Avoiding Takings “Accidents”: A Torts Perspective on Takings Law

Eric Kades
William & Mary Law School, eakade@wm.edu
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A TORT PERSPECTIVE ON TAKINGS LAW*

Eric Kades**

ABSTRACT

Viewing the Takings Clause of the Fifth Amendment as a form of insurance appeals to our intuition. The government, like fire, does not often "take" property, but when faced with extraordinary risk property owners naturally desire compensation. Recent scholarship, however, has dissolved the attractiveness of this perspective. This literature, through economic analysis, claims that the Takings Clause should be repealed and replaced with private takings insurance. This is the "no-compensation" result.

This article argues that the insurance-based understanding of the just compensation requirement can be preserved without reaching the surprising no-compensation result. The intuitive appeal of understanding the Takings Clause as a form of insurance is worth preserving, and a compelling constitutional foundation exists for this view. The Takings Clause is a constitutional bargain rooted in economic logic. The no-compensation result rests on an unbalanced and unrealistic view of the relationship between government and property owners, and the Takings Clause makes sense once we realize that the government, as well as property owners, must have incentives to

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1. See infra notes 18-54 and accompanying text.
2. See infra notes 55-65 and accompanying text.
3. See infra notes 66-80 and accompanying text.
4. See infra notes 81-96 and accompanying text.
behave efficiently. Indeed, because of its monopoly over information about possible takings, the government requires special impetus to act optimally. Courts, in contrast to no-compensation scholars, have been sensitive to the need to encourage proper state action.

I. INTRODUCTION AND OVERVIEW

Most homeowners purchase fire insurance because they are risk-averse. They could take a chance that they would never need coverage and save themselves annual premiums, but the small probability of a big disaster justifies the outlay. Although the idea is not entirely new, recent scholarship has viewed the Takings Clause of the Fifth Amendment as a form of insurance. In other words, when the government takes land for a project, it pays the owner for this “disaster.” The fact that landowners pay no premiums for this insurance, however, raises a problem: if government condemnations are no different from lightning, gas leaks, and other “acts of God,” landowners should weigh the risk of a taking just as they weigh these other risks, and should pay premiums so that they internalize this cost.

Such bald economic analysis of a constitutional clause, let alone a component of the Bill of Rights, may sound strange. Indeed, according to common scholarly wisdom, the

5. See infra notes 97-106 and accompanying text.
6. See infra notes 107-120 and accompanying text.
7. See infra notes 121-136 and accompanying text.
   As [fire] is a calamity to which all parts of the city may at different times be subject, the whole city may fairly be made liable by law to contribute whenever it occurs. It is so far a sort of mutual insurance, and all property is held subject to that agreement and responsibility, with all contingent future benefits of it as well as the burden.
   Id. (emphasis added).
9. U.S. CONST. amend. V (“[n]or shall private property be taken for public use without just compensation.”).
10. This article assumes the definition of takings is established, and does not deal with the more commonly debated issue of distinguishing (compensable) takings from (noncompensable) regulation.
11. U.S. CONST. amends. I to X.
Constitution and economics mix poorly. Those elaborating the insurance-like characteristics of just compensation feel obliged to disclaim any pretension to constitutional interpretation. To the extent that their normative economic arguments are at odds with conventional constitutional theory, they defer to established legal wisdom.

This paper takes issue with both the economic and the constitutional conclusions of the "takings insurance" literature. It argues that the raison d’être for insurance—risk aversion—permeates the Fifth Amendment, the Bill of Rights, and the Constitution as a whole. Since risk aversion is one of the animating principles of the Takings Clause, no need exists to forswear legal grounds for the insurance interpretation. However, past work has failed to consider some important distinguishing features of takings insurance: (1) the informational advantage of the insurer (the government), and (2) the need to encourage both the government and the citizens to minimize the number of takings “accidents.” Neither constitutional nor economic scholars have given risk aversion or risk information their due in takings law.

Part II introduces the basic idea of takings insurance, and explains why, given some implausible assumptions on the nature of government, the insurance approach suggests that the government should never compensate property owners for condemnations.

