determined *ex post*, in adjudication, after parties have acted. The second dimension involves the precision—specificity or level of detail—with which the legal command is given content: that is, the extent to which it makes finer distinctions rather than placing conduct in broader categories. Both dimensions implicate information in several ways. They obviously govern the intensity of effort (and thus cost) of supplying legal content both *ex ante* and *ex post*. Moreover, they influence the law's consequences for individuals' behavior in the interim because such behavior depends critically on the extent to which individuals choose to become

informed about the law before they act. One of the recurring themes of this Article emerges in both analyses: truth at the conclusion of adjudication—understood in this Part to refer to the alignment of outcomes with the substantive ideal—does not directly translate into *ex ante* behavior in conformance therewith. Indeed, the gulf can be wide: a regime closer to the truth in adjudication can result in individuals' actions in the world being less in accord with truth's dictates than they would be under an optimal regime aimed at consequences.

Part II analyzes the treatment of errors in adjudication—conventionally understood as setting a burden of proof or other decision threshold—taking as given the quality of information, a matter deferred to Part III. Examined first is a simpler context, set to the side in much of this Article, in which adjudication concerns the regulation of proposed conduct: license applications, zoning variances, or the approval of mergers or new drugs. Here, the optimal evidence threshold involves standard cost-benefit analysis for decisions under uncertainty, just as in the medical testing illustration above. The truth of the matter—the likelihood that the applicant, say, proposes an activity of a harmful rather than of a benign type—is certainly relevant, but one must also consider the possible social gains and losses from the proposed activity. When harm is great and the benefit of a benign act is small, prohibition is optimal even when the likelihood that the proposed action is a harmful one is low, and conversely when harm is slight and benign activity is highly beneficial, even though the truth of the matter is that it is most probably harmful. Better to make many mistakes of little consequence than a few that are momentous. In this basic setting, truth is an element of consequences but it is far from the entire story.

Next, the analysis returns to the setting examined in most of the Article, where individuals' actions (torts, contract breaches, and so forth) precede adjudication, in which case their behavior is influenced by their anticipation of outcomes in adjudication. Here, truth—in the sense of the likelihood that the individual before the tribunal in fact committed a harmful act—is not even a component of the more elaborate calculus that determines what evidence threshold is optimal with regard to the consequences it engenders. The explanation is that the truth of the matter at hand concerns the static, descriptive question of how best to characterize the case before the tribunal, whereas the consequences of setting an evidence threshold somewhat higher or lower turn on the dynamic question of how such a modification would change individuals' *ex ante* behavior. As suggested previously, the endogeneity of behavior can greatly obscure the relationship between truth and consequences. In general terms, this phenomenon carries over to the determination of optimal decision criteria at earlier stages of adjudication, including formal pretrial terminations and the informal conduct of investigations, such as by government agencies.

Part II also examines a particular relationship between procedure and substance, namely, whether concerns for errors involving the mistaken imposition of sanctions on (or application of prohibitions to) benign conduct are best dealt with through restrictions on substantive legal commands or with more demand-

ing decision criteria in adjudication. The latter tends to be favored on informational grounds because raising, say, the burden of proof tends to remove the weakest cases from the system. In this instance, welfare is best advanced by keeping substantive law aligned with truth, in the sense of conformity to the substantive ideal, and relegating any needed adjustments to the burden of proof, perhaps by moving it in a direction less aligned with truth in the sense of whether outcomes accord with the fact of the matter in the case under adjudication.

Part III shifts the focus to the accuracy of adjudication. Because greater accuracy—attempting to move closer to the truth—comes at a cost, it is necessary to place a value on accuracy, which can be done only by assessing its consequences. The value of accuracy varies greatly on a number of dimensions. Raising the degree of accuracy in the determination of liability improves the error tradeoff that was taken as given in Part II's discussion of evidence thresholds and accordingly has a social value that reflects the corresponding consequences. Improving the accuracy with which damages are assessed has an influence on *ex ante* behavior that is similar to that of making substantive legal commands more precise or refined. Specifically, the value of moving closer to the truth is not automatic but depends on the extent to which individuals will anticipate and thus react to the greater precision of adjudication. Interestingly, in some important settings, greater accuracy will be a pure waste of resources because the added *ex post* specification—concerning, for example, just how much a particular auto accident victim's future earnings are diminished by an injury—cannot plausibly be predicted *ex ante*. To the extent that more accurate damage awards improve the precision of compensation for risk-averse victims, accuracy has social value, in this instance measured by a risk premium. In all, whether the truth has any consequences at all and the social value of the consequences it does have vary greatly by the issue, the context, and in many settings the information possessed by actors before adjudication occurs.

The relationship between truth and consequences becomes even more complex and in some instances further attenuated when the analysis is extended to take account of the endogeneity of behavior in adjudication: which cases are pursued and how much information parties choose to generate. Part IV examines some of the possibilities that may arise. For example, private litigation is initiated when plaintiffs anticipate an expected recovery in excess of their costs. Anything that influences the costs or outcomes of adjudication affects these decisions, which in turn have feedback effects on primary actors' behavior that, as emphasized repeatedly, is predicated on their own expectations about adjudication, including how often it will occur. As one indication of the potential implications, analysis is presented of a reform that lowers the evidence threshold, so that plaintiffs win more often, and simultaneously imposes a filing fee, to an extent that (altogether) keeps deterrence constant. It is explained that in some settings this reform will lower system costs and also reduce the extent to which benign conduct is chilled. That is, a concern for errors involving the mistaken imposition of liability may favor a reform that reduces, not raises, the evidence

threshold. This situation arises when litigants possess information superior to the tribunal's. Truth in the outcomes of adjudication can be less consequential than the knowledge that motivates self-interested plaintiffs' filing decisions.

Part IV also considers parties' incentives to generate information in adjudication. In certain key settings—notably, some of those explored in Part III—litigants' incentives are excessive. Their private benefit from influencing the outcome favorably, even though truthfully, exceeds the social value. As a result, the overall consequences for social welfare can be negative, precisely because *too much* truth is generated. Accordingly, one mechanism that might address the problem involves the tribunal being committed to ignore some truthful information that parties might present. In this instance, aiming at truth is directly in opposition to good consequences.

The final two Parts of the Article step back from the system design methodology employed thus far to consider a broader perspective on the legal system's objectives. First, continuing to assume that the purpose of the legal system is to advance social welfare, Part V asks whether there are additional consequences of the degree to which adjudication generates the truth, specifically, consequences regarding perceived legitimacy, abuse of power and corruption, participation and other process values, and preferences for the truth *per se*. Then, Part VI briefly examines the pursuit of truth independent of its consequences for social welfare.

This Article does not attempt to be exhaustive either with regard to all the ways that truth and consequences may or may not diverge from each other, taking an optimal system design perspective,¹ or all the reasons that aiming at the truth may be important after all. It seeks to present enough of the former to illustrate the range of possibilities and to demonstrate the significance of potential divergences, and to discuss enough of the latter to instigate further reflection. Information is indeed central to adjudication, and the wide variation and complexity of the subject indicate the need for explicit, ground-up analysis that clearly focuses on the system's objectives, rather than an approach that starts in the middle and employs an appealing but potentially misleading proxy criterion: aiming at truth.

1. Brief remarks are in order regarding two familiar categories of truth/consequences divergence. First, there are isolated pockets of recognized exceptions. For example, the exclusionary rule and the requirement of proof beyond a reasonable doubt are usually seen as deviations from the norm that are justified by special considerations. *See infra* note 109. Second, as already noted in this Introduction, the need for cost tradeoffs is widely acknowledged, as reflected in many features of system design, from judges regulating the length of trials to enforcers employing randomized rather than dragnet strategies (traffic control and tax audits). Cost tradeoffs motivate Part III's analysis of how to place a value on truth, which requires a systematic tracing of consequences that, as mentioned, is not much illuminated either by invocations of truth or by concessions of the need for moderation in light of costs.

I. INFORMATION AND SUBSTANTIVE LEGAL COMMANDS

Determination of the substance of legal commands is not ordinarily viewed as centrally involved with questions of information. In a world in which it was costless to figure out what rules should be, for parties to understand how they apply to their contemplated actions, and for the legal system to apply them to behavior, information would not be a major concern of legal design. However, since we are often far from such a world, especially in a modern society with complex transactions, regulations, and tax schemes, information is indeed fundamental to substantive law. The cost of information is a first-order consideration for rule promulgators, for actors seeking to comply with legal commands, and for a legal system that must enforce the law. Moreover, it cannot be assumed that decisions—by individual actors subject to the law or by adjudicators—will reflect a complete, correct understanding of what the rules are or how they apply to the matter at hand. In addition, not only is individuals' information limited, but the nature of this limitation itself depends on how substantive legal commands are formulated. Therefore, when analyzing the consequences of designing legal commands in one manner or another, we must be prepared for the possibility that the centrality of truth may recede, perhaps substantially, so we need to exercise caution with regard to its use as the dominant guiding principle.²

This Part employs a taxonomy advanced in my previous writing that distinguishes two questions.³ First, *when* is a given level of content in a legal command determined: *ex ante* (before individuals act) or *ex post* (in adjudication)? Second, *with what level of precision* (detail, refinement) is a legal command formulated? With regard to the first distinction, *ex ante* formulation is referred to as a *rule* and *ex post* formulation as a *standard* (the difference often being a matter of degree, a point that will be abstracted from here). Subpart A examines this dimension, holding precision constant. Subpart B then analyzes different levels of precision.

In this Part and in some other passages where the context clearly indicates, “rule” will be used in this specialized sense; otherwise, the term will take a looser, broader meaning. This distinction between rules and standards, on one hand, and precision, on the other hand, is emphasized here because, despite similarities, there are some important differences in the implications of these two informational dimensions. The conflation of these features is confusing⁴

2. See also *infra* Part II.C (exploring another informational dimension of the relationship between substance and procedure).

3. See Louis Kaplow, *Rules Versus Standards: An Economic Analysis*, 42 DUKE L.J. 557, 586-96 (1992).

4. Confusion is perhaps inevitable due to the fact that “rules” and “standards,” terms often deployed to indicate distinct notions, are routinely defined as synonyms for each other and used in ways that contradict the taxonomy used here and variations used by others. For example, “standardization” refers to what most legal commentators mean by “rules” and the opposite of what is supposed to be conveyed by the term “standards.”

and contributes to a common supposition in some of the literature that rules are somehow inherently simpler than standards⁵—a view sharply at odds, for example, with the extravagant degree of detail exhibited by important parts of the modern regulatory state, including financial and environmental regulation and tax codes.⁶ As we will see in Subpart B, analysis of the informational differences between rules and standards helps to explain this phenomenon.

A. *Rules Versus Standards*

As mentioned, under the taxonomy employed here, rules and standards differ only in the extent to which effort to give content to substantive legal commands is expended before or after individuals act.⁷ These efforts primarily involve the determination of what acts should and should not be subject to sanctions, and to what degree. As will become clear, what matters is not the superficial form of a legal command but the information actually conveyed.⁸

Consider the following setting, which has three stages.⁹ First, a law is promulgated, either as a rule or as a standard. Second, individuals decide on

5. This view is often expressed by the assertion that rules are over- and under-inclusive relative to standards. See, e.g., Isaac Ehrlich & Richard A. Posner, *An Economic Analysis of Legal Rulemaking*, 3 J. LEGAL STUD. 257, 268-70 (1974); Duncan Kennedy, *Form and Substance in Private Law Adjudication*, 89 HARV. L. REV. 1685, 1689, 1695 (1976).

6. Compare the level of precision that would actually arise if instead there existed standards dictating (respectively) prudence, protection of public health, or paying one's fair share, and these were given content ex post, in the adjudication of individual disputes.

7. As explained below in note 33 and in Kaplow, *supra* note 3, at 606-08, the distinction collapses to a significant degree with regard to legal commands that regulate proposed conduct.

8. For example, a seemingly standard-like proclamation that the rules of etiquette should be observed may, in some circles, convey the proper mode of behavior with great clarity. See Kaplow, *supra* note 3, at 615-16 (discussing additional ways to achieve predictability without formally articulated rules). Similarly, if an agency conducts and publishes a study indicating which substances it believes to be harmful and the agency and courts routinely rely on the study, then the setting is highly rule-like even if the study's results have not been formally adopted to crystalize a seemingly open-ended standard.

9. The analysis is based on Kaplow, *supra* note 3. (The perspective that the choice between rules and standards can usefully be viewed as a problem in information acquisition and dissemination was offered explicitly, but briefly, in that article. See *id.* at 585-86.) See also Louis Kaplow, *General Characteristics of Rules*, in 5 ENCYCLOPEDIA OF LAW AND ECONOMICS 502, 508-14 (Boudewijn Bouckaert & Gerrit De Geest eds., 2000). Just as in that treatment, law regarding form, background (default) rules, and commands aimed at avoiding circumvention (notably, catchall anti-abuse standards aimed at strategic maneuvering around prespecified rules and regulations) are not analyzed here. Additional literature relating to rules versus standards that takes an instrumental view includes Colin S. Diver, *The Optimal Precision of Administrative Rules*, 93 YALE L.J. 65 (1983), and Ehrlich & Posner, *supra* note 5. For some suggestions of how aspects of human psychology may influence an instrumental assessment of rules versus standards, see Russell B. Korobkin, *Behavioral Analysis and Legal Form: Rules vs. Standards Revisited*, 79 OR. L. REV. 23 (2000). Other prominent legal scholarship on rules and standards includes KENNETH CULP DAVIS, *DISCRETIONARY JUSTICE: A PRELIMINARY INQUIRY* (1969); HENRY J. FRIENDLY, *THE FEDERAL ADMINISTRATIVE AGEN-*

their actions. Because they may be imperfectly informed about the law's commands, either they act based on their best guesses of what the law requires or they acquire further information to guide their decisions. Third, after individuals act, an adjudicator determines the legal implications.

One key set of differences between rules and standards involves differences in information costs at the first and third stages. Rules are more expensive up front because more effort is expended then, and standards are more costly in adjudication because substantive legal content must be determined at that time. The former is advantageous to the extent that there exist economies of scale and scope in information collection and in the activity regulated. This, in turn, relates to the regulated activities' frequency and homogeneity. For activity that is frequent, it is cheaper to figure out the answer once and for all, up front, rather than repeatedly, in adjudication.¹⁰ But when particular actions, which may require particularized commands, are rare and highly varied, it may be cheaper to wait and see, so that the expense can be spared in the myriad instances that never arise. A significant caveat in this regard is that there may nevertheless exist significant economies of scope if, despite heterogeneity, there are common elements in the necessary inquiry; then, it may be cheaper to provide content en masse, and thus ex ante, than to make independent, one-off, ex post determinations even if they only need to be made in the subset of possible cases that actually occur.

The other main difference, which is of particular importance for present purposes, arises at stage two, where individuals decide how to act. A recurring theme in this Article is that one cannot take for granted that individuals' behavior will perfectly reflect adjudications' outcomes, because individuals' information at the time they act may be limited. Moreover, the degree of the limitation and the costs of surmounting it depend on design features of the legal system: here, the choice between rules and standards.

Because rules are given content up front, it will tend to be easier—cheaper—for prospective actors to ascertain what the law requires. Under

CIES: THE NEED FOR BETTER DEFINITION OF STANDARDS (1962); H.L.A. HART, THE CONCEPT OF LAW 126-31 (1961); FREDERICK SCHAUER, PLAYING BY THE RULES: A PHILOSOPHICAL EXAMINATION OF RULE-BASED DECISION-MAKING IN LAW AND IN LIFE (1991); and Kennedy, *supra* note 5.

10. An important qualification arises when (as is often not the case), say, the first case establishes a precedent, converting the standard into a rule, going forward. More broadly, it is useful to view the creation of precedent as a particular means of collecting information to give content to the law. In this regard, it should be noted that adjudication tends to be a costly and ineffective way to collect and disseminate information. More can be spent contesting a single case than would be required to fund a substantial empirical study of a mass of situations. And if the case ultimately settles or results in a general jury verdict, little or no information may actually be generated for subsequent use. It may take years or decades for a precedent to be formulated, with the result that large numbers of individuals' decisions in the interim lack guidance, and the number of adjudications (including frequent settlements, after significant expenditures have been made) in the interim may consume tremendous resources while producing only modest information of use to the tribunal that ultimately promulgates the precedent. See Kaplow, *supra* note 3, at 577-79, 611-14.

standards, they must predict how an adjudicator would ultimately assess the matter, a more complex and costly endeavor. Hence, all else equal, rules will be cheaper in operation because of this cost advantage at stage two. Note that the magnitude of this advantage will depend, as in the stage-one versus stage-three cost comparison, on the frequency of the activity involved.¹¹

Moreover, because determination (really, prediction) of the law's content under standards is more costly, and to some degree impossible in certain realms, behavior may differ as a result. Specifically, individuals acting under rules will (endogenously) often be more informed than under standards and thus their activity will conform to a greater degree to the content of legal commands—that is, it will more conform with truth in the sense of alignment to the substantive legal ideal. For example, a dry cleaner or an auto repair shop may better know how to properly dispose of possibly hazardous fluids if it can consult a rule that states how to do so than if it must predict what an adjudicator would subsequently deem to be the proper method. As a result, behavior may conform more closely to truth under rules even when the degree to which the substantive law and its application in particular cases reflect the ideal—the true nature of the act—would, in the end, be identical under rules and under standards.¹² This may be so even if the content ultimately supplied under standards would be superior in this regard, because individuals may be unable to—or, on cost grounds, rationally choose not to—ascertain this content *ex ante*.¹³

11. Frequency at stage two can be much greater than that at stage three because most individuals' actions may never give rise to liability (consider a precaution that averts a substantial harm that has a low probability) and most cases may settle, often informally and early in the process. A mitigating factor is that this very frequency will generate a market for predictive advice that will, to an extent, become routinized, drawing on the sorts of economies of scale and scope discussed with regard to the promulgation of rules at stage one. To that extent, standards will become more rule-like in operation, although the relevant substantive content will not be that which an adjudicator would actually supply *ex post* but rather professional advisors' predictions thereof.

12. One possibility is that individuals, at stage two, will both spend less and be more informed under rules, in which case the implications for social welfare will be clear—supposing that the content of the law and its associated sanctions are such that we indeed wish individuals to act with knowledge of the law, an assumption largely maintained throughout. For an exploration of qualifications with regard to when and to what extent individuals' incentives to obtain information *ex ante* regarding whether their contemplated behavior is in accord with legal commands is socially appropriate, see Louis Kaplow, *Optimal Deterrence, Uninformed Individuals, and Acquiring Information About Whether Acts Are Subject to Sanctions*, 6 J.L. ECON. & ORG. 93 (1990); Louis Kaplow & Steven Shavell, *Private Versus Socially Optimal Provision of Ex Ante Legal Advice*, 8 J.L. ECON. & ORG. 306 (1992); Kaplow, *supra* note 3, at 602-05; and Steven Shavell, *Legal Advice About Contemplated Acts: The Decision to Obtain Advice, Its Social Desirability, and Protection of Confidentiality*, 17 J. LEGAL STUD. 123 (1988).

13. This point overlaps with considerations of precision, the subject of Subpart B. For example, it may be imagined that, *ex post*, when a particular case arises and is in adjudication, a standard will be given content in a highly refined manner, taking myriad subtleties into account. This precision will be irrelevant for compliance, however, if individuals would not appreciate it at the time that they act. As will be further explained, for this reason and

Information is quite central to the substantive legal commands that ultimately are applied in adjudication. With standards, more of the effort is supplied in adjudication itself, whereas under rules the work is shifted to the promulgation stage, one of the effects of which is to make adjudication more predictable to individuals at the time they choose their actions in light of their expectations of what lies ahead. If we are significantly concerned about the legal system's effects on behavior and not just on the truthfulness of pronouncements in adjudication for its own sake, then legal system design needs to aim explicitly at consequences. Information costs must be included in the calculus, but we should also keep in mind that, whatever the costs, information can only guide individuals' actions if they obtain it. Because information is key to both how private actors behave and how the system operates—and, moreover, how the latter feeds back on the former—information is indeed at the heart of legal system design, including here the formulation of substantive legal commands. Truth *ex post* does not automatically translate into either truth or consequences in accord therewith *ex ante*.¹⁴

B. Precision

Let us now set aside the question whether a legal command is given content *ex ante* or *ex post*—for concreteness, suppose that we are considering rules—and turn to the second dimension: the degree of precision (detail, refinement) with which a legal command is formulated.¹⁵ Obviously, many areas of law, such as regimes for workplace safety, toxic substances, and income taxation, are highly detailed, yet not infinitely so. An environmental regulation may distinguish more or fewer types of pollutants or places in which they may be discharged into the air or bodies of water. An income tax may grant different

others, it also does not ordinarily make sense to be very precise *ex post*, even when such would have been optimal *ex ante*, that is, under a rule.

14. For discussion of this theme with regard to legal advice provided after parties act, in the course of adjudication, see note 91.

15. The analysis here follows that in Louis Kaplow, *A Model of the Optimal Complexity of Legal Rules*, 11 J.L. ECON. & ORG. 150 (1995), which also extends the analysis to regimes that incorporate actors' self-reporting to the enforcement authority. See also Kaplow, *supra* note 9, at 503-08. An interesting result for the present investigation is that inducing individuals to report their acts truthfully is not always socially desirable, a significant reason being that they may be required to expend significant resources in order to do so when the consequence does not involve a significant improvement in behavior. See also Giuseppe Dari-Mattiacci, *On the Optimal Scope of Negligence*, 1 REV. L. & ECON. 331 (2005) (using similar analysis to assess how many dimensions of behavior should be assessed in determining negligence); Louis Kaplow, *Accuracy, Complexity, and the Income Tax*, 14 J.L. ECON. & ORG. 61, 64-70 (1998) [hereinafter Kaplow, *Income Tax*]; Louis Kaplow, *How Tax Complexity and Enforcement Affect the Equity and Efficiency of the Income Tax*, 49 NAT'L TAX J. 135, 138-44 (1996); *infra* Part III.B (discussing accuracy in the assessment of damages, a subject patently about information that, upon examination, bears many similarities to the present analysis of the optimal precision of substantive legal commands).

sorts of deductions for various expenses, each of which might be defined more generally or precisely.

In particular, suppose that we are considering some particular category of regulated behavior, however broad or narrow it may be, and the design challenge we face is whether it would be worthwhile to introduce a further distinction within it. Perhaps a subset would be carved out as an exemption or be subjected to a different sanction. Assume further that, in an ideal world, the additional refinement would be desirable because the different subcategories are associated with different levels of harm (perhaps one involves no harm whatsoever). Therefore, if information were free to both individual actors and the legal system, greater precision—formulating substantive legal commands that align more closely to the truth regarding the desirability of regulating different activities—would be socially desirable.

Greater precision, however, involves additional costs at all three stages: more precise rules are more costly to promulgate, for individuals to take into account when deciding how to behave,¹⁶ and for adjudicators to apply. Regarding the latter, note that even if the cost of their understanding the more refined rule is negligible, there may be significant additional factfinding costs in determining in which subcategory the behavior under adjudication falls. At first blush, the question of optimal precision presents a simple cost-benefit tradeoff: Is the sum of the information costs more or less than the benefit of improved behavior? Observe that this question is qualitatively different from asking whether introducing additional refinement that reflects true differences in activities advances truth: it always does, so aiming at truth is uninformative about whether and where we should stop short due to cost considerations, which are not on their face of a common denominator with truth.

Moreover, we learned in Subpart A that assessing the consequences regarding individuals' behavior is not so simple, for any behavioral improvement presupposes that individuals will find it worthwhile to expend the resources necessary to appreciate the additional refinement. If they do not, we have the additional costs at stages one and three but no benefit. In this instance, it is socially desirable for substantive legal commands to be less in conformity with the truth regarding underlying behavior.

A necessary condition, therefore, for greater precision to advance social welfare is that individuals will choose to become informed when contemplating how to act. If they do, there will tend to be a net social benefit at stage two—the behavioral gain exceeding individuals' costs of information¹⁷—which in turn can be weighed against the additional costs incurred at stages one and

16. Not only do individuals need to only learn what distinctions the law draws, but also (and sometimes much more costly) they will have to understand its implications for their activities. For example, when regulations on toxic substances make finer distinctions among various chemicals or modes of discharge, actors may need to employ scientists and engineers in order to better understand the byproducts of their production processes.

17. See sources cited *supra* note 12 (discussing caveats regarding whether information that individuals find privately valuable to obtain is equally socially valuable as well).

three.¹⁸ Note that this behavioral advantage will tend to be larger the greater is the difference in the levels of harm associated with the different subcategories of activity.

Another interesting feature of this situation is that there is a tendency for individuals in different circumstances to sort themselves favorably along this dimension.¹⁹ Some individuals, particularly repeat players or others with high stakes, will tend to become informed before they act, and for them the social gain from improved behavior will be greatest. Yet other individuals—one-shot players with small stakes—will tend to remain relatively ignorant, which likewise tends to be socially advantageous since for them the behavioral benefit may well fall short of the cost involved.²⁰ In a well-designed legal system, many individuals may remain uninformed about the law, and, relatedly, it may well reduce social welfare to heighten penalties for remaining ignorant in order that more actors would know the truth about what the law requires and act accordingly. Again, if information were free to all, aiming at the truth would generate good consequences, but when it is not, it is necessary to aim at consequences directly, and the result may, perhaps for most individuals, not align with the truth.

Finally, the present focus on information, the substance of legal commands, and adjudication points to a synergy between precision and the choice between rules and standards.²¹ Consider a realm of activity that is reasonably frequent. Because a rule would govern a substantial amount of conduct, it may well be worth undertaking additional effort at stage one to develop legal content with a fairly high degree of refinement. That is, the optimal rule scheme would be a fairly precise one. But under standards, wherein content is provided in a one-off fashion in adjudication, the optimal investment in precision may be quite low. Economies of scale and scope are not present: getting the decision just right will affect only one case rather than many. In addition, individuals at the time they decide how to act may find it too expensive to predict the details anyhow, rendering the ex post expenditure a waste in light of the fact that behavior is unaffected by the prospect of precision. Thus, under standards—which on their face and in principle allow for maximal truth in adjudication—

18. This cost-benefit test, like most tests in this Article, illustrates the point in the Introduction that, even if there existed some natural metric for the truth, which is hard to imagine in this context, we would immediately be confronted by the need to place a value on the units because information is costly. Regarding the present instance, we have a complex tradeoff, with key elements involving endogenous behavior—both whether individuals become informed and how they act in light of what information they possess—that determine the value of further refinement, which value will generally be subject to diminishing returns.

19. This phenomenon is likewise applicable to the analysis of stage two with regard to rules versus standards but was omitted for simplicity in Subpart A's exposition.

20. There will be exceptions, such as for highly hazardous activity wherein small players may individually or collectively impose a substantial risk of harm. Optimal regulatory approaches in such cases may not simply involve applying appropriately high penalties for actually causing harm, for many actors may remain unaware of them.

21. See Kaplow, *supra* note 3, at 579-84.

optimal precision and thus realized truth may be quite low.²² These considerations may help to explain why tax codes and modern regulatory schemes both take the form of rules to a substantial extent and can be extremely detailed, whereas it is hard to imagine that, say, a tribunal in an individual case would or could achieve anywhere near that level of refinement under an open-ended standard, solely for purposes of making a single, after-the-fact decision.

Throughout this Part, we have seen that information costs have two types of implications. Most obviously, they pose important tradeoffs, requiring that we stop short of complete truth when formulating substantive legal commands. How short we should stop, moreover, is not illuminated by reflections on this notion of truth. In addition, the degree to which the final outcomes of adjudication reflect truthful pronouncements with regard to what the law would ideally command does not translate directly into desirable individual behavior, which is the purpose of legal regulation in the first place. Indeed, aiming to provide greater truth in adjudication may both reduce the degree to which individuals' actions conform to the truth and produce socially desirable consequences. The choice between rules and standards and determination of the level of precision are challenging problems, with endogenous behavior at the core. Therefore, they require that system designers aim explicitly at consequences.

II. DECISION CRITERIA IN ADJUDICATION

A. *Burden of Proof*

This Part, like most of the Article as well as prior economically oriented literature on adjudication, will continue to focus on settings in which the core function of the legal system is to provide incentives for appropriate ex ante behavior. However, another important function of the legal system involves the regulation of proposed conduct—permitting or prohibiting an applicant's request to take a particular action—wherein adjudication (usually by an administrative agency) is also employed. This Subpart on the burden of proof therefore addresses both settings because of their independent importance and because the juxtaposition of the analyses brings out a fundamental and largely unappreciated difference between them regarding the role of information and thus the relationship between truth and consequences. It begins with future-oriented regulation because it is simpler to analyze. As we shall see, it might be viewed as a setting in which we care about both truth and consequences—more precisely, that truth in adjudication, as it is ordinarily understood, is an important component of an assessment of overall consequences. In contrast, the same

22. An exception would arise when the adjudication is setting a precedent, thereby converting an initial standard into a rule. *See supra* note 10.

sense of truth is substantially irrelevant, or at least deeply submerged, when the sole purpose of adjudication is to provide incentives for ex ante behavior.²³

1. *Regulation of proposed conduct*

In a number of important settings, the law dictates applicants' proposed conduct, and the purpose of adjudication is to determine whether they should be permitted to behave as they wish or instead be prohibited from acting. Applicants may seek licenses to practice various professions, to be allowed to drive, or to operate facilities ranging from liquor stores to nuclear power plants. They may need building permits or zoning variances for construction or to conduct business in certain locations. Or they may wish to merge corporations or market new pharmaceuticals. In such instances, a tribunal will need, based on imperfect information, to determine whether to permit or prohibit the activity.²⁴

Suppose that there exists a given flow of applicants to an adjudicatory body, perhaps operating under the auspices of a specialized agency. In each case, it must decide whether to permit or prohibit the proposed action. Acts, for simplicity, are taken to be of two types, harmful and benign. Each type of act provides a benefit to the proposing individual. What is referred to as the harmful type of act generates, in addition to this private benefit, a harm that is external to the actor. Left to their own devices, many individuals—those with positive benefits—would commit these acts, and many of these acts may cause harm in excess of their benefits. Although some of these acts might nevertheless be socially desirable because sometimes the benefits will exceed the costs, in this Subpart it will be assumed that this is not so on average (and, moreover, that our agency cannot determine an individual actor's benefits). Hence, if the act is in fact of the harmful type, prohibition would be optimal. The benign type of act is one that does not involve any external harm. Hence, when individuals wish to undertake these activities—which they will when their benefits are positive—the net social impact will be positive as well. Accordingly, it is optimal to permit acts that are in fact of the benign type.

The system design challenge arises due to information limitations, which make error unavoidable. The question is how best to set the legal decision criterion, more familiarly known as the burden of proof. The pertinent information-based cost-benefit tradeoff is of a different sort from those examined in Part I.²⁵

23. Some applications involve mixed cases—for example, drug approval decisions directly regulate proposed conduct but also affect ex ante incentives for research and development—in which event the system design project would need to combine the analyses of the two pure cases examined in Subparts 1 and 2.

24. In some low-stakes settings, the application process may be routine and not involve anything like formal adjudication. Still, such as in the case of a driving test, a government agent must decide based on limited information whether to approve the application.

25. See Louis Kaplow, *Burden of Proof*, 121 YALE L.J. 738, 837-48 (2012) [hereinafter Kaplow, *Burden of Proof*]; Louis Kaplow, *Likelihood Ratio Tests and Legal Decision*

For convenience, let us take the baseline outcome as permission and ask how strong the evidence should have to be that the act before the tribunal is of the harmful type in order to warrant prohibition. That is, we are setting an evidence threshold such that the act will be prohibited if and only if the evidence is above (stronger than) the threshold.

It will be helpful in this Subpart and some of those that follow to be more explicit about evidence: what it means, how it relates to different types of acts, and what is meant by the strength of evidence.²⁶ Evidence, at its core, is information. Each act gives rise to a body of evidence.²⁷ Stronger evidence is taken here to mean that a harmful act is more likely to generate the evidence than is a benign act. Both harmful and benign acts might be associated with evidence that ranges from extremely weak to very strong. However, harmful acts generate stronger evidence relatively more often than benign acts do. One might find it useful to imagine that each type of act is associated with a distribution of different strengths of evidence, wherein the distribution of evidence strength for harmful acts is an upward shift of the distribution for benign acts.

Return now to our design question: What is the minimal strength of evidence that should be demanded to prohibit a proposed act? The expected gain from prohibition is the probability that the act is of the harmful type times the net harm to be avoided. (The net harm is the external harm of the act minus the actor's expected benefit; as mentioned, we are supposing that this net harm is on average positive, making prohibition desirable.) The expected cost from prohibition is the probability that the act is, instead, of the benign type times the forgone expected benefit to the actor. Prohibition is optimal when this expected gain exceeds the expected loss—a standard cost-benefit test for decisionmaking under uncertainty. Each side of this balancing test involves a probability and an effect on social welfare. As will now be explained, the former components have a direct correspondence to truth in a familiar sense (in a probabilistic setting) and the latter do not, which means that truth is a component of consequences in this setting, not constituting the whole but nevertheless being a central element.

Let us start with the probabilities, that is, the truth dimension. The probability that the act is of the harmful type indicates the likelihood that it is true that the act before the tribunal should, under our ideal rule, be prohibited. To

Rules, 16 AM. L. & ECON. REV. 1, 16-20 (2014) [hereinafter Kaplow, *Likelihood Ratio Tests*].

26. For a more elaborate, informal discussion, see Kaplow, *Burden of Proof*, *supra* note 25, at 756-62, and Kaplow, *Likelihood Ratio Tests*, *supra* note 25, at 6-10. Seminal formal treatments include J. Neyman & E.S. Pearson, *On the Problem of the Most Efficient Tests of Statistical Hypotheses*, 231 PHIL. TRANSACTIONS ROYAL SOC'Y LONDON: SERIES A 289 (1933); Samuel Karlin & Herman Rubin, *The Theory of Decision Procedures for Distributions with Monotone Likelihood Ratio*, 27 ANNALS MATHEMATICAL STAT. 272 (1956); and Paul R. Milgrom, *Good News and Bad News: Representation Theorems and Applications*, 12 BELL J. ECON. 380 (1981).

27. The set of evidence as a whole is ordinarily multidimensional and may involve complex interactions among its elements, but for present purposes it is often helpful to think of it as collapsed into a single dimension.

ascertain this probability from the evidence in the case at hand involves a standard application of Bayes' theorem (rule). The probability that the act is of the harmful type in a given case is called the Bayesian posterior probability that the act is harmful. It is derived from the Bayesian prior probability—the portion of acts coming before the tribunal that are of the harmful type (also called the base rate)—adjusted (in standard parlance, updated) in light of the evidence in the case at hand. The stronger the evidence, the higher is the posterior probability for a given prior probability.²⁸

One could imagine a decision criterion that depends solely on the Bayesian posterior probability. One threshold that comes to mind is the preponderance of the evidence rule, which would prohibit the act if it was more likely than not of the harmful type.²⁹ Under this rule, the tribunal's decision is most likely to accord with the truth; if we wish to aim at the truth, this rule seems to be the closest we can get in the presence of uncertainty.³⁰ But such a criterion will generate awful consequences in many settings. Compare decisionmaking for medical treatment, which is structurally quite analogous to the question under consideration. Should treatment be provided if and only if the likelihood of benefit exceeds fifty percent? Obviously the answer would depend on the possible ailment and the treatment under consideration. Are we talking about vitamin

28. See, e.g., HOWARD RAIFFA, *DECISION ANALYSIS: INTRODUCTORY LECTURES ON CHOICES UNDER UNCERTAINTY* 17-19, 30-31 (1968); Kaplow, *Likelihood Ratio Tests*, *supra* note 25, at 10-14.

29. For further explanation of the relationship between Bayesian posterior probabilities and the preponderance rule (and other conventional proof burdens), see Kaplow, *Burden of Proof*, *supra* note 25, at 772-80, and Kaplow, *Likelihood Ratio Tests*, *supra* note 25, at 13-16. On the probabilistic interpretation of the preponderance rule, see, for example, 2 MCCORMICK ON EVIDENCE 484 (Kenneth S. Broun ed., 6th ed. 2006), and David Kaye, *Naked Statistical Evidence*, 89 YALE L.J. 601, 603 (1980) (reviewing MICHAEL O. FINKELSTEIN, *QUANTITATIVE METHODS IN LAW: STUDIES IN THE APPLICATION OF MATHEMATICAL PROBABILITY AND STATISTICS TO LEGAL PROBLEMS* (1978)).

30. It is familiar in writing on evidence that the preponderance rule minimizes the total number of mistakes (implicitly, when behavior is taken as given). See Kaplow, *Burden of Proof*, *supra* note 25, at 803 n.111 (citing sources). The simple reason is that if, say, an act is 57% likely to be of the harmful type, deeming it to be so results in error 43% of the time whereas deeming it to be benign involves error 57% of the time. Hence, whenever the probability exceeds 50%, it should be treated as if it is truly of the harmful type, and whenever the probability is below 50%, of the benign type—that is, if the objective is to minimize the probability of error in each case and hence to minimize the total number of errors in all cases, taking the set of cases that will arise as given. For further discussion of such truth-based objectives, see Part VI.

Also note that the foregoing proviso that behavior is taken as given is highly significant. When it is not (specifically, with regard to the decision to bring a case to the tribunal), the rule that minimizes the total number of errors is one that never finds liability—as the Introduction mentions, the elimination of adjudication—for then no cases are filed in the first place. This observation foreshadows the key result in Subpart 2 that truth, in the sense of the likelihood that the outcome in a given case before a tribunal is correct, is very far removed from what emerges from an analysis of the optimal evidence threshold when behavior is endogenous.

supplements? Immunizations? Band-Aids? Setting broken bones? Chemotherapy? Brain surgery?

The message is simple and powerful: Truth—here, the probability that the act before the tribunal is of the harmful type—is certainly part of the proper social calculus. However, truth alone provides little indication of what decision is optimal unless combined with an assessment of the welfare consequences, here, the net benefit of prohibiting a harmful act and the cost of prohibiting a benign act, as described previously. Truth is an element of consequences, but, because it omits much, determination of a proper evidence threshold needs to focus explicitly on the consequences of the decisions under consideration. We imagine, and surely hope, that the actual decision criteria in adjudication involved in the regulation of proposed conduct indeed aim at consequences.³¹ An implication is that there should not be (and is not) a universal probability threshold applicable in determining whether to allow all sorts of drugs, mergers, licenses, zoning variances, and so forth.³² In contrast, Platonic truth is unconcerned with such details.

To summarize, when the decision criterion involves the regulation of proposed conduct, the optimal evidence threshold is based on a standard cost-benefit test in which truth is a component. In the next Subpart, and for most of the remainder of this Article, we return to the setting in which adjudication provides incentives for ex ante behavior, where we will see that the proper analysis and the role of truth vis-à-vis consequences are quite different.³³

31. As noted, most regulation of proposed conduct is undertaken by specialized agencies rather than resulting from remedies in civil adjudication (notably, injunctions). Agencies, moreover, are not governed by a preponderance rule in many settings and are quite accustomed to cost-benefit analysis. Furthermore, judges and juries in civil litigation that is formally governed by a preponderance of the evidence rule may in fact make commonsense judgments that are more consequentialist. See Kaplow, *Burden of Proof*, *supra* note 25, at 805-09.

32. This conclusion remains applicable in the setting of Subpart 2 on ex ante behavior; indeed, we will see that there are many more factors that vary by context and are relevant in determining the optimal evidence threshold.

33. Having examined the optimal decision criterion when the problem involves the regulation of proposed conduct rather than the provision of incentives for ex ante behavior, we are now in a position to reconsider briefly the analysis of Part I. Returning to the choice between rules and standards in the present setting involving the regulation of proposed conduct, it is apparent that the previous analysis must be modified substantially. The three-stage sequence of formulation, behavior, and adjudication no longer holds; instead, adjudication precedes behavior, which here we are taking to be dictated—that is, permitted or prohibited—rather than chosen freely by individuals in light of expectations concerning possible subsequent adjudication. This difference in sequencing largely collapses the stated distinction between rules and standards, which regarded whether content is provided ex ante or ex post, because now all content is given prior to behavior. Part I.A's comparison of stage-one versus stage-three costs still holds in that economies of scale and scope favor a comprehensive determination of the law's content before individual applications are filed rather than case-by-case inquiries, whereas low frequency favors a wait-and-see approach. Part I.B's analysis of the optimal precision of legal commands would be modified similarly.

2. Incentives for ex ante behavior

Following the general structure employed in Part I, suppose that adjudication comes after individuals' actions, wherein its central function is to provide incentives for ex ante behavior. Some prospective actors may commit harmful acts and others may commit benign acts, each having the attributes described in Subpart 1. It is worth pausing on this feature because functional analysis of the legal system often focuses on the attempt to deter harmful activity at minimum cost. But, when our subject is the optimal burden of proof, which trades off errors of mistaken exoneration and of mistaken imposition of sanctions, we are also centrally concerned with the prospect of chilling benign activity. Much policy analysis in substantive fields of law—for example, securities law, anti-trust, and medical malpractice—focuses on this phenomenon (a subject to which we will return in Subpart C), which arises because many legitimate acts might be confused for harmful ones that are the intended target of legal regulation.³⁴

Individuals will choose to commit their acts, whether of the harmful or benign type, when their benefit from doing so exceeds the associated expected sanction.³⁵ Those with lower benefits are deterred (the terminology employed here for harmful acts that are discouraged by the legal system) or chilled (referring to benign acts). Some fraction of each type of act that is committed enters adjudication.³⁶ At that point, an actor pays the sanction (a damage award or a

34. For empirical evidence suggesting the importance of these phenomena, see, for example, Daniel P. Kessler et al., *Impact of Malpractice Reforms on the Supply of Physician Services*, 293 JAMA 2618 (2005); Hui Ling Lin et al., *An International Look at the Lawsuit Avoidance Hypothesis of IPO Underpricing*, 19 J. CORP. FIN. 56 (2013); and David M. Studdert et al., *Defensive Medicine Among High-Risk Specialist Physicians in a Volatile Malpractice Environment*, 293 JAMA 2609 (2005).