Part III provides a constitutional foundation for reading the Takings Clause (along with most of the Bill of Rights, and the Constitution as a whole) through the lens of risk aversion and economic Due Process” and “The Economics of Federalism”).

13. See, e.g., Jed Rubenfeld, Usings, 102 YALE L.J. 1077, 1134 (1993) (“The constitutional right to compensation, to be a constitutional right, must stand precisely when the felicific or economic calculus would count against it.”) (emphasis added).


15. See infra part II.

16. See infra part IV.
the directly related idea of insurance. A novel explanation is then offered, based on this constitutional principle of risk aversion, to avoid the “holdout” problem in eminent domain cases. As a prelude to the next section, Part III concludes by arguing that the Constitution presumes that elected governments, like any other type of agent, should not be expected to act faithfully and carefully without incentives and monitoring.

Part IV builds on this view of government through an analogy of takings to accidents. Although this comparison may strike readers as implausible, this section argues that just as tort law aims to provide incentives for the lowest cost avoidance of accidents, takings law should aim to provide incentives for both landowners and the government to minimize social loss from condemnations.

Part V scrutinizes the central role played by information in takings. Viewed as insurance, takings present an unusual situation. The government (the insurer) possesses much more information about prospective risks than the insured (landowners). This implies that often the government is in the best position to avoid wasteful development of land that will probably be condemned in the future.

Finally, Part VI examines how courts have dealt with takings accidents. Unlike academia, the courts have been sensitive both to the ability of government to warn landowners through the early release of information, and to the ability of landowners to avoid wasteful development in the face of probable condemnation. The courts tend to award compensation in the former cases, but not in the latter.

II. TAKINGS INSURANCE: ECONOMIC FOUNDATIONS

A. Just Compensation as Insurance

In deciding whether to insure against a risk, there are two key questions:

(1) How frequently does the risk result in losses?

(2) How large are the losses likely to be?

Insurance makes the most sense for large but infrequent losses, such as fires. For a modest annual premium, homeowners and businesses protect themselves against the loss of a major asset. Owners effectively diversify away the risk of fires, paying insurance companies a premium over actuarially fair insurance because they are risk-averse.\(^{18}\)

Large and frequent losses are simply uninsurable. Even by pooling resources through insurance, property owners will be unable to cover the costs of too many disasters. Fortunately, we do not often face such risks. To take a real world example, airlines and shippers are often unable to obtain insurance when operating in war zones.\(^{19}\) Also, citizens of Bosnia probably cannot obtain any type of property insurance due to the war. While it might appear that health insurance guards against large and frequent risks, this mischaracterizes the nature of medical outlays.\(^{20}\)

Contracting costs generally make it economically infeasible to insure against small losses. If such small losses are frequent,

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\(^{18}\) For a concise explanation of the economic motivation for insurance purchases, see WALTER NICHOLSON, MICROECONOMIC THEORY 205-07 (3d ed. 1985).

\(^{19}\) See Stuart Diamond, Oil Companies Caution Ships in Persian Gulf, N.Y. TIMES, May 18, 1984, at A4 (finding that shipping insurance rates tripled as a result of the Iran-Iraq war, and citing oil official for the proposition that "[t]here is a point where it becomes uneconomic"); Alan Philips, Carrington Tries to Revive Peace Talks, DAILY TELEGRAPH, July 2, 1995, at 8 (reporting that "no commercial aircraft can be insured to fly" over disputed airspace in former Yugoslavia); David Wickers, Gulf Crisis, SUNDAY TIMES OF LONDON, Jan. 13, 1991, Features Section (warning that "there could be a complete withdrawal of [insurance coverage] for flights to areas near the Gulf in the face of the campaign against Iraq").