35. The expected-cost side of their calculus also includes expected legal costs (which may be relatively important with regard to the chilling of benign acts), which are set to the side here but considered explicitly in Subpart B. The present analysis also abstracts from risk aversion and other sanction costs, which are examined in Kaplow, *Burden of Proof*, *supra* note 25, at 820 & n.149, 821-24, and Louis Kaplow, *On the Optimal Burden of Proof*, 119 J. POL. ECON. 1104, 1130-33 (2011). As these sources explain, the introduction of social costs from the imposition of sanctions does not unambiguously favor a higher evidence threshold: although such an increase would result in sanctions being imposed less often on any given harmful or benign act that comes before the tribunal, the concomitant reduction in deterrence and chilling would increase the number of acts that enter adjudication, contributing to an increased application of socially costly sanctions. For further discussion of risk aversion, see A. Mitchell Polinsky & Steven Shavell, *The Theory of Public Enforcement of Law*, in 1 HANDBOOK OF LAW AND ECONOMICS 403, 414-16 (A. Mitchell Polinsky & Steven Shavell eds., 2007), and Part III.C below (examining the compensatory function of damages when victims are risk averse).

36. Other forms of enforcement, such as the use of investigation wherein efforts are triggered by the commission of a harmful act, require somewhat different analysis, although the general conclusion regarding truth versus consequences is much the same. See Kaplow, *Burden of Proof*, *supra* note 25, at 833-36; Kaplow, *supra* note 35, at 1122-28. The present discussion abstracts from the endogeneity of adjudication, examined below in Part IV, and also from settlement, on which see note 77 below.

fine) if and only if the strength of the evidence in the case at hand exceeds the stated evidence threshold.

How, then, should the optimal evidence threshold be set when the context involves providing optimal incentives for ex ante behavior?³⁷ Changing the threshold affects the frequency with which liability is assessed, which in turn affects both the deterrence of harmful acts and the chilling of benign conduct. It is expositionally convenient to elaborate the pertinent cost-benefit tradeoff by starting with some initial evidence threshold and assessing the consequences of lowering it slightly. Because acts entering adjudication would accordingly face a somewhat higher probability of being subject to sanctions, both deterrence and chilling would rise, producing a benefit and a cost, respectively.³⁸

Starting with deterrence, we wish to know how many additional harmful acts would be deterred and, for each additional deterred act, what is the impact on social welfare. Regarding the former, the reduction in the evidence threshold raises the deterrence punch, so to speak, by the product of the probability that harmful acts enter the legal system, the heightened likelihood of liability (due to the lower threshold) conditional on the act being under adjudication, and the magnitude of the expected sanction. This increase in the expected sanction, in turn, will deter those harmful acts that were previously on the margin, that is, for which individuals' benefits from committing them barely exceed the initial, somewhat lower, expected sanction. (Those with higher benefits remain undeterred, and those with lower benefits were already deterred.) If we are near the "sweet spot" of the distribution of individuals' benefits from harmful acts—that is, if it is common for individuals' private benefits to be in the pertinent range—many additional acts would be deterred, whereas otherwise, the number will be lower and perhaps quite small.

Turning to the net social gain from each act deterred, we have the harm avoided, but there is also the forgone private benefit from the act that is no longer committed. Furthermore, because the freshly deterred acts are marginal acts—ones for which individuals' benefits approximately equal the expected sanction—the level of the expected sanction likewise indicates the magnitude of this forgone benefit. If the deterrence deficit is large, which is to say, if the

37. See Kaplow, *Burden of Proof*, *supra* note 25, at 750-72 (presenting an informal analysis); Kaplow, *supra* note 35 (offering a formal analysis). The analysis when the only concern is deterrence (so that the only adverse effect of the mistaken imposition of sanctions is to reduce the deterrence of harmful acts by making inaction less advantageous) is simpler and quite different, although truth in the sense of the Bayesian posterior probability is also irrelevant in that setting for much the same reason as it is here. See Kaplow, *supra* note 35, at 1121-22; Louis Kaplow, *Optimal Proof Burdens, Deterrence, and the Chilling of Desirable Behavior*, 101 AM. ECON. REV. (PAPERS & PROC.) 277 (2011). The main earlier paper in the law and economics literature that incorporates the chilling of benign conduct is I.P.L. Png, *Optimal Subsidies and Damages in the Presence of Judicial Error*, 6 INT'L REV. L. & ECON. 101 (1986), but it does not analyze the burden of proof.

38. Throughout, it will be assumed that additional deterrence at the margin is socially desirable and that additional chilling is socially detrimental, but there exist reasons why this need not be so, which reinforces the importance of attending explicitly to consequences.

expected sanction and hence the forgone marginal benefit is small relative to the harm caused by the act, then the net social gain per deterred act is large. And conversely if the deterrence deficit is small.

Combining the foregoing points, the deterrence gain as a consequence of a reduction in the evidence threshold will equal the number of acts deterred thereby times the net social gain per act deterred. The overall chilling cost is determined analogously: the number of chilled acts has the same components (although the magnitude of most of those components may differ greatly from the pertinent magnitudes for deterrence) and the social cost per act chilled is simply the forgone private benefit (determined similarly; it will equal the expected sanction for benign acts).³⁹

The optimal evidence threshold is determined by this cost-benefit tradeoff: If the reduction in the evidence threshold indeed produces a deterrence gain in excess of the chilling cost, a lower threshold will raise social welfare. If the opposite, then raising the threshold will enhance social welfare. When the threshold is set optimally, the marginal social gain and cost of any adjustment will be in balance.⁴⁰

The optimal evidence threshold for the regulation of proposed conduct, as analyzed in Subpart 1, prominently features, as one of two main components of both the benefit and the cost, the truth of the matter: the probability that the case before the tribunal involved a harmful or a benign act. The calculus in this Subpart, where the setting involves incentives for ex ante behavior, is much more complex, involving many more factors. Interestingly, the components are not merely more numerous, but also their overall character is qualitatively different. In particular, truth—the Bayesian posterior probability that the act is of the harmful type—does not even appear in the list of factors. In this instance, therefore, it is not merely that aiming at the truth misses an important part of what is important for social welfare, but rather that it is not per se relevant to consequences at all.⁴¹

What is the explanation for this surprising conclusion? We already know that aiming at the truth diverges from consequences quite generally because truth by itself does not embody regard for the social welfare impact of different outcomes. When the problem involves ex ante behavior, however, we have an additional difference in the nexus between the welfare-relevant question and

39. The only qualitative difference between the deterrence gain and the chilling cost is that the latter, in computing the social impact per discouraged act, does not have a component corresponding to external harm. Note that this chilling cost per discouraged act will be large when the expected sanction for benign acts is high, and it will be small when the expected sanction is low.

40. As a technical note, equality of the marginal social benefit and cost is a necessary but not sufficient condition for an evidence threshold to be optimal. See Kaplow, *supra* note 35, at 1112-13, 1136.

41. A further point is that, due to the endogeneity of behavior, it is not even the case that a given truth target (such as that embodied in the preponderance of the evidence rule) is uniquely defined in the present context. See Kaplow, *Burden of Proof*, *supra* note 25, at 790-92, 793 & n.93, 794-95; Kaplow, *supra* note 35, at 1120-21.

the nature of the proper answer. Truth pertains to the fact of some matter, a description of an existing (static) state of affairs: What is the probability that the case before the tribunal involves a harmful type of act? Consequences, in contrast, pertain to a dynamic question concerning individuals' endogenous response to the adjustment of a policy instrument: How does behavior *change*, and thus the impact on social welfare *change*, in response, say, to a downward *change* in the evidence threshold?

Truth in the ordinarily understood sense does not figure in the answer to this latter type of question. Information—evidence—does. Specifically, in calculating the change in the deterrence punch (and in the chilling punch), one of the factors is how much the probability of liability for harmful (and for benign) acts rises as a consequence of a reduction in the evidence threshold. This probability, in turn, refers to the likelihood that harmful (and benign) acts generate evidence at or near the evidence threshold. It is certainly not surprising that the nature of the evidence associated with harmful and benign acts, and in particular the relative likelihood with which harmful versus benign acts generate evidence of a given strength, is relevant to whether or not that strength of evidence should give rise to liability.⁴²

Evidence strength in the sense just described is also a determinant of the Bayesian posterior probability—the probability that the act before the tribunal is of the harmful type—that constituted the truth component of the cost-benefit test in Subpart 1 for the regulation of proposed conduct. As explained there, however, the Bayesian posterior probability is, in turn, determined by beginning with the prior probability and updating it in light of the strength of the evidence at hand. That is, evidence strength figures in both tests, but the indicator of truth—the Bayesian posterior probability—is not part of the calculus here, and one of its key determinants, the Bayesian prior probability, likewise does not figure in the optimal evidence threshold for *ex ante* behavior.⁴³

42. The relative likelihood—the likelihood that harmful acts generate such evidence divided by the likelihood that benign acts generate such evidence—is referred to as the likelihood ratio. See Kaplow, *Likelihood Ratio Tests*, *supra* note 25, at 6-10.

43. If we extended the analysis to include, for example, legal system costs, then the Bayesian prior probabilities would be relevant, but this still would not make truth even a component because the way these priors enter is additive rather than relative. See *infra* note 51. In addition, certain background conditions, notably, some bearing on the volume of acts of each type entering the legal system, may influence the relevant Bayesian prior probabilities as well as the deterrence and chilling punches. See Kaplow, *supra* note 35, at 1110 & n.7, 1119.

Regarding previous legal literature on evidence and the burden of proof, it is interesting that, on one hand, most commentators simply accept that the appropriate decision criterion relates in some way to the likelihood that the case before the tribunal truly involves a harmful act, which we have seen is indicated by the Bayesian posterior probability, but, on the other hand, many of them eschew the notion that Bayesian prior probabilities should be used in making this determination. There is a double irony in that, first, the notion of a Bayesian posterior probability derived without use of a prior probability is incoherent, and, second, the optimal evidence threshold, properly understood (but not appreciated in this literature) does

We have seen that, with regard to the legal system's influence on ex ante behavior—the commission of harmful and benign acts—truth's role is not merely partial but essentially absent. The core reason is that individuals' behavior is endogenous, so that social welfare consequences depend on how changes in policies, here, in the height of the evidence threshold, lead to changes in behavior, which in turn need to be assessed in terms of their impacts on welfare. In this setting, therefore, system design that aims at the truth is entirely unhelpful in ascertaining what system settings produce good social consequences.⁴⁴

B. *Pretrial Terminations*

Continuing in the vein of Subpart A.2, we now consider optimal decision criteria at earlier stages of adjudication in a setting in which adjudication generates incentives for ex ante behavior.⁴⁵ Earlier terminations are an important feature of the legal process.⁴⁶ In U.S. civil litigation there are motions to dismiss and for summary judgment;⁴⁷ criminal proceedings may require an indictment or other formal act to allow a case to proceed. More broadly, government actors—police, prosecutors, regulatory agencies—contemplating action

not involve the use of prior probabilities. See Kaplow, *Burden of Proof*, *supra* note 25, at 796-99; Kaplow, *Likelihood Ratio Tests*, *supra* note 25, at 34-37.

44. See also *supra* note 31 (suggesting that legal decisionmakers might engage in consequentialist factfinding despite burden-of-proof rules that nominally require truth-based judgments); *infra* Part VI (indicating that various truth measures can be highly misleading proxy indicators).

45. One could likewise analyze adjudication that regulates proposed conduct, in which case the analysis would be similar to that in Subpart A.1 with respect to the relationship between truth and consequences. See Louis Kaplow, *Multistage Adjudication*, 126 HARV. L. REV. 1179, 1250-52 (2013). That analysis, in turn, is similar to the standard value-of-information problem in decision analysis. See RAIFFA, *supra* note 28, at 27-33, 157-87. In addition, one can extend this framework to incorporate some aspects of appeals, which may in the present context be viewed as constituting additional stages in a multistage process. See Kaplow, *supra*, at 1213 n.83.

46. This Subpart focuses on terminations that finally resolve a (potential) dispute with no sanction being applied. Some systems also provide for pretrial resolution that assigns liability—in the United States, a plaintiff may be granted summary judgment, for example. The applicable analysis would parallel that in the text. See Kaplow, *supra* note 45, at 1236-39.

47. As an indication of the importance of these rules, the Supreme Court cases most cited by federal courts as of 2005 were the 1986 trilogy on summary judgment and one on motions to dismiss that was subsequently overruled in important respects. See *Ashcroft v. Iqbal*, 556 U.S. 662 (2009); *Bell Atl. Corp. v. Twombly*, 550 U.S. 544, 563 (2007) (“re-tir[ing]” the previously dominant version of the legal test from *Conley v. Gibson*, 355 U.S. 41 (1957)); *Celotex Corp. v. Catrett*, 477 U.S. 317 (1986); *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242 (1986); *Matsushita Elec. Indus. Co. v. Zenith Radio Corp.*, 475 U.S. 574 (1986); Adam N. Steinman, *The Irrepressible Myth of Celotex: Reconsidering Summary Judgment Burdens Twenty Years After the Trilogy*, 63 WASH. & LEE L. REV. 81, 143 tbl.1 (2006) (presenting citation data). For an analysis of how consequentialist, welfare-based analysis relates to these features of U.S. law, with a particular emphasis on probabilities and consequences, see Kaplow, *supra* note 45, at 1252-96.

engage in all manner of investigation and analysis, and they may choose to terminate at any time.

At any such pretrial stage, formal or informal, the information available to the decisionmaker will ordinarily be less, and often much less, than that available at the conclusion of adjudication. Based on this more fragmentary set of evidence, a decision must be made to continue or to terminate. If a case is continued, additional information will be generated, but at a cost. At the completion of this interim stage, there may be additional continuation/termination decisions, until a case reaches the end of final adjudication, that is, if it has not been terminated earlier. To ease the exposition, it is useful to consider a system with only one pretrial stage, and thus a single continuation/termination decision, with the next stage being final adjudication, which operates as in Subpart A.2.

Our legal system design question is how strong the initial evidence must be in order to warrant continuation.⁴⁸ Continuation, relative to a baseline of termination, generates one benefit—a contribution to the deterrence of harmful acts—and two costs—an increase in the chilling of benign conduct and the direct cost of further proceedings.

Continuation raises deterrence because the alternative of termination results in no sanction being applied. Continuation does not automatically result in the imposition of a sanction, but it does give rise to a probability that this will occur, which probability is higher the stronger is the initial evidence. In addition, the fact that there is a cost of continuation, some of which will be borne by the actor whose case is in the legal system, further contributes to deterrence.⁴⁹ The social gain from the increase in deterrence—which equals the product of the number of acts deterred and the net benefit per deterred act—is determined similarly to our calculation in Subpart A.2, although there are now additional components.⁵⁰

Chilling can be analyzed similarly. Of particular note, even if it is virtually certain that a case involving a benign act will, at the conclusion of final adjudication, involve exoneration, it remains true that continuation can generate a significant chilling effect because the individual thereby may incur significant litigation costs. This factor is a principal reason that early termination can be socially beneficial. Note, however, that this consequence does not depend on any significant difference in ultimate truth because we are supposing that no liability will almost certainly be the ultimate conclusion—and, when it is not,

48. See Kaplow, *supra* note 45, at 1192-221; Louis Kaplow, Optimal Multistage Adjudication (Oct. 29, 2014) (unpublished manuscript) (on file with author).

49. As mentioned in note 35, adjudication costs are relevant to deterrence and chilling in all the settings considered in this Article, but many of the discussions omit them for convenience.

50. One that may not be immediately obvious is that, once account is taken of legal system costs, the net social gain per deterred act includes an additional benefit: each act deterred is one that no longer has the prospect of entering the legal system and thereby entails a reduction in expected adjudication costs. Likewise, the social loss per chilled act will now have an offset reflecting the avoidance of potential system costs.

this will be in those unlikely instances in which the additional information learned in the interim strongly favors liability, in which event an early termination, even if optimal *ex ante*, may have involved a mistake.

The social welfare impact of reduced chilling—and, indeed, the overall calculus that weighs consequences for deterrence, chilling, and system costs—depends on myriad factors, none of which involve the truth *per se*. In this respect, the conclusion follows that in Subpart A.2 for the optimal decision criterion in final adjudication, and for much the same reasons. We have many components that pertain to welfare consequences, none of which relate to the truth. Moreover, even with regard to those elements that involve information, truth itself does not enter the calculus directly because we are concerned with the social welfare consequences due to a *change* in the decision threshold, which produces *changes* in behavior, and also, here, *changes* in system costs.⁵¹ Truth, by contrast, involves the use of available information to characterize that which is: the likelihood that the case before the tribunal (now at a pretrial stage) actually involves a harmful act rather than a benign one.

Yet another way that truth could be viewed as an aim of adjudication in the present setting is one in which continuation is always favored. After all, at preliminary stages, continuation results in the generation of additional information, which will enable a final decision more likely to be in accord with the truth (if indeed such is the aim of the decision criterion in final adjudication, a notion called into question in Subpart A.2). As suggested in the Introduction, more information would be better, all else equal, and thus if information were free. But the motivation for considering the possibility of pretrial termination is that it is not. As briefly explained at the outset and elaborated in Part III, information costs give rise to unavoidable tradeoffs, and the obvious point that more is of-

51. With regard to the deterrence gain and the chilling cost, the analytics are quite similar in relevant respects. The strength of the evidence—given by the likelihood ratio, which is the probability that the harmful type of act generates the particular strength of evidence in question divided by the probability that the benign act generates such evidence—is a factor in determining the relative contributions of continuation to the deterrence of harmful acts and to the chilling of benign acts.

The third part of the cost-benefit test, the direct increase in continuation costs, is determined in a qualitatively different manner. Interestingly, Bayesian prior probabilities, one of the two factors that determine the Bayesian posterior probability, although irrelevant in the calculus in Subpart A.2, do enter into the more complicated calculus here as part of the continuation costs component. However, they do not enter in a manner related to truth. If one takes the odds ratio form of Bayes' theorem, the prior probabilities enter as a ratio: the prior probability that the act is of the harmful type divided by the prior probability that it is of the benign type. See Kaplow, *Likelihood Ratio Tests*, *supra* note 25, at 10-13. In contrast, in the formula for the optimal decision criterion, the prior probabilities appear in the term indicating the system costs of continuation, where they enter as a weighted sum, not as a ratio. See Kaplow, *supra* note 48, at 8 (expression 4). As a consequence, a very high ratio (most acts entering the legal system are indeed of the harmful type) and a very low ratio (most are benign) can translate into precisely the same value for this continuation cost term and hence have no effect whatsoever on the optimality condition, indicating that this notion of truth is indeed not central even in the one place where Bayesian prior probabilities do enter into the calculus.

ten better does not tell us how much so.⁵² In particular, we need to assess the social welfare impact of having additional information to see whether it justifies incurring the requisite costs. That is, we need to aim at consequences in order to determine the value of truth.⁵³

C. *Substance Versus Procedure*

This Subpart is at the intersection of Parts I and II. Part I addresses implications of information limitations regarding the design of substantive legal commands, whereas this Part concerns how information limitations, with an emphasis on errors, bear on the choice of decision criteria in adjudication. This Subpart asks whether the latter, procedurally focused portion has implications regarding the optimal design of substantive legal rules. Specifically, it asks whether the concern for false positives (that their prospect may chill desirable *ex ante* behavior) implies that we should perhaps add elements to substantive legal commands—a view that seems implicit in the assessment of legal doctrine in some areas of the law.⁵⁴

The design question can be stated as a comparison: To what extent should a concern for excessive chilling be met by making evidence thresholds tougher (whether at pretrial stages or in final adjudication) versus by adding elements or otherwise narrowing the set of acts deemed to be subject to sanctions? If one presses harder on the previous analysis in this Part, it turns out that, in a class of basic settings, one can derive a fairly unambiguous answer: the concern is best

52. The same can be said when, regarding the present subject, one introduces multiple stages and analyzes questions such as the optimal ordering of information acquisition and the degree to which different steps of the process should be combined or separated, the latter allowing an interim continuation/termination decision based on what has been learned until that point. *See* Kaplow, *supra* note 45, at 1221-29; *see also id.* at 1218-21 (explaining that many competing factors bear on whether the threshold for continuation should become increasingly stringent at later stages, imposing in a sense a stricter truth requirement, which is commonly suggested to be appropriate); Kaplow, *supra* note 48, at 19-21 (same).

53. One particular application in the present setting of this general theme relates to the familiar notion that continuation (specifically, in civil settings, to allow the plaintiff to take discovery) is especially warranted when information is solely in the hands of the defendant. It turns out that, upon analysis, there is something to this notion but it is importantly qualified. One important limitation is that the idea tends to be correct with regard to the value of contributing to the deterrence of harmful acts when defendants' monopoly over information is true generally, across the gamut of cases, whereas when such is atypical although still so in the case at hand, termination rather than continuation tends to be favored. *See* Kaplow, *supra* note 45, at 1206-09. That is, even when continuation may be essential to arriving at the truth in the case at hand, its net consequences for social welfare may be adverse.

54. An obvious example is the business judgment rule in corporate law. Much of my own recent research on information-related problems in the design of the legal system grows out of debates about antitrust doctrine, in particular with regard to what must be proved to establish price-fixing violations in cases in which there is no smoking-gun evidence. *See* LOUIS KAPLOW, *COMPETITION POLICY AND PRICE FIXING* (2013); Louis Kaplow, *Direct Versus Communications-Based Prohibitions on Price Fixing*, 3 J. LEGAL ANALYSIS 449 (2011); *see also* Louis Kaplow, *Market Definition, Market Power*, INT'L J. INDUS. ORG. (forthcoming 2015) (examining market power as an element in many competition law offenses).

met entirely on the procedural side by making the evidence threshold more stringent.⁵⁵ One way to frame this conclusion is that the content of substantive legal commands should aim more at truth—that is, defining a prohibition to target that which is actually socially harmful—and leave the striking of the right balance regarding consequences for deterrence versus chilling to procedural rules involving decision criteria in adjudication. (Do recall, however, that the former statement on the substantive law is heavily qualified in other respects regarding truth versus consequences by the analysis in Part I.)

The argument establishing this claim is as follows. Let us compare two ways of reducing chilling to some stated degree. First, suppose that we can add an additional element to the substantive legal rule—one that deviates from truth in the sense that the element is not actually a prerequisite to the social harm in question but is nevertheless a requirement that disproportionately excludes from the prohibition benign conduct that might be mistaken for harmful action. For example, we might add a requirement that the harmful act be done in a particular manner, even though the act is harmful regardless, because most harmful acts have this feature but benign acts usually do not. Second, we might instead raise somewhat the evidence threshold. Here, for simplicity and concreteness, suppose that we raise the threshold after trial under the assumption that this is the only stage of adjudication.

The general superiority of the later policy adjustment derives from a basic property of evidence strength and an evidence threshold. Evidence strength varies from very low to very high. An evidence threshold sets a cutoff, wherein liability is assigned if and only if the evidence strength exceeds the stated threshold. Now, confining our attention to cases in which liability is initially found, we can see that evidence strength in that subset of cases will vary along a continuum, with the weakest cases being toward the lower bound, that is, very near the evidence threshold. Cases more notably above that threshold will all be stronger, and many of them much stronger. Therefore, when we raise the existing threshold slightly, we are switching determinations from liability to no liability in the very weakest cases that were in the initial subset giving rise to liability.

In contrast, even if our added substantive element is indeed significantly correlated to whether acts are truly harmful, adding the element will remove from the subset previously giving rise to liability cases that vary in evidence strength. The weakest cases—those with evidence strength below the threshold—are irrelevant for this comparison since they did not result in liability in any event. Those switched from liability to no liability as a consequence of adding our element may well tend to have lower (perhaps even much lower) than average evidence strength. Still, this set is on average stronger—tending to generate more deterrence relative to chilling—than those removed by raising

55. See Kaplow, *supra* note 45, at 1229-33.

the threshold because the latter eliminates the very weakest cases from the initial subset and no others.⁵⁶

To summarize, when we adopt an information-based perspective on both substantive legal commands and on legal procedure, we can see that, in the basic setting under examination, the latter is a more direct means of separating the weakest cases from the rest. The reason is that the evidence threshold is targeted precisely at this question whereas even a well-chosen supplemental substantive element is at best correlated with this concern. The more direct instrument is better focused. Taking this approach, substantive law is kept aligned with the truth—in the sense that its dictates remain in conformity with what is actually socially harmful—whereas adjustments are made instead in the evidence threshold. This is so even if the requisite adjustment is in the direction of less truth—in the sense that outcomes in adjudication align with what most probably happened in the case at hand.

Nevertheless, it is only after explicit analysis of the consequences of each approach that we are able to determine, in the situation under examination, that aiming at the truth in the substantive law realm indeed produces good consequences, and that our prioritization of the truth should, in this instance, be confined to that realm. Regarding the evidence threshold, we have already learned in Subpart A.2 that the information-related components that determine optimal decision criteria when adjudication influences *ex ante* behavior are not themselves closely related to truth as conventionally understood, that is, to the probability that the case at hand actually involves a harmful rather than a benign act. We conclude, therefore, that even on the present question of whether concerns about chilling benign behavior are best addressed through substance or procedure, analysis needs to aim explicitly at consequences. The implications for truth, if any, emerge as a byproduct of that analysis.⁵⁷

III. ACCURACY IN ADJUDICATION

Much of legal system design directly addresses or indirectly implicates the accuracy of outcomes in adjudication. Many rules of procedure and rules of evidence involve a balance of accuracy and cost, as does the scope for appeals. The breadth of discovery and the use of expert witnesses are of obvious importance in this regard. Accuracy is also influenced by the staffing of prosecutors' offices and administrative agencies and by the regulation of the legal profession.

56. That is, for a given reduction in chilling, the policy of adding an element reduces deterrence more. If, instead, we calibrated our experiment so that both the added element and the tougher evidence threshold each reduced deterrence to the same extent, then the policy of raising the evidence threshold would decrease chilling by more.

57. This analysis also illuminates debates about the underlying meaning of the commonplace distinction between substance and procedure and also about the extent to which legal procedure should be transsubstantive. *See* Kaplow, *supra* note 45, at 1233-35.

As the Introduction emphasizes, a simplistic focus on truth would favor more accuracy, whatever the cost, to the point of spending the entire GDP to improve the accuracy of a single torts dispute. It is familiar, therefore, that accuracy must be traded off with system costs. In order to make this tradeoff, however, it is necessary to place a value on accuracy in adjudication. As the Introduction mentions, there does not exist a natural, concrete way to measure truth, and even if there did, we would still need to value these units. In order to place a value on accuracy, we must examine the consequences of a more or less accurate legal system. In short, this basic system design question of how accurate adjudication should be, which on its face focuses rather directly on an important sense of truth, quickly leads us to an explicit analysis of consequences.⁵⁸

This Part analyzes the value of accuracy for different purposes: the assignment of liability, the measurement of damages when the concern is about incentives for ex ante behavior, and damages assessment when the purpose is to compensate victims of harmful acts that give rise to liability.⁵⁹ As we shall see, the consequences of greater accuracy vary significantly and qualitatively both across these contexts and within them. In some important settings, greater accuracy has no consequences, aside from the expenditure of system resources, and

58. As an illustration, current U.S. discovery rules for civil cases provide that the court must limit the frequency or extent of discovery otherwise allowed by these rules or by local rule if it determines that . . . the burden or expense of the proposed discovery outweighs its likely benefit, considering the needs of the case, the amount in controversy, the parties' resources, the importance of the issues at stake in the action, and the importance of the discovery in resolving the issues.

FED. R. CIV. P. 26(b)(2)(C). Proposed amendments would move this requirement to Federal Rule of Civil Procedure 26(b)(1) on the scope of discovery and require that discovery be "proportional" to these factors. *See* ADVISORY COMM. ON CIVIL RULES, REPORT TO THE STANDING COMMITTEE 9-10 (2013). Yet neither version indicates how the various factors are to be weighted or how collectively important they are; for example, the proposed "proportionality" requirement does not indicate just what must be proportional to what, how components on each side of the scale are to be measured and combined, or what proportion between the two sides of the scale is sufficient to warrant some quantum of discovery.

59. *See also* Kaplow, *Income Tax*, *supra* note 15, at 64-70 (analyzing similar problems regarding the accuracy of income tax assessments). Because this Article focuses on information throughout, there are inevitable connections and some overlap at a sufficiently abstract level between the questions examined in this Part and those considered elsewhere. For example, as we shall see in Subpart B here, analysis of the consequences of accuracy in the assessment of damages in a setting concerned with incentives for ex ante behavior is closely related to the analysis of the consequences of precision in the design of substantive legal commands that was the subject of Part I.B. In addition, Part II.B on optimal decision criteria at nonfinal stages of adjudication analyzes a value-of-information problem regarding the determination of liability. In this instance, a contrast is that the previous analysis addresses an optimal stopping problem (the general form of which is whether it makes sense to decide now or to put off the decision in order to acquire additional information) whereas the discussion in Subpart A, below, can be understood as addressed to the optimal degree of the accuracy of the system as a whole or of a particular stage. (Compare, for example, the question of when to allow discovery versus that of how extensive discovery may be once discovery is permitted. Obviously a full analysis would examine the interaction between these problems, which can better be done once one understands each separately.)

in others it has significant value. These conclusions reinforce this Article's theme that it is a mistake for system designers to aim reflexively at the truth, even if such a mission statement could be given more operational content than seems possible.

A. *Liability*

This Subpart mainly addresses the value of accuracy in adjudication concerning liability for past acts, which affects incentives for *ex ante* behavior. First, however, let us consider the value of accuracy in the analytically simpler setting of adjudication that regulates proposed conduct, in parallel to Part II.A.1 on the burden of proof. To do so, take as our baseline some system of adjudication with a given error rate—for a given burden of proof, this will involve instances of both the mistaken prohibition of benign acts and the mistaken permission of harmful acts—and consider some reform that would improve accuracy at a stated cost. Our question is whether the consequences of this increase in accuracy for social welfare justify the expenditure.⁶⁰

The more accurate system will generate the same outcome in many cases, particularly those in which the less accurate system nevertheless generated very strong evidence (that the act is of the harmful type) or very weak evidence (indicating that the act is quite likely to be benign). Because the consequences do not differ, these cases can be set to the side. In other cases, predominantly ones that were closer to the line, the decisions may well be different. Because these shifts are a consequence of greater accuracy, most of these changes will raise social welfare. This gain will be the sum of two components: the expected number of incorrect permissions converted to prohibitions times the net social gain per prohibited act (the avoided harm minus the private benefit), and the expected number of incorrect prohibitions converted to permissions times the social gain per permitted act (the private benefit of the act). Unless the more accurate system is perfect, however, there will also be a social cost equal to the sum of two analogous components with regard to decisions that were correct in the inaccurate system but, unfortunately, turn out to be incorrect under the more accurate system. The contemplated reform will raise social welfare when the difference between these social gains and social costs exceeds the additional system cost of raising accuracy.

This calculus has a number of elements but is fairly straightforward conceptually. And, like the analysis of the optimal evidence threshold in this setting, some of the components of our assessment of consequences involve the truth of the matter in cases under adjudication. It is apparent, however, that the relevant notion of truth appears in bits and pieces, and it would be difficult to state some summary measure of the degree of truth under either regime, the difference in which would neatly capture the relevant consequences regarding so-

60. See Louis Kaplow, *The Value of Accuracy in Adjudication: An Economic Analysis*, 23 J. LEGAL STUD. 307, 379-81 (1994).

cial welfare. And, even if we could state such a metric, we would still have to ask whether the gain was worth the cost, which would not involve a coherent comparison unless the metric, rather than being some abstract measure of truth, was instead nothing more than a totting up of the social welfare consequences of the difference in accuracy under the two regimes.

Now we will consider the value of accuracy in adjudication that serves to provide incentives for ex ante behavior.⁶¹ As in the immediately preceding discussion, let us take as our baseline a system of a given degree of accuracy and contemplate a reform that increases accuracy at some cost. Taking the evidence threshold as given,⁶² the result will be a rise in the deterrence of harmful acts and a reduction in the chilling of benign conduct because cases that look stronger (in terms of the evidence being more likely to be generated by a harmful act than by a benign act) will more often involve harmful acts and those that look weaker benign ones. Short of perfect accuracy, there will, again, be additional mistakes in both directions, but what matters here are just the averages or expectations because we are concerned with incentives for ex ante behavior. When individuals decide whether to commit a harmful act or a benign one, as the case may be, they are influenced by the expected consequences of adjudication, not the unforeseeable actual outcome that they would individually experience.

Next, we need to determine how many additional harmful acts would be deterred, and the net social gain per deterred act, as well as how many fewer benign acts would be chilled, and the social benefit per benign act that is no

61. Some earlier work on accuracy in the determination of liability considers a simpler setting in which individuals choose only between harmful acts and inaction, so there is no chilling of benign behavior. See Louis Kaplow & Steven Shavell, *Accuracy in the Determination of Liability*, 37 J.L. & ECON. 1 (1994); Kaplow, *supra* note 60, at 345-69. The analysis of that case is qualitatively different (and less complicated), but the implications regarding truth versus consequences are qualitatively similar. See also *supra* note 37 (discussing this difference with regard to calibrating an optimal evidence threshold). The present setting is noted briefly in Kaplow, *Burden of Proof*, *supra* note 25, at 828-29, and analyzed formally in Louis Kaplow, *On the Optimal Burden of Proof* 28-29 (Nat'l Bureau of Econ. Research, Working Paper No. 17,765, 2012).

When error in the assessment of liability involves application of a negligence rule, different analysis may be applicable because small changes in an actor's behavior can have large effects on expected damages payments. See, e.g., STEVEN SHAVELL, *ECONOMIC ANALYSIS OF ACCIDENT LAW* 79-83, 93-99 (1987); Richard Craswell & John E. Calfee, *Deterrence and Uncertain Legal Standards*, 2 J.L. ECON. & ORG. 279 (1986); Peter Diamond, *Single Activity Accidents*, 3 J. LEGAL STUD. 107, 123-40 (1974). Under the conditions examined in these models, it may be optimal, for example, under a negligence rule to set the due care standard lower than actual due care to counteract actors' tendency to be overcautious. However, under an alternative view of the causation requirement, this discontinuity would not arise, and the analysis is qualitatively different. See Marcel Kahan, *Causation and Incentives to Take Care Under the Negligence Rule*, 18 J. LEGAL STUD. 427, 437-39, 446-47 (1989).

62. This stipulation involves subtleties not worth exploring for present purposes. It is sufficient to interpret the condition so as to make applicable the statement in the text that follows.

longer chilled. Although a number of elements go into these considerations, they are the same ones that were presented in Part II.A.2 in assessing the welfare consequences with regard to ex ante behavior of a change in the evidence threshold. The difference is that, before, we had a tradeoff of these two sets of effects—deterrence versus chilling—whereas now we add the two, since there are benefits along both dimensions. But raising the accuracy of adjudication has a direct system cost, which is what lies on the other side of the present balance.⁶³

What does this welfare calculus tell us about truth versus consequences with regard to the value of accuracy in the determination of liability? Just as with the burden of proof, truth in the sense examined here does not enter directly. This is obvious from the observation that all the elements of deterrence and chilling are essentially the same as before. Truth refers to whether the case before the tribunal actually involves a harmful or a benign act. And, with greater accuracy, the frequency with which truthful outcomes are pronounced may well increase.⁶⁴ Any such difference, however, does not directly relate to welfare-relevant consequences because they, as we have seen before, depend on the *changes* in behavior that are caused by *changes* in the regime, here, a change in the accuracy of adjudication. Once again, we can see that designers of the legal system need to aim at consequences, not truth, if the objective is to maximize social welfare. Moreover, as we discovered when considering the value of accuracy when adjudication regulates proposed conduct, there does not exist any independent measure of truth that we might then directly trade off against system costs; the difference here is that truth does not directly enter into the social calculus at all rather than it being relevant in a partial and piecemeal fashion.

63. As in much of this Article, the present analysis does not consider the impact of greater accuracy on total sanction costs, which is relevant when sanctions are socially costly (rather than mere transfers of money between risk-neutral actors). *See supra* note 35. In simpler settings involving individuals' choices whether to commit a single type of harmful act (*see supra* notes 37, 61), greater accuracy reduces sanction costs in achieving a given level of deterrence. *See* Kaplow & Shavell, *supra* note 61, at 7; Kaplow, *supra* note 60, at 353-54. However, when there are both harmful acts that may be deterred and benign acts that may be chilled, introducing sanction costs is more complicated. For example, if one raises accuracy and adjusts the sanction so as to hold deterrence constant, a lower portion of benign acts in the system will be sanctioned, which reduces sanction costs, but fewer benign acts are chilled (the behavioral benefit referred to in the text), which carries the further implication that more benign acts enter the legal system and thus may be subject to sanctions, making the net effect on sanction costs ambiguous.

64. The reader may be surprised to discover that the qualification "may" is required. Because changing accuracy affects deterrence and chilling—that is, endogenous behavior—the flow of both harmful and benign acts into the legal system will change, which in turn affects the aggregate results of adjudication. For an extensive discussion of related issues regarding the setting of the burden of proof, see Kaplow, *Burden of Proof*, *supra* note 25, at 789-99.

B. *Damages and Ex Ante Behavior*

Next, we consider accuracy in the determination of damages. This Subpart addresses the consequences of greater accuracy for ex ante behavior, and the next examines the consequences with regard to the compensation of victims of harmful acts. The term “damages” evokes private civil litigation, but the analysis in this Subpart is equally applicable to fines (and that in the next Subpart applies as well to applications for compensation from the government, such as with disability claims under social insurance).

Consider a simple situation in which, contrary to the analysis thus far, we can take for granted that it has been properly determined that a harmful act occurred. In addition, all harmful acts come before a tribunal, liability is strict, and the only question is the degree of harm the victim suffered. If actors ex ante have perfect information about the harm their acts cause, there are no system costs, and harm can be measured with perfect accuracy, then it is well known that setting damages equal to harm fully internalizes the externality caused by the harmful act and thereby induces socially optimal behavior.⁶⁵

Here, we will explore the implications of relaxing the assumptions about information. Starting with adjudication, let us compare two regimes. The initial system is of intermediate accuracy; specifically, the information is sufficient to enable the tribunal to form a correct estimate of average harm for the type of act. The contemplated reform creates a system that is entirely accurate—it measures the actual harm caused without error—but it requires that a cost be incurred.⁶⁶ For concreteness, one might suppose that after an initial, limited inquiry, the tribunal would have a general sense of the actual harm in a particular case (a middle-aged individual lost a limb) but that it would take substantial further effort, perhaps involving medical and occupational experts, in order to ascertain the particular victim’s harm (lost wages from the particular injury in the victim’s specific occupation). Our question is whether the incremental cost is justified in light of the social value of the additional accuracy, in this instance moving from a system that provides an unbiased but generally erroneous esti-

65. See Steven Shavell, *Strict Liability Versus Negligence*, 9 J. LEGAL STUD. 1, 2-3, 11-12 (1980). There are additional assumptions: notably, victims’ incentives are ignored throughout. Interestingly, greater accuracy, by tying victims’ expected compensation more closely to their actual harm, can undesirably reduce victims’ incentives to mitigate harm in some settings.

66. For ease of exposition, we are taking the initial regime to be costless. More realistically, it would involve a positive, but lower, cost, which would optimally be added to (the estimate of average) harm in determining damages because now injurers’ harmful acts cause harm to victims and also generate adjudication costs, both of which need to be internalized for behavior to be optimal. See A. Mitchell Polinsky & Steven Shavell, *Enforcement Costs and the Optimal Magnitude and Probability of Fines*, 35 J.L. & ECON. 133 (1992). Likewise, in analyzing the reformed system, we will refer to damages being equal to actual harm whereas in fact they should be equal to actual harm plus the system cost in that regime in order to induce socially optimal ex ante behavior.

mate of the truth to one that accurately determines the truth of the matter (harm) in every case.

To analyze this question, one of Part I's lessons is central: differences in the outcomes of adjudication can influence prospective actors' ex ante behavior only if actors can anticipate the outcomes, whether because they immediately appreciate what those outcomes will be or because they are induced to incur the necessary expense up front to predict them. Accordingly, we will consider three cases, all of which are of practical importance in some settings: when prospective injurers cannot foresee the precise harm they will cause but only average harm; when they can perfectly and costlessly foresee the precise harm; and when they can do so but only if they incur a cost. A more accurate legal system, which produces the same truth regardless, has quite different consequences in each of these settings, and therefore the social value of accuracy differs significantly as well.⁶⁷

Our first case is where prospective injurers can predict average harm but cannot foresee the actual harm that would be suffered by the particular victim who might be injured. This case often seems to be realistic to a substantial degree. For example, careless driving will increase the likelihood of an accident, but just who would be hurt, by how much, and how that specific injury would affect the particular victim will be unforeseeable. At the time decisions about acts are made, individuals will often have (at best) a rough sense of the harm they might cause on average and also would find it essentially impossible through further research to generate precise knowledge of actual harm.

In this case, greater accuracy in the measurement of damages has no consequences whatsoever for behavior and hence the system cost is a waste. That is, truth has no consequences (aside from consuming resources) and hence no social value. This conclusion at one level is obvious because the later refinement is, by assumption, impossible to foresee. To make the argument more complete, explicitly compare actors' incentives under the two regimes. Under the first, they understand that the legal system will set damages equal to average harm (equivalently, expected harm) and hence they will act if and only if their private benefit exceeds this amount. Under the second, they understand that the legal system will set damages equal to actual harm. However, they do not know what actual harm will be. Instead, their actions ex ante will be dictated by their expectations. When harm proves to be unusually high, they will pay more than the average; when it is low, they will pay less. What is their *expected* damages payment, viewed ex ante? Because damages equal actual harm in each case, expected damages will equal expected harm, that is, average harm. But this is precisely what they expected to pay under the inaccurate regime, so their behavior will be identical.

Our second case is where prospective injurers can predict actual harm perfectly and costlessly. Although this may never literally be true, the scenario

67. See Louis Kaplow & Steven Shavell, *Accuracy in the Assessment of Damages*, 39 J.L. & ECON. 191 (1996); Kaplow, *supra* note 60, at 311-45.

captures an important feature of reality in some settings. For example, in contract breach cases, the party contemplating breach may know a good deal about the harm its particular contractual partner would suffer. And back in our torts setting, some injurers will know to some extent certain more refined particulars about the harm their acts will cause. For simplicity, we are considering the pure case in which, in the course of their normal activity and thus at no additional cost, individuals can foresee actual harm precisely.

Here, accuracy has consequences: it induces behavior better tuned to actual circumstances and thereby generates greater social welfare. Greater accuracy will be optimal when this welfare gain exceeds the cost of the more accurate legal system. Truth has consequences, desirable ones, but we nevertheless have a familiar cost tradeoff.