\(^{20}\) Health insurance in America today contains relatively small deductibles, and the average person depends on health "insurance" to pay most of the expected medical outlays each year. Thus, health insurance is an indirect form of cash income, not a way to diversify risk. Arguably, the single largest problem with health insurance today is that payment of virtually all costs via insurance creates few incentives for consumers to economize on their use of medical services, or to search for bargains to drive down costs. A more sensible form of health insurance would contain a deductible equal to average annual outlays, and would cover only extraordinary and unexpected medical costs. A central tension in accident law is illustrated by the excessive spreading of costs, via insurance or similar schemes. This spreading of costs removes incentives to avoid costs. CALABRESI, supra notes 17, at 68-134. This tension is the basis for the strongest theoretical objection to just compensation. See infra part II.B.
there is no way to diversify through insurance. Conversely, it is not worth the trouble to insure against small, infrequent losses.

Table I below, applies this analysis to takings insurance. Obviously, both dimensions (frequency of loss and size of loss) are in practice continuously. Two categories are presented in order to highlight the key insights of the model. The model covers a complication not present in traditional casualty insurance. The difference is that takings accidents, unlike fires, typically benefit the community at large.

Table I
Loss Frequency, Size, and Implications for Takings Insurance

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<tr>
<td>BIG</td>
<td>uninsurable; hopefully unusual</td>
<td>like house fires; always compensate, always compensate, paradigmatic case for risk-averse owners to insure</td>
</tr>
<tr>
<td>SMALL</td>
<td>never compensate, reciprocal benefits to all over the long run</td>
<td>never compensate, like deductible in casualty insurance policies</td>
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Takings analysis mirrors that of fire insurance. Since the government could be the cause of a major disaster, the just compensation requirement of the Takings Clause provides a form of insurance against this type of accident. We can imagine that the government funds this premium out of the gains to society at large from the project.\(^{22}\)

In addition to the transaction costs barrier, the minimal benefits to society as a whole provide additional reasons for not

\(^{21}\) The table and model are creations of the author.

\(^{22}\) As the next section discusses, the thrust of previous research in this area is that such free insurance creates incentives for economically infeasible development.
compensating the victims of smaller takings accidents. Consider, for example, the small but frequent inconvenience of traffic delays due to road construction.\textsuperscript{23} In addition to the prohibitive costs of compensating every delayed motorist, the government can quite plausibly argue that the motorists will be compensated in the future with better roads and less congestion. As motorists make numerous trips, the costs and benefits of road construction are effectively spread evenly over the entire driving public.\textsuperscript{24} This rough and ready form of compensation is automatic and costless. Courts have long recognized the role reciprocal benefits play in takings law.\textsuperscript{25}

Small and infrequent losses due to takings resemble fixed deductibles in casualty insurance policies. Based on both the transaction costs and the need to create incentives for the insured to avoid losses, it is economically infeasible to insure against minor risks. Here the landowner does not expect any reciprocal benefit, but must absorb a small loss. This situation is similar to that of an insured motorist paying for small repairs necessary after a “fender-bender.” This theory suggests that the Supreme Court’s strict requirement of compensation for even the most trivial physical intrusions is misguided.\textsuperscript{26}

This simple insurance model based on the Takings Clause thus justifies one interpretation of the “diminution test” set forth in the seminal case, \textit{Pennsylvania Coal Co. v. Mahon}.\textsuperscript{27} The “diminution test” indicates that the government may take