To elaborate, under the system in which damages equal average harm, prospective actors commit harmful acts when their private benefit exceeds this level, as before. When harm is unusually high, they may commit acts despite the fact that their benefit is less than actual harm, and when harm is atypically low, they may abstain even though their benefit exceeds actual harm. An accurate legal system avoids both sources of social loss: because damages will be concomitantly higher in the former case, net socially harmful acts will be successfully deterred, and because damages will be lower in the latter case, net socially beneficial acts will not be chilled. The value of accuracy in this setting is the total of these gains from changes in behavior: the sum of the avoided net social harm for each of the former acts (which net will depend on the level of benefit for the particular act deterred) and the benefit from each of the latter acts now committed (which, again, will vary with the act). If this total exceeds the system costs of the more accurate regime, that regime will raise social welfare overall and hence be optimal. Note that accuracy—achieving truth in adjudication with regard to damages reflecting actual harm—tends to be more valuable overall when accuracy is less costly, when harm varies substantially across cases relative to the initial average estimate for the pertinent subclass, and when many prospective actors have private benefits in the range in which changing damage awards will induce changes in behavior. Only the second of these three factors relates directly to any notion of truth.⁶⁸

Our third case is where prospective injurers can predict the precise harm perfectly, but they must incur a cost to do so. Many settings would seem to have this feature to some extent. That is, actors would have some sense of the harm they might cause, but additional efforts might refine their estimates. We will confine attention to a pure version of this case that straddles the prior two cases: if no expenditure is made *ex ante*, individuals know only the average level of harm, but if an expenditure of some stated amount is made, they can predict harm perfectly.

68. To explain, when harm varies significantly relative to the pertinent average, then damage awards under the initial regime tend to be less accurate, so the more accurate regime involves greater absolute movements toward the truth of the matter.

Here, accuracy may or may not have consequences for behavior, and, if it does, greater accuracy may or may not raise overall social welfare. The results for consequences, and for the social value, if any, of truth, are thus intermediate between those in our first two cases.

One possibility is that the cost of becoming informed is sufficiently high that no one becomes informed *ex ante*. This is identical to case one, so greater accuracy in adjudication is a pure waste. The fact that it is possible to become informed *ex ante* but prohibitively expensive to do so does not help. Another possibility is that the cost, although positive, is not so high that no prospective actor would incur the cost. Who will do so, and what is the consequence of that? Actors with very high private benefits relative to average harm will tend to commit their acts, as before, without acquiring information about actual harm because such acquisition is costly but is unlikely to change their behavior. Even if they learn that harm is above average, their benefits are very high, so this knowledge would not ordinarily affect their privately optimal choice. Only in the unlikely event that harm is extremely high would they behave differently, and we are supposing that this is not sufficiently likely to justify the cost, which must be incurred for certain. Similar reasoning suggests that actors with very low private benefits relative to average harm will tend to abstain from action, as before, without acquiring information.

Therefore, the only behavioral consequences of the more accurate legal system relate to those individuals with benefits in some intermediate range. They will acquire information and act accordingly, that is, commit their acts if and only if their private benefit exceeds the actual level of harm that they learn. For this group, the analysis is much like that in case two, but there are differences. First, the overall benefit of the improvement in behavior is less because we have an offset in the amount of prospective actors' costs of becoming informed. Second, the adjudication costs of greater accuracy must be incurred in all cases, whereas the more accurate system affects behavior (favorably⁶⁹) in only a subset of instances. Not surprisingly, when individuals *ex ante* are not automatically and costlessly informed but must incur an expense to learn actual harm and thus what their damages payment will be under the more accurate legal regime, the social benefit of accuracy is less. We again have a cost-benefit tradeoff, but one that is somewhat more complicated. Truth has consequences, and they tend to be beneficial ones, but only by aiming at consequences can a system designer figure out whether a more accurate regime is optimal.

Reflection on these three cases as a whole enables us to draw a few conclusions.⁷⁰ Most obviously, we often confront a tradeoff between accuracy (truth)

69. Here, the behavioral effect involves the combination of decisions to acquire information and decisions to act based on what is learned. Private decisions as a whole in this regard tend to raise social welfare under certain assumptions, discussed in the literature cited in note 12, taking the design of the legal system (here, its level of accuracy) as given.

70. As a practical matter, an optimal legal system will undoubtedly involve an intermediate degree of accuracy. Appealing to case two, there are many large differences in damages that are obvious: automobile and aircraft collisions produce hugely different levels of

and information costs. In addition, because this is a setting concerned with individuals' ex ante behavior, determination of the consequences of changes in the legal system is a more complex endeavor because of the endogeneity of this behavior. In particular, we have seen once again the importance of Part I's injunction that one cannot take for granted that truth with regard to the outcomes of adjudication translates directly either into behavior more in accord with that truth or indeed into any consequences at all for the degree to which individuals' behavior is in accord with what an ideal legal system would induce.⁷¹ In addition, we have seen yet again that, even when greater truth in itself tends to be valuable, there does not exist a truth measure that is helpful in determining how much more truth is worth what cost.

C. Damages and Compensation

This Article, like much of the law and economics literature on legal system design, focuses on behavior, largely on ex ante behavior that is influenced by prospective actors' expectations of the legal consequences of their actions, but also on the regulation of proposed conduct. This Subpart instead examines the possible function of adjudication in providing compensation to risk-averse victims of harmful acts. As in Subpart B, it will be assumed that indeed a harmful act has occurred and that the only question is accuracy in the determination of damages, which ideally equal actual harm. To focus on what is distinctive about the insurance function of damages, we will suppose that the only consequence of greater accuracy is in providing better-tailored compensation to victims. Note that this hypothetical scenario accords with reality in the first case analyzed in Subpart B, in which prospective actors could only foresee average harm and thus their behavior was unaffected by the degree of fine-tuning ex post.

harm, and cars that hit pedestrians cause vastly more harm on average than cars that smash blades of grass when veering slightly off a driveway. Drawing such distinctions in adjudication and ex ante is cheap. On the other hand, determining with precision a particular victim's losses can be extremely expensive and impossible for actors to anticipate ex ante, as stated. *See also infra* Part IV.B (discussing damages tables).

71. Note that in some respects the analysis in this Subpart is not merely in similar spirit to that in Part I but actually follows closely the analysis of precision in Part I.B. That earlier analysis contemplated distinguishing two types of actions in the legal command, where implementing the distinction required additional expenditures in adjudication in order to classify acts that come before the tribunal and possibly additional expenditures by individuals ex ante in order to determine which category their act was in. That analysis would carry over directly here if damages could be at only two levels (and we might also contemplate the particular case in which the low level of damages equaled zero, which would correspond to the case in which one of the subcategories of action was entirely benign). An information-based view of substantive legal commands and of what are ordinarily regarded to be procedural issues (here, how adjudication is conducted with regard to the implications for the accuracy with which damages are determined) reveals an underlying unity with regard to certain features of each. (This is not so with regard to all features, of course. *See, e.g., supra* Part II.)

Again, we will compare a regime of intermediate accuracy, in which damages equal average harm in some subclass of cases, with a more costly regime that achieves perfect accuracy, damages equal to actual harm. Moreover, we are now supposing that victims are risk averse, and, furthermore, that they are uninsured⁷² and that their harm involves monetary rather than nonpecuniary losses.⁷³ We wish to measure the social value of accuracy in the determination of damages in this setting and whether the welfare gain from greater accuracy justifies the system cost of achieving it. Note that the analysis of this question will be much more like that with regard to adjudication that regulates proposed conduct than that with regard to *ex ante* incentives (compare the treatment of this difference in Subpart A, on accuracy and liability) because the relevant social consequences involve what happens, going forward, as a direct result of adjudication. In the other settings in this Article in which proposed conduct is analyzed, postadjudication behavior is dictated; here, what matters is the victim's future enjoyment of the damages award that adjudication commands to be paid. The difference does not concern the *ex ante/ex post* distinction that has featured prominently until now, but instead lies in the nature of the social welfare gain from compensation.⁷⁴

Starting from our baseline in which damages equal average harm, the more accurate regime provides a larger payment when actual harm is high and a smaller payment when it is low. Of course, victims like the former but not the latter. However, the combination of these outcomes, in expectation, is superior to receiving an average payment in all cases. Indeed, this is what insurance is all about: individuals who suffer larger losses value money more (they have a greater marginal utility of wealth) compared to those who suffer smaller losses. Suppose, for example, that there are just two possible levels of the loss and each is equally likely. *Ex ante*, a victim would prefer, from a benchmark of equal compensation in both situations, that money be transferred from the low-loss state, in which money is less valuable, to the high-loss state, in which

72. To the extent that victims are insured, which to a significant extent many are, and payments are subrogated, the accuracy of damage awards in adjudication would be immaterial (likewise for defendants that are firms whose owners are diversified). If there is no subrogation, so that victims receive, let us suppose, complete and accurate compensation from their insurer and also collect damage awards in adjudication, greater tailoring of damages would actually reduce social welfare because the added payment would be akin to a lottery ticket with greater variance.

73. For an explanation of why many nonpecuniary losses may not generate a need for insurance, see SHAVELL, *supra* note 61, at 228-35, 245-54. When they do not, more accurate compensation of victims' actual losses would actually reduce social welfare because it would increase the effective variance in their wealth.

74. *Cf.* Louis Kaplow, *Optimal Insurance Contracts when Establishing the Amount of Loss Is Costly*, 19 GENEVA PAPERS ON RISK & INS. THEORY 139 (1994) (analyzing the value of accuracy in providing compensation through insurance, which is tantamount to valuing accuracy in an adjudication having as its sole consequence the determination of the degree of compensation provided to a victim); Kaplow, *supra* note 60, at 369-78 (examining accuracy in the determination of future government benefit payments that serve an insurance function).

money is more valuable. Optimal compensation (really, akin to insurance) will be equal to the actual monetary loss in each situation.

An individual's expected utility gain from precisely tailoring compensation to actual harm will depend on the differences in the magnitudes of losses and on the degree to which individuals are risk averse (that is, the rate at which their marginal utility of wealth rises as wealth falls). The total value of this benefit is referred to as the risk premium. The magnitude of individuals' risk premiums, therefore, indicates the social welfare gain from a more accurate damages regime, and accuracy will be overall desirable when this welfare gain exceeds the increase in system costs.

In summary, good consequences tend to follow from greater truth in the sense that damages awarded in adjudication more closely reflect the fact of the matter with regard to victims' actual harm in the case at hand. As always, however, even when truth and consequences are rather well aligned, the cost tradeoff makes it necessary to place a value on truth, one that can only be done sensibly, in terms of social welfare, if one aims explicitly at consequences.

It should also be noted that the alignment of truth and consequences in this setting may be reconfirmed, attenuated, or even reversed when certain variations are considered. For example, if injurers are also risk averse and uninsured, greater accuracy would impose additional risk-bearing costs on them, a social cost that would weigh (against truth) in the balance. Returning to victims, we can also consider how accuracy in the determination of liability bears on welfare consequences with regard to compensation. On one hand, greater accuracy in liability tends to be beneficial in many settings because then compensation is provided to those who actually suffered harm. Often, however, harm may be the same (a negligent and a nonnegligent actor may cause the same injury) and the only question is the particular defendant's liability, in which case the same compensatory benefit for uninsured, risk-averse victims would arise from a finding of liability regardless of the truth of the matter. And sometimes accuracy in the determination of liability can actually worsen the compensatory function of damages.⁷⁵ Suppose we have a setting in which some victims are harmed by the defendant and others (perhaps exposed to the same carcinogen) suffer the same harm but as a consequence of background risk. Holding the defendant's total payments constant, it would be better on compensatory grounds for all victims to receive partial compensation than for there to be accurate determinations of liability (here, causation), which would result in some individuals receiving full compensation and others none.⁷⁶ These examples suggest that there may often be significant divergences between truth and consequences even when we focus entirely on the compensatory function of damages awards,

75. See also the discussions in notes 72 and 73 involving the accuracy of damages.

76. An example involving market share liability is presented in Kaplow, *supra* note 60, at 336-38.

a setting in which, at first glance, truth and consequences seem to be closely aligned.

IV. ENDOGENOUS BEHAVIOR IN ADJUDICATION

Much of the analysis of legal system design in Parts I through III devotes significant attention to endogenous behavior by individuals, *ex ante*, in deciding whether to commit harmful and benign acts and, in some cases, in choosing whether to acquire information to guide such decisions. Nevertheless, the analysis to this point largely assumes that the pertinent features of adjudication are, in principle, under the direct control of those who design the legal system. However, not only is primary behavior endogenous—and centrally influenced by legal system design—but so is all manner of behavior with regard to adjudication itself. Most obvious, and quite important, are decisions by private plaintiffs and public enforcers (civil or criminal, in independent offices or as part of regulatory agencies) to initiate proceedings. In addition, in contemplating adjudication or when amidst it, the structure of the legal system influences parties' incentives to generate evidence that is ultimately assessed by the tribunal.

Incorporating endogenous behavior in adjudication can significantly complicate the analysis of the consequences of substantive legal commands, decision criteria, and attempts to set the level of accuracy. Of particular relevance for purposes of this Article, this additional source of endogeneity renders the analysis of consequences more indirect, which tends to further attenuate and sometimes eviscerate the already often-weak connection between truth and consequences. Because many demanding and diverse dimensions are involved and pertinent prior work is limited, this Part confines itself to offering some preliminary illustrations and thoughts on the subject.⁷⁷

77. For a survey of much of the literature, which primarily offers a positive rather than system-design-oriented analysis of litigation, see Kathryn E. Spier, *Litigation*, in 1 HANDBOOK OF LAW AND ECONOMICS, *supra* note 35, at 259. Writing focused on aspects of the present applications includes Antonio E. Bernardo et al., *A Theory of Legal Presumptions*, 16 J.L. ECON. & ORG. 1 (2000); Dominique Demougin & Claude Fluet, *Rules of Proof, Courts, and Incentives*, 39 RAND J. ECON. 20 (2008); Bruce L. Hay & Kathryn E. Spier, *Burdens of Proof in Civil Litigation: An Economic Perspective*, 26 J. LEGAL STUD. 413 (1997); Kaplow, *Burden of Proof*, *supra* note 25, at 849-50, 854; Kaplow, *supra* note 45, at 1246-48; Chris William Sanchirico, *A Primary-Activity Approach to Proof Burdens*, 37 J. LEGAL STUD. 273 (2008); and Chris William Sanchirico, *Relying on the Information of Interested—and Potentially Dishonest—Parties*, 3 AM. L. & ECON. REV. 320 (2001).

The more general literature on the economics of litigation, *see* Spier, *supra*, includes substantial attention to settlement, which is set to the side in this Article. A prerequisite to analyzing the effects of the system design features examined here on settlement is understanding their implications for *ex ante* behavior, filing, and the outcomes of adjudication in the absence of settlement, for that forms the backdrop against which settlement occurs. As a crude first approximation, in some settings settlement will primarily reduce system costs but generate similar incentives for *ex ante* behavior to the extent that cases are anticipated to settle for amounts close to the expected outcome of adjudication. *See, e.g.*, A. Mitchell Polinsky & Yeon-Koo Che, *Decoupling Liability: Optimal Incentives for Care and Litigation*, 22 RAND J. ECON. 562, 566-68 (1991); *see also* Kaplow, *supra* note 45, at 1248-50 (offering a

A. *Decision to File*

1. *Private suits*

Prospective plaintiffs are assumed here to file suit when their expected recovery exceeds their expected cost.⁷⁸ We are interested in the consequences of various legal system design features when one takes into account that filing decisions are endogenous: that is, changes in legal design that affect either adjudication outcomes (and therefore plaintiffs' recoveries) or adjudication costs (to the extent borne by plaintiffs) will affect filing decisions, which in turn will have implications for ex ante behavior, our focus here. Analysis of effects on social welfare is necessarily complicated by the general phenomenon that there is a divergence between plaintiffs' incentives to sue and the net social benefits of litigation.⁷⁹ This Subpart will mainly examine a single setting that illuminates our central theme concerning the relationship between truth and consequences.⁸⁰

Consider the now-familiar setting involving ex ante behavior wherein some individuals contemplate committing harmful acts and others consider benign acts. Either type of act will be undertaken if the individual's private benefit

preliminary discussion of the implications of settlement with regard to decision criteria for multistage adjudication). However, particularly when system design pertains to what information is relevant in adjudication, there can be important feedbacks to the settlement process. See, e.g., Kathryn E. Spier, *Settlement Bargaining and the Design of Damage Awards*, 10 J.L. ECON. & ORG. 84 (1994). Settlement can also be related to the truth side of the present inquiry. Specifically, one can ask whether a settlement for an amount equal to the expected outcome in adjudication—substituting for probabilities of each of two more extreme outcomes—embodies truth to a greater or lesser extent. The stance taken in this Article is that the answer to such a question is largely inconsequential and hence unimportant.

78. The text oversimplifies in a number of respects. The present discussion focuses, as will be explained, on a setting in which plaintiffs' decisions to sue are followed by final adjudication, with no interim decisions or possibility of settlement, see *supra* note 77, and it is also assumed that plaintiffs are risk neutral.

79. See Steven Shavell, *The Social Versus the Private Incentive to Bring Suit in a Costly Legal System*, 11 J. LEGAL STUD. 333 (1982). The two basic reasons are that plaintiffs do not bear the full costs of litigation (in the absence of complete cost-shifting to plaintiffs, regardless of the outcome) and that plaintiffs' benefits (their expected damage awards) can be much greater or less than the net social value with regard to incentives for ex ante behavior.

80. For a formal analysis, see Louis Kaplow, *Optimal Design of Private Litigation* (Mar. 30, 2015) (unpublished manuscript) (on file with author). Many other scenarios that relate to previous subjects in this Article could be examined. Note, for example, that making a legal system more accurate, and thus more costly, will in some instances discourage suits, which entails de facto complete exoneration, in which event a full assessment of legal system outcomes may involve less accuracy (less truth) overall. When system design is concerned with social welfare, all such consequences are relevant, whereas when nonconsequentialist objectives are stipulated, see *infra* Part VI, it is often unclear the extent to which various posited criteria are meant to apply only to the outcomes of cases that enter the legal system or that generate final outcomes in adjudication or apply more broadly, encompassing settlements and perhaps also cases that are never filed.

from the act exceeds the expected costs generated by the legal system, where here we contemplate that this includes expected sanctions (damage payments) and expected litigation costs, both of which arise only to the extent that, subsequent to the act, prospective plaintiffs file suit.

As mentioned, plaintiffs' filing decisions reflect their own cost-benefit calculus. Suppose that plaintiffs' costs include both litigation costs and a filing fee (the role of which will emerge shortly). Their benefit depends on their expectation of the outcome of adjudication, not the actual outcome that they cannot fully apprehend at the time of filing. (The reader will recall similar observations about prospective actors' decisions whether to commit harmful and benign acts.) Therefore, it is necessary to examine what information these prospective plaintiffs have, at the time they file suit, about outcomes that might arise in adjudication.

Attention here will be confined to a single assumption about this matter, one that seems roughly plausible in some settings but not others: that plaintiffs have some intermediate quantum of information, and what the tribunal ultimately observes in adjudication is a noisier version of plaintiffs' information.⁸¹ Specifically, suppose that the tribunal is unbiased relative to plaintiffs' information. That is, sometimes the evidence will seem stronger and other times weaker than indicated by plaintiffs' information base (which the tribunal cannot extract with complete precision), but the tribunal does not err in a predictable fashion.

Next, we need to state the origins of prospective plaintiffs' information. Drawing again on our earlier framework, we will suppose that plaintiffs' information at the time of filing is tantamount to what had previously (in Part II.A.2) been referred to as the evidence generated by harmful and benign acts. As explained, *ex ante* behavior ultimately generates evidence of some strength, which, when viewed at the time individuals decide whether to act, involves a distribution of possibilities, with harmful acts tending to generate stronger evidence. This evidence is what prospective plaintiffs observe and rely on when estimating the expected recovery from suit, having in mind that the tribunal's subsequent liability determination will reflect this information, albeit imper-

81. In other words, something is lost in the translation. This depiction seems apt when the tribunal's information is derivative of the parties, plaintiffs have the same information as defendants (from the outset), and the adversarial process results in some degree of blurring relative to what the parties themselves can observe more directly. As explained in the paragraph that follows, it is not assumed that parties' information constitutes the truth; instead their information is taken to be an imperfect signal deriving from what actually happened. It is entirely possible that one or both parties know the truth, but we are supposing here that what affects outcomes is the evidence, not a tribunal's direct access to truth; that parties understand that this is how adjudication functions; and hence that they base their predictions of outcomes on what evidence they expect to come before the tribunal rather than a possibly different understanding they might have of the truth. Note that the tribunal's information base, in the setting described herein, is two steps removed from the truth: the tribunal's information is an imperfect reflection of parties' information, and parties' *relevant* information (as just described) is itself an imperfect indicator of what actually happened.

fectly. And, as we shall see, it is prospective actors' predictions regarding this information and the filing decisions thereby induced that substantially determine their expected costs of action and hence whether they will commit their harmful or benign acts, as the case may be.

Before moving to system design, it is useful to be more explicit about how a given system of adjudication in this setting influences behavior, both filing decisions and primary activity. We know that plaintiffs sue if and only if their expected recovery exceeds their costs. This decision rule can also be translated into one concerning evidence strength. When plaintiffs see very weak evidence, their expected recovery is negligible because usually they will lose, so they will not find it profitable to sue. When their evidence appears to be strong, their expected recovery is high because liability is likely to be found, and let us suppose that suit is then advantageous (it would not be if the combination of litigation costs and the filing fee were even larger). Stronger evidence is more favorable to filing, and there will exist some critical level of case strength, viewed at the time of filing, above which plaintiffs will find it advantageous to sue.