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\begin{itemize}
\item \textsuperscript{23} Here the government is taking people’s time and time is money.
\item \textsuperscript{24} For the seminal work on how benefits may even out over time, see A. Mitchell Polinsky, \textit{Probabilistic Compensation Criteria}, 86 Q.J. ECON. 407 (1972); see also Anthony Kronman, \textit{Wealth Maximization as a Normative Principle}, 9 J. LEGAL STUD. 227, 236-37 (1980); Richard A. Posner, \textit{The Ethical and Political Basis of the Efficiency Norm in Common Law Adjudication}, 8 HOFSTRA L. REV. 487, 491-93 (1980).
\item \textsuperscript{25} See Vanderbilt \textit{v}. Adams, 7 Cow. 349, 351-52 (N.Y. Sup. Ct. 1827) (per curiam) (“The power [to regulate property] rests on the implied right and duty of the supreme power to protect all by statutory regulations, so that, \textit{on the whole, the benefit of all is promoted.}”) (emphasis added); see also Colorado Springs Prod. Credit Ass’n \textit{v}. Farm Credit Admin., 957 F.2d 548 (D.C. Cir. 1992) (holding that benefits of an agricultural program provided reciprocal benefits offsetting requirement that members provide additional capital).
\item \textsuperscript{26} See Loretto \textit{v}. Teleprompter Manhattan CATV Corp., 458 U.S. 419 (1982) (requiring cable TV company to compensate building owner for installing small boxes and a few feet of wire on premises).
\item \textsuperscript{27} 260 U.S. 393 (1922).
\end{itemize}
small pieces of a landowner's property without compensation, but “[w]hen it reaches a certain magnitude . . . there must be . . . compensation.”

B. The Problem With Takings Insurance and the “No-Compensation” Result

There is one critical difference between just compensation under the Takings Clause (referred to as “takings insurance” in this paper) and run-of-the-mill casualty insurance. Unlike casualty insurance, landowners pay no premiums in return for their coverage under “takings insurance.” The constitutional requirement of just compensation does not include an antecedent schedule of charges assessed to landowners. Landowners take advantage of this benefit like any other free good or service. The downside and the end result is that the taxpaying public subsidizes inefficient private development.

The following example illustrates the problem with free insurance. The landowner has two options in developing land: (1) build a cattle barn, or (2) use the land for raising corn. Lightning poses no threat to the corn crop, and the yield is a sum certain of $100. Milking cattle would yield $110 if lightning does not strike the barn. If lightning did strike, the barn and cattle would be destroyed, leaving the dairy farmer with nothing. If there is a ten percent chance that lightning will strike, the expected value of the cattle investment is only $99. In the absence of insurance, or if the premium on private insurance exceeded $1, the landowner would choose to plant corn and receive $100. This is true even if the landowner is not risk-averse. If the landowner is risk-averse, the certain return to
planting corn becomes even more attractive relative to the risky returns of dairy farming. 32

Assume the government provides free insurance against lightning damage. If the landowner erects the barn, invests in cattle and then lightning strikes, the government would pay the landowner $110. This amount equals the full yield if all had gone well. 33 This insurance will induce the landowner to invest in cattle instead of corn, since the extra $10 is certain. But from society’s point of view, this is inefficient. Consider the larger picture, where there are one hundred such farmers. Following the logic above, each will become a dairy farmer. It is statistically likely that lightning will destroy ten of these operations. Thus, as a group, landowners create $9900 of wealth. In the absence of free lightning insurance, all one hundred would have reaped $100 worth of corn, producing $10,000 of wealth.

As a result, free lightning insurance would cost society $100 by shaping landowners’ development incentives. Now rewrite the example and replace “lightning” with “government condemnation.” 34 In this simple model of the world, the just compensation requirement of the Fifth Amendment would force the government to provide socially undesirable free insurance coverage to every landowner. 35 According to this scenario, just com-

32. Succinctly defined, “[a]n individual who always refuses fair bets is said to be risk-averse.” Thus, such individuals “will be willing to pay something to avoid taking fair bets.” Nicholson, supra note 18, at 205. For example, a risk-averse individual would not pay $50 for a 50% chance of receiving $100 coupled with a 50% chance of obtaining nothing. In addition, a risk-averse individual would pay some positive amount to avoid the risk of having such a choice forced upon her. See infra part III (discussing the prominent role that risk aversion plays in the Bill of Rights and the Constitution as a whole).

33. The analysis still holds if the government insures only the original investment of $100.

34. Comparing government action with acts of God like lightning seems misguided. A major theme of this paper is that minimizing the cost of takings requires proper incentives for government actors as well as private landowners. See infra part IV.

35. Two of the contributors to this insight, however, considerably circumscribed its implications to the real world. Blume and Rubinfeld conclude that a number of peculiarities lead to a failure in the private market for insurance to protect landowners from regulations deemed by the courts to require no compensation. They conclude that the government should provide compensation for private landowners when the landowners would have purchased the insurance themselves had it existed. By assuming that owners are risk-averse, and that money has decreasing utility, Blume and Rubinfeld advocate a modified form of the Mahon diminution test that favors land-
pensation spreads risk too well and ignores the need to deter wasteful development.³⁶

Louis Kaplow has provided a powerful generalization of this "no-compensation" logic.³⁷ Building on the supposition that "uncertainty concerning government policy is analytically equivalent to general market uncertainty,"³⁸ Kaplow argues that the state should not offer compensation for any shifts in the legal regime, be it condemnation of land, or changes in the tax code.³⁹ Private insurance, when economically sensible, provides the means to guard against fire and other similar risks.⁴⁰ By analogy, private takings insurance would be created if eminent domain became an insurable risk. If we accept the analogy between risks from government activity and other sources of risk, Kaplow's argument is compelling.

He argues convincingly that little reason exists to believe that there is a form of market failure inhibiting private takings insurance. Kaplow's discussion serves as a useful introduction to some important insurance issues that arise later in this


However, according to one empirical study, our present eminent domain system does not work this way. See Patricia Munch, An Economic Analysis of Eminent Domain, 84 J. POL. ECON. 473 (1976) (finding that high-priced properties receive compensation in excess of market value, while low-priced properties receive compensation below market value).

What if the government weighs the value of existing development in deciding which projects are worthwhile? In this case, landowners may consciously alter their development plans to discourage condemnation. This is demonstrated formally in Thomas J. Miceli, Compensation for the Taking of Land Under Eminent Domain, 147 J. INST. & THEOR. ECON. 354 (1991); see also Jack L. Knetsch & Thomas E. Borcherding, Expropriation of Private Property and the Basis for Compensation, 29 U. TORONTO L.J. 237, 243 (1979) ("A further . . . inefficiency induced by the restriction of awards to market value is the incentive that this provides to use resources in attempting to alter expropriation decisions.").

On a deeper level, of course, the government might realize that some landowners were trying to manipulate the system and attempt to find a method of discerning such machinations. This seems to degenerate into an infinite cycle of attempting to anticipate the reaction of the other side.

³⁶. See supra note 20.
³⁸. Id. at 520. Kaplow devotes an entire section to this proposition, titled "The Similarity of Government- and Market-Created Risks." Id. at 533-37.
³⁹. Id. at 557.
⁴⁰. Id. at 528, 533-34.
More specifically, Kaplow discusses the four main causes of insurance market failure: (1) moral hazard, (2) adverse selection, (3) transaction costs, and (4) access to markets. This article will focus on the first two causes mentioned, moral hazard and adverse selection.

Moral hazard is the lack of incentives for an insured to minimize losses because of insurance coverage. For example, a homeowner with fire insurance may neglect cost-effective preventive measures, such as installing smoke alarms and keeping a fire extinguisher in the kitchen, because she receives no benefit from these out-of-pocket expenses.

Insurers guard against moral hazard in two ways. First, they may contractually require insured parties to take precautions such as installing smoke detectors. However, insurers may have to monitor compliance with these terms, and this "monitoring" could be expensive. A second solution is to provide only partial coverage. Kaplow finds no reason why landowners and insurers could not use these tools to solve the moral hazard problems surrounding takings insurance. For example, if insurance companies feared that insured landowners would further develop their land unwisely in the face of a possible taking, then they could write policies covering only a fixed amount and excluding any subsequent improvements. This limited policy would impose the residual risk of a taking on the landowner and shield the insurance company from unexpected losses.