This description allows us to be more precise about individuals' decisions whether to commit harmful and benign acts. In either case, in computing expected costs, they would first need to contemplate when prospective plaintiffs would subsequently file suit. This prediction is as just described. Furthermore, for those suits filed, they need to take into account both their own litigation costs and their expected payout. Filed cases are stronger cases and thus generate a greater likelihood of liability. Note that the resulting overall expected cost will be systematically higher for harmful acts than for benign ones because harmful acts on average generate stronger evidence (although, as explained, not always). This in turn means that they are more likely to induce suit and that there will be more suits involving large expected payouts.

In this setting, we will consider a single system design question, revisiting the choice of the evidence threshold, which was analyzed in Part II.A.2 with regard to *ex ante* behavior (although without taking into account feedbacks on filing decisions). Specifically, let us start with some regime—a specified evidence threshold and a given filing fee—and contemplate a particular reform: reduce the stringency of the evidence threshold and raise the filing fee, the latter to an extent that holds constant the extent to which harmful acts are deterred. Analysis of this question is involved, but illuminating.

First, consider the consequences of the reduced evidence threshold in isolation. Because liability is assigned more often, both for harmful and for benign acts, a direct effect is to increase both deterrence and chilling. In addition, because prospective plaintiffs' likelihood of winning is higher, they will find suit more attractive. Specifically, consider cases with evidence strength, as viewed by plaintiffs at the time of filing, just below the aforementioned critical level that made suit profitable on an expected basis. That marginally unprofitable suit will now be profitable, so suit will be filed more often. In turn, prospective actors, in addition to facing a higher likelihood of liability when sued, will also

anticipate being sued more frequently, which further contributes to the rise in deterrence and chilling. Therefore, both harmful and benign acts are discouraged by a reduction in the evidence threshold, and for two reasons: a direct one (changed outcomes in filed cases) and an endogenous feedback (increased case filings).

Second, consider the posited increase in the filing fee, which increment is to be calibrated to keep deterrence constant. Suppose that we raise the filing fee by just enough to offset the increased incentive to sue due to the reduction in the evidence threshold. The relaxed threshold increases plaintiffs' expected recoveries, and the higher filing fee raises their total costs; we are thus contemplating an increase in the latter such that we leave unchanged the initial critical value of case strength—the strength of evidence for which plaintiffs were indifferent whether to file, the expected recovery just equaling their total costs. If that is done, deterrence still increases on account of the direct effect: even though the same cases will be filed, the probability of liability is higher in those cases, so individuals *ex ante* contemplating the commission of harmful acts will be discouraged relative to the initial regime. It follows, therefore, that a reform that reduces the evidence threshold and raises the filing fee so as to keep deterrence constant must increase the filing fee by more than enough to keep case filings constant; therefore, case filings must fall, and by just enough to eliminate any increase in deterrence.

We have now traced the consequences of this reform for the deterrence of harmful activity. Although we stipulated at the outset that there would be no effect, it was necessary to take a number of steps to understand how this result comes about. Now we will consider the consequences for system costs and for the chilling of benign conduct. The direct effect on system costs is obviously favorable in light of the foregoing. As explained, the reform as a whole must reduce case filings, so system costs fall.⁸²

Chilling costs fall as well. This point is not immediately obvious because we have two competing forces: fewer suits are filed, which reduces chilling, but the reduced evidence threshold means that liability is assigned more often in cases that continue to be filed, which increases chilling. Nevertheless, the former factor tends to be systematically greater than the latter. The reason is a combination of two considerations, which are really two sides of the same coin. First, the reduction in case filings eliminates the weakest cases from the legal system, cases (among those previously filed) that have evidence strength (as viewed by plaintiffs at the time of filing) lower than that of all those cases that continue to be filed. Second, the increase in the probability of liability applies, in varying degrees, to all the cases that continue to be filed, and these, in light of the first point, are all stronger cases than those no longer filed. Therefore, the

82. We will see next that the reform reduces chilling, which itself has a feedback on system costs. However, for convenience, this effect is being treated as part of the net social impact of the reduction in chilling, and we are further supposing here that less chilling is net desirable.

net burden of liability shifts from the weakest cases (among those previously filed) to stronger cases.

Examining this further, recall that case strength is defined by the likelihood that harmful acts generate the evidence (here, what plaintiffs see at the time of filing) relative to the likelihood that benign acts generate the evidence. Therefore, the net effect on the prospects of ultimate liability from this reform is favorable to benign acts *relative to* harmful acts. To complete the argument, keep in mind that our reform is calibrated so as to keep deterrence constant. Hence, if deterrence is unchanged, and if benign acts are benefited relative to harmful acts, it must be that benign acts are treated better absolutely: the expected probability of liability for benign acts therefore falls, so the chilling of benign conduct falls.⁸³

To summarize, we can see that, in the setting under consideration, reducing the evidence threshold and raising the filing fee so as to keep deterrence constant has two consequences—lower system costs and less chilling of benign behavior—both of which increase social welfare. With regard to these features of system design, the gulf between truth and consequences is large, to the point that aiming at the truth is unrelated to consequences for social welfare.

We already discovered in Part II.A.2 that, when choosing the evidence threshold for final adjudication when the setting involves *ex ante* behavior, the optimal decision criterion depends on a multitude of factors, none of which pertain directly to truth in the sense of the likelihood that the case at hand actually involves a harmful rather than a benign act. The substantial wedge was attributable to the centrality of endogenous underlying behavior (individuals' primary activity): truth refers to what is, taking what we see as given, whereas all con-

83. A heuristic restatement of the argument goes as follows. Focus first on a marginal case that is no longer filed. The reduction in deterrence is proportional to the probability that evidence of that strength is generated by a harmful act, and the reduction in chilling is proportional to the probability that evidence of that same strength is generated by a benign act. Now, compare an associated case with stronger evidence that is more likely to result in a finding of liability due to the reduction in the evidence threshold. The increase in deterrence from that will be proportional to the probability that evidence of this higher evidence strength is generated by a harmful act, and the increase in chilling will be proportional to the probability that this higher evidence strength is generated by a benign act. Now suppose that we match some arbitrary (say, very small) unit in deterrence reduction from the former (the marginal case no longer filed) to a one-unit deterrence enhancement from the latter. Because harmful acts generate the stronger evidence relatively more often than benign acts do, when we do the same matching for one unit of chilling reduction from the former, there will be less than a one-unit increase in chilling from the latter (because the latter evidence is generated *relatively* less often by the benign act than by the harmful act). One can perform such matches for all of the units in deterrence reduction from fewer filings, and each comparison will involve, for each one-unit increase in deterrence from the reduced evidence threshold, a less-than-one-unit increase in chilling. Since all the deterrence units (the drops from fewer filings and the increases from the lower evidence threshold in cases still filed) sum to zero, and since all the increases with regard to benign acts are smaller than those for harmful acts, the sum for benign acts is negative. That is, chilling falls. (This argument is, unfortunately, more complicated and subtle than others in this Article. For the mathematical derivation, see Kaplow, *supra* note 37.)

sequences relevant to social welfare pertain to how that behavior *changes* in response to *changes* in the evidence threshold. Here, when we add a further layer of endogenous behavior, plaintiffs' decisions whether to file suit, we have yet another large wedge, making it extremely difficult to articulate any straightforward, coherent connection between truth and consequences.

The present illustration is intriguing for another reason: one might have thought that a significant concern for the chilling of benign behavior as a consequence of the mistaken imposition of liability would, all else equal, favor a more stringent evidence threshold. Yet here, a reduction in the evidence threshold—combined with a stipulated adjustment to a filing fee—had the consequence of reducing the chilling of benign behavior. The more important a reduction in chilling happens to be, the greater is the gain from this counterintuitive policy reform. Furthermore, this result arises entirely as a consequence of informational considerations, reflecting the gap both between ultimate outcomes in adjudication and what individuals know at the time they decide how to act (a recurring theme) and also between those outcomes and what prospective plaintiffs know at the time they decide whether to file suit.⁸⁴ On reflection, it should not be surprising that the more complicated is the scenario under analysis—and, in particular, the more layers of endogenous behavior and possible divergences between who knows what, and when, are introduced—the more important it is for legal system engineers to aim quite explicitly at consequences.⁸⁵

2. *Public enforcement*

This Subpart mainly flags issues rather than analyzing additional scenarios. In Subpart 1, it was natural to suppose that private plaintiffs' filing decisions can be analyzed as an expected profit calculus.⁸⁶ With public enforcers, the matter is more complicated. To some degree, legal system design can dictate their behavior. Then, if it is wished that their filing decisions, for example, be

84. Observe that, although we assume that the tribunal cannot learn all the information that plaintiffs possess, their information is nevertheless harnessed, advantageously, at the filing stage when incentives there are structured appropriately (in part through the use of a filing fee in this policy experiment). One way to view this reform is that, although it reduces the de jure evidence threshold, it raises the de facto threshold (that is, how strong a case must be for plaintiffs to choose to file).

85. A further lesson is that aiming explicitly at consequences often involves indirection in settings with endogenous behavior and dispersed information. Of course, the system designer must not solely aim at behavioral consequences but also take into account system costs. The added challenge is that we have multiple behavioral concerns (deterrence of harmful acts and chilling of benign acts). To best achieve the appropriately weighted mix of all these objectives, the system does not even aim directly at some desired outcome, but rather it can only create incentives so that some of the parties (prospective plaintiffs) act so as to endogenously generate incentives that induce other parties (prospective defendants) to behave in ways such that, taken together, overall welfare is maximized.

86. As with all such statements in this Article, the claim is meant as a first approximation for typical situations, not as a universal description.

unchanged, such might be prescribed. Or if, when other design features change, it would be optimal for filing decisions to change in some fashion, that too might be commanded.

More broadly, public officials may have a variety of motivations, many of which can, at best, be influenced only indirectly by those designing aspects of the legal system. For example, prosecutors might pursue high win rates, maximum aggregate fines, or some other outcome-based objective. Their reactions might then have much in common with those of private litigants.⁸⁷ In addition, by strategically choosing compensation methods, promotion criteria, and enforcement budgets, it may be possible to significantly influence enforcement activity. But, as with any delegation to agents, there is slippage, and certain features of the relevant institutions may generate particular incentives that might be advantageous or perverse. For example, public prosecutors—especially those elected to office or appointed by officials subject to significant political restraint—may thereby be kept in line on some dimensions but have their behavior skewed on others. One particular concern is that they may pursue or refrain from enforcement for partisan reasons, such as to harass political opponents and otherwise protect incumbents. They may also seek publicity, for its own sake or to advance their careers.

For present purposes, these phenomena are important in the general sense already discussed: the additional layer of endogeneity in behavior complicates the analysis and may introduce a further wedge between truth and consequences. And public enforcers' distinct incentives may present problems or opportunities that need to be addressed explicitly. For example, it is familiar that a heightened evidence threshold and other procedural protections in the criminal sphere may be rationalized as protections against the abuse of power, a topic explored further in Part V.B, which suggests that aiming at truth in adjudication may have additional, desirable consequences because abuses may be rendered more difficult.

87. Common responses can arise in a number of ways. For example, with private plaintiffs, raising the evidence threshold will tend, as examined in Subpart 1, to reduce the filing rate, all else equal. Moreover, anticipating the topic of Subpart B, in cases that are filed, it is possible (although not necessarily true) that they will be induced to spend more. Likewise, a public prosecutor's office that cares, among other things, about its win rate, and that also has a fixed budget, might react by filing fewer cases and spending more on those cases that are filed. See Kaplow, *Burden of Proof*, *supra* note 25, at 848-55. For additional discussions of how proof burdens may affect prosecutors' and defendants' efforts in litigation, see Thomas J. Miceli, *Optimal Prosecution of Defendants Whose Guilt Is Uncertain*, 6 J.L. ECON. & ORG. 189 (1990); Daniel L. Rubinfeld & David E.M. Sappington, *Efficient Awards and Standards of Proof in Judicial Proceedings*, 18 RAND J. ECON. 308 (1987); and Okan Yilankaya, *A Model of Evidence Production and Optimal Standard of Proof and Penalty in Criminal Trials*, 35 CAN. J. ECON. 385 (2002). See also Derek Pyne, *Can Making It Harder to Convict Criminals Ever Reduce Crime?*, 18 EUR. J.L. & ECON. 191 (2004) (examining a model in which police are rewarded for convictions, regardless of their accuracy, and finding that a higher proof burden may increase their efforts to identify the truly guilty and thereby increase deterrence).

B. *Incentive to Generate Information*

An obvious and important problem with the fact that parties (whether private or public) substantially control the generation⁸⁸ of information in adjudication is that it may not all be truthful. In addition to the inevitable facts that information is always imperfect and limited, there is also the concern that it will be self-interested and hence skewed. In most settings, preventing misinformation—ensuring greater truth—in this sense will be desirable, although the degree to which it can be accomplished, as always, involves cost tradeoffs.⁸⁹

This Subpart sets this more straightforward problem to the side and confines attention to parties' incentives to generate information (evidence) that is entirely truthful and can only lead to more accurate outcomes. Part III analyzed the value of such information in a variety of settings. The central question here is whether litigants' incentives align with social incentives in that additional information is generated always but only to the extent that its consequences are socially advantageous. In light of the fundamental divergence between private and social incentives to file suit, examined in Subpart A.1, it should not come as a surprise that the answer is generally in the negative. This Subpart analyzes the problem in the contexts presented in Parts III.B and III.C involving accuracy in the determination of damages, where the concern is for ex ante behavior and for compensation, respectively.⁹⁰ We shall see that parties' incentives are

88. For this Subpart, generation is taken to refer to both any investigation or analysis to come up with the information and any costs in presenting it to the tribunal. More complete analysis would distinguish the two types of activity because parties are often able to present evidence selectively. See Louis Kaplow & Steven Shavell, *Legal Advice About Acts Already Committed*, 10 INT'L REV. L. & ECON. 149 (1990); Louis Kaplow & Steven Shavell, *Legal Advice About Information to Present in Litigation: Its Effects and Social Desirability*, 102 HARV. L. REV. 565 (1989). As a result, parties have incentives to search for information more widely, recognizing that they may be able to withhold unfavorable findings and present only the favorable ones.

89. See, e.g., Marvin E. Frankel, *The Search for Truth: An Umpireal View*, 123 U. PA. L. REV. 1031 (1975) (arguing that adjudication should determine truth, criticizing the adversary system for generating false and misleading results, and discussing reforms).

90. See Kaplow & Shavell, *supra* note 67; Kaplow, *supra* note 74; Kaplow, *supra* note 60, at 338-45; see also Kaplow, *Income Tax*, *supra* note 15, at 70-77 (analyzing taxpayers' incentives to acquire and present information about taxable income). Regarding accuracy in the determination of liability, observe that parties' incentives are often misaligned. The party in the wrong—for example, a defendant that knows it committed a harmful act that should give rise to liability—obviously has an excessive incentive to present truthful, but exonerating, information. One might choose to place such cases in the category of misinformation. Consider some opposite situations. For a prospective plaintiff who knows that it was actually harmed by the defendant's wrongful behavior, we can consider an all-or-nothing choice of information generation, wherein all involves bringing suit and nothing corresponds to abstention from suit. There, we already know that plaintiffs' incentives to sue can be excessive or inadequate. See Shavell, *supra* note 79. Similar logic applies to intermediate cases. To take another example, consider a criminal defendant who is actually innocent and faces imprisonment. In general, such individuals have too little incentive to generate exonerating information because the costs they bear from a mistaken conviction—the loss of liberty and other harms resulting therefrom—tend to be social costs as well, but such defendants do not

often socially excessive and that among the mechanisms that may be employed to address the problem is one under which the tribunal in certain circumstances ignores valid information, instead being committed to reach less accurate—that is, less truthful—outcomes.⁹¹

To begin the analysis, consider parties' incentives to generate information in adjudication about damages. For either party, there is an incentive to do so whenever the resulting favorable movement in the expected damage award exceeds the generation cost. For example, if in the absence of further evidence, the tribunal is expected to award damages of \$1000, a plaintiff would be willing to spend \$99 to raise this figure to \$1100, and a defendant would be willing to spend \$99 to lower it to \$900.⁹²

This degree of inducement does broadly tend to be socially excessive. First, consider damages as an incentive for *ex ante* behavior. As we saw in Part III.B, when individuals cannot anticipate the particular level of harm when they decide how to act, there is no social value whatsoever of greater accuracy *ex post*. And when they can—consider for simplicity the most favorable case in which this knowledge is costless—the social gain *ex ante* from improved behavior will involve only those situations in which behavior does change, and, in such instances, the net social benefit will equal the difference between the harm avoided and the benefit forgone, which difference will generally be less than the change in the damage award that produces the change in behavior.⁹³

Second, regarding compensation as insurance for risk-averse victims, Part III.C explained that the social benefit is given by the magnitude of the risk premium. This concept was illustrated by considering a situation in which the actual harm might be high or low, and it was explained that the utility gain from raising compensation when actual harm is high exceeds the utility loss from lowering compensation when actual harm is low. But, in the high-harm situation, for example, the plaintiff's gain in litigation is one hundred cents on

bear the additional social cost of running prisons (nor do they directly bear costs from the dilution of deterrence or the chilling of others' innocent behavior). *See* Kaplow, *supra* note 60, at 367-69. Hence, we can see in a wide range of settings (in addition to those elaborated in the text) that private litigants' incentives to generate even truthful information often diverge substantially from what is socially appropriate.

91. Another dimension of party-generated information concerns the selection, often aided by lawyers, of which evidence to present in adjudication. *See* sources cited *supra* note 88. It turns out to be ambiguous whether legal advice generates more or less information than would be presented by unaided litigants and also whether adjudicators' decisions will be closer to the truth. Most relevant for present purposes, having better-informed tribunals does not translate into actors behaving more in accord with the law for the now-familiar reason, elaborated in Part I, that parties lack pertinent guidance at the time they act.

92. A fuller analysis would view evidence generation as a matter of degree, and the question would then be parties' incentives at the margin. The same analysis applies: for example, a plaintiff would be willing to spend 99¢ to raise the award by \$1.00.

93. Heightened deterrence due to greater accuracy can reduce adjudication costs because adjudication will occur less often, which can have an opposing effect. Note, however, that the concomitant reduction in chilling when true harm is low will induce additional activity and hence more adjudication.

the dollar for any dollar increase in damages (not just the risk premium from greater accuracy), and the defendant's gain is likewise one hundred cents on the dollar for any dollar reduction. Again, incentives to generate truthful information about damages tend to be socially excessive.

Finally, consider briefly the implications of this analysis for system design. One approach would be to place general limits on litigation effort regarding damages, such as by limiting the number of experts, the time that they may testify, and so forth. Another would be to employ damages tables, as some have proposed—mostly for other reasons, including that they may be more accurate in operation than generalist factfinders' attempts to sift through the testimony of competing experts.⁹⁴ Note that both of these approaches are designed to suppress parties' efforts to generate what may well be truthful information, and the limitation would be optimal even in a setting in which we assume that the stifled party seeks to present truthful information and bears all the direct costs of doing so.

Along the same lines, consider another mechanism that has been posited in some prior work.⁹⁵ For concreteness, suppose that damages would otherwise be set at \$1000, and that either party is in a position to present entirely truthful information on actual damages at a cost of \$50. Clearly, the plaintiff will make this demonstration whenever true damages exceed \$1050, and the defendant will do so whenever true damages are below \$950. But the foregoing analysis suggests that these incentives can be excessive. For example, if true damages are \$1051, the plaintiff will generate this information at a cost of \$50, but it is hard to imagine that any improvement in behavior or reduction in the risk premium will be worth more than this expenditure. It will almost certainly have a social value that is smaller, often much smaller, than the cost.

Let us now suppose further that the social value of accuracy in the setting under consideration is such that it is worth either party spending the \$50 only when actual harm differs from average harm by more than \$200, that is, when harm exceeds \$1200 or falls below \$800. The system can be designed to induce parties in litigation to behave accordingly by committing the tribunal to *ignore* any evidence indicating that actual harm is in the range from \$800 to \$1200. That is, the tribunal makes use of the evidence, rather than sticking with its ini-

94. See, e.g., 2 AM. LAW INST., ENTERPRISE RESPONSIBILITY FOR PERSONAL INJURY: APPROACHES TO LEGAL AND INSTITUTIONAL CHANGE 217-27 (1991); Albert W. Alschuler, *Mediation with a Mugger: The Shortage of Adjudicative Services and the Need for a Two-Tier Trial System in Civil Cases*, 99 HARV. L. REV. 1808, 1825-28, 1853-54 (1986); Randall R. Bovbjerg et al., *Valuing Life and Limb in Tort: Scheduling "Pain and Suffering"*, 83 NW. U. L. REV. 908 (1989); Frederick S. Levin, *Pain and Suffering Guidelines: A Cure for Damages Measurement "Anomie"*, 22 U. MICH. J.L. REFORM 303 (1989).

95. See sources cited *supra* note 90. As a practical matter, this scheme may be more difficult to implement than limitations on experts or damages tables because of the need to custom fit the pertinent figures to particular settings, which in turn requires case-specific knowledge of parties' costs of generating information. In any event, the mechanism does demonstrate the core idea that truth and consequences can diverge dramatically in this context.

tial damages estimate of \$1000, if and only if demonstrated harm exceeds \$1200 or falls below \$800. This mechanism induces parties to behave optimally in terms of social welfare. Note that here, when aiming directly at consequences, the method involves a commitment to ignore the truth. For example, the plaintiff would choose to generate information demonstrating that actual harm was \$1100 if it knew the tribunal would listen; but if the plaintiff understands that the tribunal will cover its ears and instead pronounce damages to be \$1000, in disregard of the demonstrated truth to the contrary, then the plaintiff will refrain from doing so, which is the consequence that is sought. Once again, we have seen that when additional endogeneity is introduced, here concerning the incentive to generate information in adjudication, the gulf between truth and consequences may become much more pronounced. There is no substitute for aiming explicitly, indeed aggressively, at the consequences, wherever they may lead, because with this level of endogeneity, truth can be quite a misleading target.

V. ADDITIONAL CONSEQUENCES OF TRUTH

Parts I through IV analyze the design of the legal system from a consequentialist perspective wherein the underlying objective is the maximization of social welfare. That is, aiming at consequences is taken to be correct in principle. Nevertheless, taking truth as the object, particularly of adjudication, seems natural and appears, even if implicitly, to guide much inquiry. The foregoing analysis, therefore, assesses when, why, and how system design aimed at these two different targets diverges.

Until now, the investigation is premised on the notion that truth does not have more immediate value. There are two different ways in which it might. One, pursued briefly in Part VI, moves beyond the welfarist framework and asks whether there may be reasons other than social welfare why truth should be an aim (or the aim) of adjudication. In this Part, we consider briefly a number of reasons that truth may have direct value in advancing social welfare, that is, staying within the welfarist paradigm. We are asking whether truth itself, or the overt attempt to aim at the truth, has important consequences.

In this domain, much has been written over the ages, but, for the most part, there is little focused, sustained analysis of particular settings—perhaps because such analysis is so difficult with regard to the phenomena of interest, perhaps because few believe that these consequences ultimately are very important, or perhaps for other reasons.⁹⁶ The exploration here sketches some lines of thought that may deserve further attention.

96. There are notable exceptions. For example, Jeremy Bentham's treatise on constitutional law is substantially devoted to various means by which restraints on government that require openness, such that the truth of its operations are revealed to the citizenry, will promote social welfare. JEREMY BENTHAM, *THE COLLECTED WORKS OF JEREMY BENTHAM: SECURITIES AGAINST MISRULE AND OTHER CONSTITUTIONAL WRITINGS FOR TRIPOLI AND*

A. *Legitimacy*

The notion of legitimacy is taken here to refer to the degree to which members of society find the legal system to conform with appropriate norms so as to command respect and support.⁹⁷ Legitimacy in this sense may have welfare-relevant consequences for a number of reasons.⁹⁸ Individuals who perceive their legal system to be more legitimate may be more inclined to follow its commands,⁹⁹ to engage in business dealings without undue fear of opportunism that would go unremedied, to cooperate with the police and other government officials, to bring their disputes into the legal system rather than taking the law into their own hands,¹⁰⁰ and to participate constructively in political decision-making.

Let us now take as given that legitimacy can have significant, desirable social consequences, and ask whether legitimacy, and thus its favorable consequences, might be enhanced if the legal system were to pursue truth more directly than suggested by the earlier analysis in this Article. That is, might it be worthwhile, sometimes and to some degree, to place greater weight on the truth, thereby sacrificing social welfare to some extent in the ways examined previously, in order to achieve greater welfare gains through enhanced legitimacy?¹⁰¹

The short answer is that it is hard to say. On one hand, precisely because truth seems appealing—for example, more accurate adjudication may seem more trustworthy—it is easy to imagine that greater weight on truth might con-

GREECE (Philip Schofield ed., 1990) (reprinting works written mainly in 1822 and 1823). The discussion here extends and applies some prior work that considers the same set of consequences but without focusing on their relationship to truth as an aim of system design. See LOUIS KAPLOW & STEVEN SHAVELL, FAIRNESS VERSUS WELFARE 281-89, 404-08 (2002); Kaplow, *supra* note 60, at 382-99.

97. Note, importantly, that this notion of legitimacy is one of perceived legitimacy in the eyes of the masses, not an independent notion of legitimacy in the mind of some outside philosopher-observer, the latter of which falls in the domain of Part VI.

98. The instrumental view of legitimacy is associated with MAX WEBER, THE THEORY OF SOCIAL AND ECONOMIC ORGANIZATION 124-32 (Talcott Parsons ed., A.M. Henderson & Talcott Parsons trans., Oxford Univ. Press 1947) (1922).

99. See, e.g., TOM R. TYLER, WHY PEOPLE OBEY THE LAW (1990).

100. Such behavior is particularly important with regard to avoiding the escalation of disputes and controlling violence. However, taken too literally, the suggestion would lead to excess. It certainly is not optimal for all manner of disagreements—in the course of contractual relations, social interactions, and so forth—to be brought directly into the formal legal system rather than having parties attempt to work out their differences informally. Beyond that, self-help and retaliation, such as by terminating dealings or a friendship, often are more sensible than filing suit. In addition, a significant portion of more formal dispute resolution is effectively conducted in private fora, notably, arbitration tribunals.

101. Although the present discussion focuses on truth, the subject of this Article, similar questions can be examined with regard to any seemingly appealing trait of a legal system that is not automatically generated to the maximum feasible extent by more narrowly viewed welfare-maximizing system design.

tribute to perceived legitimacy.¹⁰² This possibility might be further supported by some of the considerations in Subparts B through D.

On the other hand, good consequences themselves should enhance legitimacy. Surely, a legal system that better deters or prohibits harmful acts, that leads to less chilling or prohibition of benign conduct, and that avoids excessive costs will be broadly appealing to society. Indeed, legal systems that fail significantly on one or more of these dimensions are unlikely to command significant respect.¹⁰³

Both of these perspectives have force. At the extremes, it is easy to see one or the other being dominant. For example, if most outcomes of adjudication were thought to involve mistakes, the public would be outraged. Random damage awards would seem appalling. However, it is not clear how much social unease would ensue short of such extremes. For example, would legitimacy be undermined nontrivially if disputes over damages in personal injury cases were governed by fairly refined damages tables (which are already routinely used in some settings, such as workers' compensation¹⁰⁴)? In particular, a system allowing battles of experts with little constraint, which in the process consumes a substantial share of the stakes in a given case, may undermine legitimacy by more than the resulting augmentation of truth (if any) advances it. And, as one moves more to the extreme in which attempts to promote truth produce significantly adverse consequences, such as by making legal remedies unaffordable in many instances and bankrupting innocent defendants in others, it seems likely that legitimacy would fall, not rise.

The most plausible argument for truth thus may apply at the margins and perhaps in particular settings. The general population, on one hand, does not closely observe the legal system's operations in many of the respects examined here. Even scholars who study the legal system have little idea how often outcomes align with the truth in most contexts. But there may be some realms where, if the legal system did not seem sufficiently aimed at the truth, individuals would be disturbed. This consequence may be particularly likely when the justification for deviating is highly subtle or counterintuitive. For example, it seems easy for the untutored to understand that the costs of adjudication should not be allowed to get out of hand, even if this comes at some sacrifice of the

102. People may take truth as a proxy for how well their legal system functions, which view may implicitly derive from this Article's opening narrative that notes how, in an ideal world, adjudication would indeed generate truth because cost tradeoffs and concerns about limited information are absent.

103. This observation should not be taken to suggest, however, that the connection between conventionally optimal welfare-maximizing design and legitimacy is tight. For example, the public may lose confidence in a system that fails to spend an inordinate amount to apprehend a perpetrator whose crime has captured attention—and, anticipating Subpart D, individuals may accordingly have a taste for catching such criminals. It is not clear, however, whether the implied demands on system design are well captured by stating that truth as such has additional consequences.

104. *See, e.g.*, DONALD T. DECARLO & MARTIN MINKOWITZ, *WORKERS COMPENSATION INSURANCE AND LAW PRACTICE: THE NEXT GENERATION* 82-83 (1989).

truth. But it may be difficult to explain an extreme version of the reform sketched in Part IV.A.1, say, under which the burden of proof was made quite low and a steep filing fee was imposed. And, with respect to Part IV.B's problem of excessive incentives to demonstrate damages, the use of damages tables or limitations on experts may be acceptable, whereas the mechanism under which the tribunal ignores truthful demonstrations of the actual level of harm may not.

It is always a tricky matter for the government, in setting policy, to intentionally deviate from what, in a direct sense, maximizes social welfare, consciously sacrificing welfare for the sake of appearances. To admit as much openly can be counterproductive, whereas to do so secretly while publicly misrepresenting the design process poses threats to accountability (raising issues addressed in Subpart B), which itself can undermine legitimacy.¹⁰⁵

Before leaving this subject, it is useful to mention two warnings, which are also applicable to the topics to follow in this Part. First, simply ignoring legitimacy because it is hard to analyze or quantify is problematic. Second, one must be just as careful not to fall into the opposite trap. It is quite easy for a dedicated scholar of the legal system to imagine all manner of reasons why one or another policy might arguably be superior despite other analysts' demonstrations of its adverse consequences for social welfare. Specifically, one can often articulate some sense in which the favored regime promotes truth, which might then (in the absence of contrary empirical evidence¹⁰⁶) be asserted to be overwhelmingly important to system legitimacy. Such claims can readily serve as an excuse for avoiding careful analysis. And scholars should be especially cautious about assuming that their own views about legal system legitimacy and other matters are representative of outlooks of the population as a whole (the relevant group here). Years of close study often generate an atypical perspec-

105. For a related discussion, see KAPLOW & SHAVELL, *supra* note 96, at 396-402. *See also id.* at 383-96 (arguing that, even if government officials' responsibilities are complex in this regard, scholars have an obligation to undertake analysis that aims to figure out what policies maximize social welfare). Some prior work addresses this tension directly. Compare Charles Nesson, *The Evidence or the Event? On Judicial Proof and the Acceptability of Verdicts*, 98 HARV. L. REV. 1357 (1985) (arguing that, in a number of respects, adjudication does and should deviate from the truth, as best can be determined from the evidence, in order to generate verdicts that will be more acceptable to the public), with Note, *The Theoretical Foundation of the Hearsay Rules*, 93 HARV. L. REV. 1786, 1807-14 (1980) (exploring the appearances argument as a positive explanation of hearsay rules but critiquing such an approach on normative grounds). For a related discussion with regard to civil legal systems, see Kevin M. Clermont & Emily Sherwin, *A Comparative View of Standards of Proof*, 50 AM. J. COMP. L. 243, 269-74 (2002) (presenting and criticizing the notion that civil law systems' facially higher standard of proof may be justified because it enhances legitimacy by shrouding the existence of uncertainty in factfinding).

106. And reliable empirical evidence, particularly indicating the magnitude of truth's consequences for legitimacy, is hard to come by. Opinion polls and even carefully designed laboratory experiments may not reveal much of what we most need to know. *See* KAPLOW & SHAVELL, *supra* note 96, at 276 n.134 (discussing critically prior empirical work on procedure, particularly pertaining to tastes for particular procedures); Kaplow, *supra* note 60, at 391 n.253 (same).

tive, and our self-selection into the academy in general and into the study of law in particular reflects that, to some extent, we see the world differently from how most people do. The problem, of course, with this second warning is that the first, opposing warning remains important.

B. *Abuse of Power and Corruption*

If outcomes of adjudication are strongly tethered to the truth, certain abuses of power and forms of corruption are made more difficult, consequences favorable for social welfare. For example, if a legal system could guarantee perfect truth, then obtaining false convictions of political opponents or bribing judges or juries to decide contrary to the law and facts would be impossible. Unfortunately, such is infeasible, and attempts to get as close as possible to the truth in adjudication can backfire even with respect to these objectives. One way incumbents may entrench themselves is to harass opposition party officials, their financial backers, and media outlets with expensive, protracted legal proceedings; even if these are almost certain to result in ultimate exoneration, substantial damage will have been done. In addition, enforcers who can threaten the initiation of very expensive adjudication may be able to extract larger bribes.

Therefore, our question is, once again, whether there exist settings in which placing somewhat more weight on truth in its own right, at the expense of the sorts of consequences considered in Parts I through IV, might reduce prospects for the abuse of power and corruption sufficiently to raise social welfare overall. The answer would seem to vary greatly by context.

The subject has received significant attention in writing about substantive legal commands, particularly the choice between rules and standards, and, at least implicitly, about the degree of precision. It is familiar that rules may be preferable to standards because, by giving content to the law before particular disputes arise, it is more difficult to single out opponents for prosecution or to bribe adjudicators since they no longer have discretion to make the rules. In addition, in applying the law to the facts of the case at hand, simpler commands, particularly rules, may be harder to manipulate because fewer cases will be close ones.¹⁰⁷ It is easier to remedy abuse or corruption after the fact and also to deter it in the first place when it is more readily observed. Some of these points, however, are not particularly related to the truth versus consequences divergence, and others point against truth. Notably, less fine-grained legal commands more often conflict, on their face, with the outcome that is truly in accord with first principles, although this reason for aiming less at the truth

107. See, e.g., J.S. MILL, *UTILITARIANISM* 93 (Roger Crisp ed., Oxford Univ. Press 1998) (1871) (“We should be glad to see just conduct enforced and injustice repressed, even in the minutest details, if we were not, with reason, afraid of trusting the magistrate with so unlimited an amount of power over individuals.”); SCHAUER, *supra* note 9, at 150-55, 158-62.

suggests that it may generate consequences that better reflect truth, a theme we have seen throughout this Article (although the reasons here are different).

Another common argument favors tougher evidence thresholds on the ground that it will be harder for the government, through police and prosecutors or regulatory agencies, to pursue political agendas. Because a higher burden of proof is associated with fewer mistaken convictions but more mistaken exonerations, however, it is hardly clear whether this recommended adjustment is well described as aiming more directly at truth.¹⁰⁸ In addition to the burden of proof, some other constitutional provisions regulating (especially) criminal procedure are motivated by concerns for abuse of power but likewise are not well captured as redirecting our aim more toward the truth instead of more narrowly defined consequences.¹⁰⁹

Truth as embodied in greater accuracy has already been noted, with possibly conflicting forces when considering accuracy in the assignment of liability.¹¹⁰ For accuracy in the assessment of damages, some reforms that would limit parties' ability to demonstrate the truth in particular cases, motivated by the problem of excessive incentives to generate information, would seem to lessen opportunities for abuse. Just as in the discussion of rules versus standards, damages tables may reduce opportunities for illegitimate influences on adjudication.¹¹¹

These brief examples indicate that, as expected, some aspects of legal design, particularly in certain settings, may have important consequences pertaining to the abuse of power and corruption. However, the appropriate adjustments in light of these concerns do not have a strong, systematic tendency to favor

108. As mentioned in note 30, it is understood that the preponderance of the evidence rule—not a higher requirement, such as proof beyond a reasonable doubt—minimizes error and in that sense maximizes truth when one takes the set of cases as given. Note, however, that part of the present argument is directed at the very sorts of endogeneity considered in this Article (here, of public enforcers' filing decisions, the subject of Part IV.A.2), which considerations generally lead optimal system design to deviate further from the truth or, in many respects, to disregard it.

109. See, e.g., *Wolff v. McDonnell*, 418 U.S. 539, 558 (1974) (“The touchstone of due process is protection of the individual against arbitrary action of government.” (citation omitted)); *Stanley v. Illinois*, 405 U.S. 645, 656 (1972) (stating that the Bill of Rights was designed to protect citizens from overbearing government officials); Margaret Raymond, *Rejecting Totalitarianism: Translating the Guarantees of Constitutional Criminal Procedure*, 76 N.C. L. REV. 1193 (1998) (suggesting that post-World War II constitutional procedural doctrine is driven by concerns about totalitarianism that are analogous to the concerns about tyranny that originally led to the constitutional amendments); Frederick Schauer, *The Calculus of Distrust*, 77 VA. L. REV. 653 (1991). It is familiar that some exclusionary rules that move case outcomes further from the truth might serve the broader purposes of reducing the incentives for abuse and enhancing system legitimacy.

110. Another question is whether, if concerns for abuse or corruption would arise in only a modest subset of cases, it makes sense to skew the entire system to reduce these problems or instead to engage in more direct efforts to attack such misbehavior.

111. Such reforms also reduce the scope for what may be viewed as a softer form of corruption in which expert witnesses' compensation induces them to bend the truth, perhaps significantly, to advance their clients' interests.

placing greater weight on the truth despite the fact that, in an idealized world, we might have perfect and costless truth and, as a consequence, no abuse.

C. *Participation and Other Process Values*

Individuals involved in the legal system—particularly parties in cases or persons under investigation, but also witnesses, jurors, and others who may come in contact—may have their welfare affected directly by such engagement. This brief discussion will concentrate on the parties themselves, where the magnitudes are plausibly the largest on this dimension. For them, we can conceptualize these considerations as constituting additional components of adjudication costs, now interpreting this notion more capaciously.

To begin, if a party must not only spend money for lawyers and experts, but also devote substantial time to the task and possibly be subject to hassle and stress, adjudication costs will be greater than previously recognized. In addition, parties may experience vindication or disappointment, which can also be viewed as influencing overall costs (in the former instance, reducing costs, and possibly making this consideration a net benefit, perhaps in a successful libel case). Such considerations do not alter the nature of the analysis but instead raise empirical questions regarding magnitudes, here, of less tangible but potentially significant influences on parties' well-being. Some of the literature on participation and other process values presents a more exalted, quite positive outlook,¹¹² although one suspects that, for most litigants in most settings, the subjective experience is less favorable and often negative.¹¹³

In any event, the question here is different. We are interested in understanding how this more inclusive measure of costs changes as a result of various contemplated legal system reforms that we have considered previously. More precisely, this Part is generally concerned with whether aiming more directly at the truth rather than a narrower set of consequences would produce greater social benefits. More often than not, we encountered tradeoffs between

112. See, e.g., Jerry L. Mashaw, *The Supreme Court's Due Process Calculus for Administrative Adjudication in Mathews v. Eldridge: Three Factors in Search of a Theory of Value*, 44 U. CHI. L. REV. 28, 49-52 (1976) (linking the right to participate personally in adjudication with individuals' dignity); Robert S. Summers, *Evaluating and Improving Legal Processes—A Plea for "Process Values,"* 60 CORNELL L. REV. 1 (1974). It can be difficult, however, to ascertain the nature of the values being advanced. For further analysis, but without a focus on truth, see KAPLOW & SHAVELL, *supra* note 96, at 276-80, and Kaplow, *supra* note 60, at 389-94.

113. Although the fact that most cases settle and that most parties, when stakes are at all large, prefer to appear through lawyers can be explained by desires to save direct costs and to achieve the most favorable tangible outcome, these typical features of adjudication (along with the fact that many prefer to lump it rather than file a claim) suggest that, in most instances, these softer factors are adverse, or at least not significantly favorable. In addition, if individuals greatly valued participation and other, more expensive procedures, one might expect to see companies offering insurance, credit cards, and certain other products to compete by promoting more elaborate forms of dispute resolution to customers, which we do not observe.

system accuracy and cost. Therefore, if this broader cost measure is also generally larger, the implication would be that aiming at the truth misses the mark by even more than suggested by the previous analysis,¹¹⁴ whereas if these additional considerations tended to be favorable, the optimal system would shift somewhat closer to producing truthful outcomes.¹¹⁵ Fundamentally, these modifications are modest, and in many settings the role of truth was more obscure, so even unidirectional changes in our assessment of system costs would not have clear implications regarding whether legal system design should aim more at the truth.

We can also consider causation in the opposite direction: participation and other appealing procedural features may influence accuracy and thus the degree to which adjudication generates truthful outcomes. This channel of influence is certainly present and indeed underlies some of the analysis earlier in the Article. It does not, however, shift how we should think about legal system design. On this reasoning, it is suggested that some design features—say, allowing a party to respond more directly to the opposition’s arguments—enhance accuracy. If they do, and that is the end of the claim, then we merely have identified a particular means of achieving greater accuracy and we can ask, just as we did throughout Part III, whether it is worth the cost. This method would only be distinctive if it had additional consequences that are not generic to other ways of improving accuracy, such as by producing benefits—or raising costs—to the participants themselves, a point we have already considered. And if it does have such further effects on social welfare, those consequences are by definition distinct from those flowing from aiming more directly at the truth per se.

So far, we have seen that participation and other process values may have consequences that are relevant to social welfare, but they do not systematically relate to the truth or to the often-present divergence between the pursuit of truth and of consequences in legal system design. A stronger linkage would arise if the degree of truth embodied in various ways in the legal system itself affected the way that participants experience adjudication. Such a connection is certainly possible but, like some of the others considered in this Part, is difficult to measure. Note also that this point relates to that considered in the next Subpart, addressing the possibility that individuals have a taste for a truthful legal system.¹¹⁶

114. For example, greater accuracy may require more intrusive discovery, which in addition to its costs in time and money may render the experience of participating in adjudication more unpleasant.

115. One way this might come about is through cost-reducing feedback effects from greater accuracy; for example, if fewer frivolous cases are filed when adjudication is more accurate, the legal system may be less intrusive on average.

116. To the extent that people do have such tastes, it is not obvious that they are amplified for participants, for they must endure the stress and hassle and, when they are parties, their generalized preferences for truth may recede in light of their focused desire to prevail. Cf. Jerry L. Mashaw, *Administrative Due Process: The Quest for a Dignitary Theory*, 61 B.U. L. REV. 885, 887 (1981) (“We all feel that process matters to us irrespective of result. This intuition, may, of course, be a delusion.”).

D. *Preferences for Truth Per Se*

Members of society may have direct preferences for their legal system to embody truth, whether in the formulation of substantive legal commands or in the conduct and outcomes of adjudication. To the extent that they do, truth would have a direct, welfare-relevant consequence, and it would be optimal to place greater weight on truth when designing the legal system.

First, as a matter of taxonomy, it is helpful to clarify what is meant in saying that individuals have preferences for truth per se. Individuals may value truth as a means to another end—here, good social policy—or as a proxy target for promoting good policy. They may also be confused about what constitutes good policy and mistakenly believe that it necessarily embodies truth, perhaps in the most direct manner or to the maximum extent feasible. Such views, however, are not tastes for the truth per se, but they may well relate to the possible interaction of truth and perceived legitimacy that was considered in Subpart A.¹¹⁷ Instead (or in addition), some individuals might regard truth not to be a preference but rather to constitute an independent normative principle, a subject pursued in Part VI.

By a preference or taste for truth, this Subpart contemplates individuals actually deriving utility—having an improved sense of well-being—as a consequence of knowing that their legal system embodies truth. Again, we have identified a phenomenon that may sometimes be present but is difficult to measure. In particular, to determine how preferences for truth should influence system design, we would need to know how various changes in the legal system, which implicate truth directly, indirectly, or perhaps seemingly but not actually, translate into changes in individuals' utility through this route.¹¹⁸ A conjecture is that, for system features that have significant and straightforward effects on accuracy, such tastes may be present, although their weight remains uncertain. For many others examined in this Article, the degree of subtlety and even indirection, including the point that truth was often not implicated or was influenced in an ambiguous manner, suggests that in such realms preferences for truth are unlikely to have significant relevance to legal system design.¹¹⁹

Reflecting on the four ways explored in this Part that truth may have additional consequences for social welfare, a couple of conclusions are suggested. First, sometimes truth may deserve greater weight and, to that extent, might be

117. These phenomena can be related, however, because truth might initially have been valued instrumentally but, like some other proxy principles, come to take on a life of its own, which might manifest itself, in part, as a preference. For a broader exploration of the relationship between preferences for various principles and social welfare, see KAPLOW & SHAVELL, *supra* note 96, at 62-81, 275-80, 431-36.

118. Note that this sharpness is required to address this Article's truth versus consequences theme but is not required more broadly to undertake system design: it would be sufficient to know how strongly individuals preferred one regime to another, as a matter of pure taste, without needing to state further whether the underlying source of that preference reflected truth or some other traits.

119. Recall also the two warnings issued at the conclusion of Subpart A.

justified as a specific aim of system designers, as long as they keep in mind that its importance is determined by the magnitude of those consequences. This message seems, perhaps, most important in some settings in which certain reforms may raise questions about system legitimacy or some designs might offer too much opportunity for abuse of power and corruption. Second, in most of the settings analyzed in Parts I through IV, there remains a substantial gulf between truth and consequences as aims of adjudication, and one that in many instances seems largely unaffected by the factors considered in this Part.

VI. TRUTH INSTEAD OF CONSEQUENCES

The entire Article until now has proceeded on the assumption that the legal system should be designed so as to maximize social welfare. This Part briefly discusses departure from this assumption, in particular, by pursuing truth as an objective of the legal system, either without regard to consequences or, more moderately, in spite of the fact that some detrimental welfare effects will ensue. This alternative will be analyzed in two steps: first, consideration of the welfarist perspective more generally, and second, examination of some implications of pursuing truth instead of consequences.¹²⁰

Because Steven Shavell and I have written a book¹²¹ on the conflict between welfare and various principles of fairness—defined broadly, in a way that would encompass deeming truth in various guises to be such a principle—this Part begins by offering a snapshot of some of the main ideas. Initially, we define notions of fairness (here, think of truth) as including only aspects that are not reducible in some manner to social welfare (thereby excluding considerations of the sort considered in Part V). A welfare-based assessment, in turn, is understood as one that depends exclusively on how regimes influence the well-being of all individuals in society. The welfarist view, therefore, is one in which everything that matters to individuals is relevant, but precisely and only to the extent of the impact on individuals' welfare. Therefore, to advance the proposition that truth matters in its own right, whether without regard to, or

120. Although this Article is not concerned with the question of what normative principles are in fact understood to guide the design of legal systems, it is interesting to note that the Federal Rules of Civil Procedure take a consequentialist view. *See* FED. R. CIV. P. 1 (stating that its rules “should be construed and administered to secure the just, speedy, and inexpensive determination of every action and proceeding”); *see also In re Winship*, 397 U.S. 358, 371 (1970) (Harlan, J., concurring) (“[T]he choice of the [proof] standard to be applied in a particular kind of litigation should, in a rational world, reflect an assessment of the comparative social disutility of each [type of error].”). The latter statement is in explicitly welfarist terms, whereas the former, although consequentialist (viewing the rules as means to an end rather than seeing the rules or the process as ends in themselves), is more obscure regarding the ends (in not stating a common denominator and in failing to state the sense in which just determinations are to be understood).

121. KAPLOW & SHAVELL, *supra* note 96; *see also* Louis Kaplow & Steven Shavell, *Fairness Versus Welfare*, 114 HARV. L. REV. 961 (2001). We also provide extensive references to and discussion of the vast literature that disagrees with our views.

above and beyond, its consequences for well-being, is to embrace a principle of fairness in the sense we mean. We advanced a number of arguments in general terms and via specific legal applications—including, of particular relevance for present purposes, a chapter on legal procedure, half of which addresses accuracy in adjudication.¹²²

One of our main points concerns the reasons, or lack thereof, for elevating notions of fairness, like truth, to the status of independent evaluative principles. We observe that much of the literature, early and modern, takes the independent value for granted or offers conclusory justifications, such as in arguing that retributive justice is important because it restores the moral balance in the universe. Other justifications appear to be more descriptive than normative, such as in elaborating how the torts system instantiates corrective justice. There are also significant definitional problems involving incompleteness. For example, corrective justice demands compensation for wrongs but does not contain an independent concept of what counts as a wrong that must be compensated. Promise keeping demands that promises be kept but does not provide a sufficiently operational manner of defining the content of promises and, for some adherents, does not insist, in the end, that enforcement ensures that promises will not be broken. Or retributive justice demands that punishment be proportional to the offense but does not contain a metric for translating diverse offenses into punishments.

If one were to advance truth as an independent principle, such problems would need to be addressed. As demonstrated in Parts I through IV, the senses in which various aspects of the legal system might be said to advance or be aligned with truth vary a good deal and sometimes were difficult to articulate. These, of course, are shortcomings only to the extent one wishes to advance truth per se as a design principle, one that analysts should aim to implement.

The greater problem we identified in our broader examination of fairness versus welfare relates to the lack of normative justification but goes further: when one carefully examines the concepts and attempts to assess justifications that might be offered, the implications are worrisome. To begin, inattention to consequences raises conundrums.¹²³ Retributive justice deems the crimes it seeks to rectify as themselves involving moral wrong, so is the overall moral sense of justice advanced or undermined if unfitting punishments eliminate via deterrence many of the underlying wrongs—even all of them, so that the unjust punishments never need to be imposed? What if the requisite enforcement of promises has the effect that no one wishes to make promises anymore? Or if providing the rightful procedures makes them so expensive that no one can afford them? Likewise, we might ask how to assess the truthfulness of a legal

122. The latter appears in KAPLOW & SHAVELL, *supra* note 96, at 248-75.

123. These sorts of difficulties reflect that notions of fairness, like various understandings of truth examined in this Article, often adopt an ex post perspective that considers only outcomes of adjudicated cases rather than ex ante behavior or potential cases that are not processed by the legal system. *See id.* at 48-51.

system that rarely errs but is usually prohibitively costly to deploy. Or whether a legal system whose outcomes in adjudicated cases more instantiate the truth should be deemed more truthful when it results in individuals' (possibly far more frequent) ex ante behavior being less in accord with the law's sense of truth, such as in some of the cases examined in Part I.

These and many other difficulties may seem to flow either from poorly specified principles or from taking the principles as absolutes. We might imagine that the first defect could be remedied by greater thought, although for principles advanced by great thinkers over the ages and embraced by most moral philosophers and legal scholars over the last century, we should not be very optimistic when such glaring difficulties have remained unsolved after all that time. The second problem is often addressed by adopting a more pluralistic attitude under which it is thought appropriate to give, say, some weight to the truth in its own right without taking the idea to the extreme (such as by implicitly suggesting that we should spend the entire GDP to ascertain the truth in a single torts dispute). This more moderate stance still requires that the principle be defined in an operational fashion and supported by affirmative justifications.

We argue, however, that the latter problem is unsolvable in any satisfactory manner. The reason, in essence, involves a tautology, but one that we prefer to defend rather than oppose. Specifically, because we have defined notions of fairness as principles that carry normative weight independent of individuals' well-being, this means that whatever weight is given to fairness is at the expense of individuals' well-being. That is, to advance fairness—here, truth—in the sense under consideration is to embrace the proposition that it is a good thing (to that extent) to reduce the welfare of individuals in society, wherein the purported benefit does not involve an increase in anyone's well-being.

In the course of our investigation, we discovered that the problem runs deeper. Through multiple illustrations and two more abstract constructions (proofs), we showed that consistent adherence to any principle of fairness implies that there exist settings in which it would be deemed socially desirable to make literally everyone worse off.¹²⁴ One is led to ask to whom one is being fair if the notion of fairness demands a regime under which every person suffers at fairness's altar.

For these reasons, we can expect that if independent weight were given to truth, as a matter of first principles, perverse consequences would follow. Indeed that is the case. To illustrate the sorts of problems that arise in the present context, let us revisit the subject of the burden of proof from Part II.A, a realm in which some scholars have indeed advanced truth-related, welfare-independent principles for evaluating the legal system. Moreover, this context seems to be one in which truth-based norms might be given life since it directly

124. In addition to our book, the reader is referred to Louis Kaplow & Steven Shavell, *Any Non-Welfarist Method of Policy Assessment Violates the Pareto Principle*, 109 J. POL. ECON. 281 (2001), and Louis Kaplow & Steven Shavell, *The Conflict Between Notions of Fairness and the Pareto Principle*, 1 AM. L. & ECON. REV. 63 (1999).

concerns the criterion that governs announcements by the legal system about the truth of the matter: “guilty” or “not guilty”; “liable” or “not liable.”

Most of these proffered criteria relate in some way to the errors generated by the outcomes of adjudication, but focusing on these symptoms instead of welfare-relevant consequences would lead system design seriously astray.¹²⁵ If one seeks to minimize errors in adjudication, the prescription is simple: abolish the legal system. Any realistic system will inevitably involve some errors, so abolition would be the only way to go.

Other criteria aim for good error rates, variously measured, in adjudicated cases.¹²⁶ To make these approaches concrete, suppose that our measure of truth is the ratio of mistaken to correct findings of liability (zero is a perfect score). Consider two illustrations.

First, imagine a system that almost always applies a sanction, which is steep, to truly harmful acts that enter the legal system, such that virtually every harmful act is deterred. Moreover, it almost never applies sanctions to benign acts, so there is negligible chilling. So far, so good, it would seem. Observe, however, that nearly complete deterrence means that harmful acts virtually never enter the legal system. Therefore, correct findings of liability are rare. In contrast, because myriad benign acts remain unchilled, inevitably some will enter the legal system, and, even though most result in exoneration, some generate liability. If the base level of benign conduct is large, then most findings of liability will be mistaken, and the ratio of mistaken to correct findings of liability will be high. A terrible score. Moreover, it could be improved by intentionally exonerating a significant fraction of obviously harmful acts, so as to undermine deterrence, thereby increasing the flow of harmful acts into the legal system, which in turn would generate more correct findings of liability (even though many of these cases do result in exoneration), boosting our denominator.

Second, suppose that individuals will put money in parking meters only if this act is favored by a private cost-benefit calculus. In addition, assume that parking tickets are given out entirely randomly, that is, without regard to whether money was placed in the meter. Finally, suppose that all adjudications are determined by a flip of a coin. That is, we have an essentially anarchic legal system. But what’s our truth score? Note initially that no one will ever put money in a parking meter, because it is costly to do so but has no effect on the expected sanction. This means that every case entering adjudication involves an individual who actually violated the law. As a consequence, literally every

125. See Kaplow, *Burden of Proof*, *supra* note 25, at 799 & n.103, 800-05; see also Michael L. DeKay, *The Difference Between Blackstone-Like Error Ratios and Probabilistic Standards of Proof*, 21 LAW & SOC. INQUIRY 95 (1996) (discussing many of the previously proffered criteria, with an emphasis on their divergence from the dictates of probabilistic standards of proof).

126. Note that the error rate, by many measures, when adjudication is abolished would be given by zero divided by zero, which is undefined. One can wonder how adherents to such metrics would make the comparison.

finding of liability (when so determined by our prescient coin) will be correct. What is the ratio of mistaken to correct findings of liability? Zero.

Summarizing these two examples, we have a fantastic legal system that receives a poor truth score—but one that might be improved by intentionally exonerating known guilty individuals—and a horrible legal system that receives a perfect truth score. Aiming at the truth is surely quite unattractive in terms of consequences. Recall, however, that our question in this Part is somewhat different: whether we might wish to aim more directly at the truth instead of being concerned (exclusively) with consequences for social welfare. Nevertheless, in these examples and in many others that may be adduced, it is difficult to see the point. That is, it is hard to understand how one can justify giving truth independent weight, thereby embracing the view that the welfare of society should be sacrificed for the sake of improving the rating on some scorecard in the sky.

Note as well that the fact that there is substantial diversity of opinion about which of many scoring systems should be employed does not help matters. Others that have been proposed likewise have perverse consequences.¹²⁷ Suppose, for example, that one targets, at least in part, the ratio of mistaken assignments of liability to correct exonerations with respect to individuals in adjudication who truly committed benign acts. Consider how this ratio might be lowered. Mistakes are most likely in cases where benign acts look especially like harmful ones. Therefore, we could readily make the system better by rounding up and tossing into it as many *unusual* suspects as possible, perhaps individuals chosen at random. This would significantly improve the truth score (by greatly raising the denominator) even if some fraction of these unfortunate litigants are found liable.¹²⁸

At this point, brief mention should also be made of another general theme of Shavell's and my book on the clash between fairness and welfare. We devote significant attention, at a general level and with regard to all the major fairness principles we examine, to why it is that the notions seem appealing despite their lack of rationale and destructive implications for policy design. We find an answer in broader social norms that guide everyday life, a realm in which principles such as truth are obviously important, and explain how this functional use of normative principles differs qualitatively from their use as independent objectives for policy.¹²⁹ We also explain how this feature of fairness notions suggests that they may serve as proxies that may be suggestive for purposes of policy analysis, but that they are not a substitute for it and in particular tend to lead

127. See Kaplow, *Burden of Proof*, *supra* note 25, at 799-805.

128. It might seem that an obvious answer to this and some of the other posited criteria is to aim at reducing total errors instead, but we already saw that this is accomplished by eliminating the legal system.

129. See KAPLOW & SHAVELL, *supra* note 96, at 62-81; *id.* at 381-402 (contrasting the relevance of notions of fairness for ordinary individuals, academics, and government decisionmakers); *id.* at 241-44, 262-64 (applying the analysis to legal procedure); see also *id.* at 155-223 (exploring the promise-keeping norm, which in some respects is similar to truth in that keeping one's promises can be understood as an important category of telling the truth).

us astray in contexts that differ in important ways from the simpler settings of ordinary human interaction in which the fairness principles emerged. Many of the analyses in Parts I through IV here well illustrate this view as applied to the pursuit of truth in adjudication. As the Introduction explained, truth would usually be an excellent proxy for consequences in an ideal world in which information was costless and perfect, but when information is costly and imperfect, truth often is only a partial indicator, sometimes is irrelevant, and occasionally is a perverse beacon.

The foregoing discussion is argumentative and incomplete, the latter in failing to consider other notions of truth as candidate principles that might be appealing in some system design contexts. It is impossible, of course, to exhaustively eliminate every conceivable truth concept that might be advanced. However, in light of the general problem with all notions of fairness as independent normative principles, the systematic examination of many of the leading ones in important areas of law by Shavell and me, and these brief illustrations, one should be skeptical that there are important truth principles to be found that should be given significant independent weight in the design of legal institutions. This Part, at a minimum, frames the question, which others are free to pursue going forward.

CONCLUSION

The central questions examined in this Article are whether, when, and to what extent social welfare will be sacrificed if the legal system's engineers aim at the truth rather than explicitly working out the consequences of different regimes.¹³⁰ The Introduction raised the possibility that the construction of legal machinery may be more akin to building a road up a steep, treacherous mountain than one that ascends a gentle hill with occasional bumps along the way. As we have seen in Parts I through IV, the former analogy often seems more apt.

130. Although it should be clear throughout that this Article is addressed to legal system designers, it is less obvious in practice who—on the continuum from scholars to think tanks to legislative committees and administrative agencies to courts—should embrace a social engineering perspective and to what degree. Matters of institutional competence in the sense of resources and expertise, expedience, and accountability are all relevant but beyond the scope of this investigation. *See id.* at 383-96.

One might also wonder how legal systems in many developed countries can operate as well as they do in light of this Article's critique. A speculation is that consequences often do receive great weight, albeit informally, reflecting both analysts' and policymakers' common sense. For example, it is obviously important to spend more than a trivial amount on accuracy—so that adjudication is not almost entirely random—and not to spend a significant chunk of GDP. But if the question instead is whether it would be a good investment to spend an additional ten billion dollars, and where and how, a general sense that truth matters, moderated by a general admonition that costs also matter, offers little guidance. Given the rather limited degree of explicit analysis to date and the lack of empirical evidence (wherein research needs to be guided by relevant, operational questions), it seems plausible that substantial improvements may be possible on many fronts.

To begin an exploration of the relationship between truth and consequences, it is important to recognize that information is central to the formulation of substantive legal commands. Whether choosing between rules and standards or selecting the degree of precision of legal regulation, not only are there a variety of cost tradeoffs but there also exists substantial endogeneity regarding individuals' behavior that is meant to be channeled by the law. As a result, design choices that generate greater truth at the conclusion of adjudication may well result in individuals' actions being less in accord with it than under a regime aimed explicitly at consequences, one that gives no weight to truth *per se*.

Decision criteria in adjudication, such as the setting of the burden of proof, also pose serious challenges. In the analytically simpler setting in which adjudication determines the permissibility of proposed conduct, it can be seen that the truth of the matter at hand—whether the proposed act before the tribunal is actually harmful rather than benign—is an important element of the pertinent cost-benefit test. Nevertheless, the consequences of outcomes for social welfare, both the gain from prohibiting harmful acts and the cost from prohibiting benign ones, matter as well. Therefore, the optimal evidence threshold may well tilt heavily toward prohibition or toward permission relative to the standard that would minimize errors (which is the preponderance of the evidence rule), just as the optimal rule for medical decisionmaking may dictate treatment when the probability of benefit is low (but the magnitude is great and side effects are negligible) or nontreatment when the probability is high (but the magnitude of the gain is modest and the risk of a seriously adverse outcome is large). When adjudication instead provides incentives for *ex ante* behavior, where our concern is with the deterrence of harmful acts as well as the chilling of benign ones, determination of the optimal evidence threshold is notably more complex. Interestingly, in this setting it turns out that the truth of the matter at hand—the likelihood that the act before the tribunal is of the harmful type—is not even one of the relevant factors.

Despite these many divergences between truth and consequences, one may suppose that greater truth in the sense of higher accuracy in adjudication is generally valuable, although of course one must account for its costs. Even this moderate claim masks a great deal. Most fundamentally, it is not very helpful to recognize a truth-cost tradeoff when truth has no obvious metric and, in any case, not one that has a common denominator with system costs. In order to engage in system design, it is necessary to place a social value on truth, and that in turn is only possible if one traces the consequences of different degrees of accuracy. This exercise is undertaken with regard to accuracy in the determination of liability and of damages, and the latter for the case in which damages provide an incentive for *ex ante* behavior and that in which they serve to compensate victims. Across these settings and also within them, the value of accuracy—greater truth—can vary greatly, and in some cases it has no value at all.

A further set of considerations is that, along many dimensions, legal system designers do not dictate adjudicative behavior but instead leave many of the decisions to the parties, such as private plaintiffs and public enforcers. They

decide which cases to pursue, and all parties choose how much effort to invest in generating and presenting information to the decisionmaker. This additional level of endogeneity—which further interacts with prospective actors’ endogenous choices of ex ante behavior—complicates the system design problem and further attenuates the link between truth and consequences.

Throughout most of the Article, the focus is on what legal system design maximizes social welfare, and the pertinent consequences regard individuals’ engagement in harmful and benign acts and the administrative costs generated by the legal system, both in seeking advice when deciding how to behave in the first instance and in the conduct of adjudication. However, the degree to which the legal system embodies truth may have other welfare-relevant consequences—such as concerning legitimacy, the abuse of power, and participation values—and also may be regarded by some to be socially important independently of any effects on individuals’ well-being.

In an idealized world in which perfect accuracy is costless, the pursuit of truth will ordinarily lead to the best consequences. However, in our actual world, which falls significantly short of this ideal in most important realms regulated by the legal system, it turns out that aiming at the truth is often not a very good proxy for welfare-maximizing system design. This message is hardly one that is against truth. Instead, it serves as a strong admonition regarding the importance of adopting a social engineering perspective that quite explicitly traces the consequences of one or another feature of the legal system if one is to have a good prospect of ascertaining how best to advance the welfare of society.