41. See infra part V.
42. Kaplow, supra note 37, at 536.
43. For a discussion of the role of transaction costs in a takings insurance market, see id. at 545-48 (noting that low frequency of takings makes insurance expensive, but that the large potential losses make it attractive). For Kaplow's discussion of "access to markets," see id. at 548-50 (discussing limited knowledge and limited access to insurance, and concluding that even if these lead to market failure, the government should charge for insurance instead of compensating).
44. Id. at 537.
45. Id. at 538. There are three common ways of providing only partial coverage. First, many insurance policies include a deductible, an amount the insured must absorb before insurance coverage applies. Second, co-insurance makes the insurer responsible for only a partial percent of any losses, thereby making the insured party, in effect, a co-insurer. Finally, the policy may have a cap, a maximum amount payable regardless of the size of the loss. Many casualty policies combine two or three of these types of partial coverage. See Robert I. Mehr et al., Principles of Insurance 159, 218-20, 222 (8th ed. 1985).
46. Kaplow, supra note 37, at 538.
While differences in information between insurers and the insured may play a role in moral hazard, these differences are the chief problem in adverse selection. For example, assume that there are two equal-sized groups of auto collision insurance buyers whose labels, offenders and defenders, describe their driving styles. The offenders are involved in many more accidents and their average cost of insurance is $900 a year. Defenders, on the other hand, cost an average of only $100 a year to insure. The problem is that no economical way exists for insurers to identify the driving styles of their customers and charge them accordingly. Each driver, however, is aware of his/her own driving style.

Since insurers are unable to divide drivers into two risk pools, they will charge all drivers $500 which is the average cost of accidents. This rate will be extremely attractive to offenders, who will jump at the bargain, but the same rate will appear unfair to defenders, who may choose to self-insure. The resulting group covered by the insurance company will include a larger group of offenders; therefore, the insurance company will ultimately incur losses. When insurers are leery of this process of adverse selection (i.e., when insured parties have much better knowledge of their own risk category than the insurer can economically obtain), they will refrain from writing insurance and thereby create market failure.

Although Kaplow does not rule out adverse selection in a private takings insurance market, he notes:

Similar arguments can be made for most of the currently insured risks to property (e.g., fire insurance), where the problem has not been sufficient to undermine insurance. Moreover, the argument (that adverse selection would undermine a private takings insurance market) assumes that homeowners would in fact have sufficient information concerning the degree to which the risk to their own property differs from the average.

47. Id. at 543.
48. The example ignores transaction costs; this is actuarially fair insurance. See supra note 18.
49. See Kaplow, supra note 37, at 543-44.
50. “Ultimately, these are empirical questions that require further study.” Id. at 544 n.97.
51. Id. at 544. Kaplow's failure to notice the obvious informational advantage held
Since Kaplow believes that private insurance would eliminate the inefficiencies caused by free government compensation, he provides economic ammunition for amending the Constitution and deleting the Takings Clause. This is part of his larger thesis that the government should not compensate the losers in legal transitions. This thesis is based on his analogy between the risks of legal change and all other (uncompensated) sources of risk. Kaplow does hedge in applying his general theory to takings, noting that some “institutional considerations,” “concerns about abuse of power,” or “holdout problems” may justify government compensation. However, his bottom line is that “[a]rguments relating to investment incentives and allocation of risk . . . are highly suspect.”

III. RISK AVERSION AS A CONSTITUTIONAL PRINCIPLE

Part IV will directly confront Kaplow’s contention that just compensation is inconsistent with (efficient) “investment incentives and allocation of risk.” Before reaching that issue, however, this section disposes of three antecedent issues: (A) strong textual support exists, based on the primacy of risk aversion in the Bill of Rights, for the insurance paradigm of the Takings Clause, (B) the Takings Clause makes sense as an _ex ante_ bargain between risk-averse landowners and their government to avoid the holdout problem, and (C) risk aversion permeates the Constitution as a whole, bringing into question assumptions about the nature of government that are implicit in the no-compensation result.

A. Textual Foundations: The Bill of Rights and Beyond

Some scholars have dismissed the entire insurance modeling enterprise, summarized in part II of this article discussing the economic foundations of takings insurance. These scholars argue

52. Id. at 570.
53. Id. at 603-05 & n.300.
54. Id. at 605.
55. Id. at 527-32.
that the Takings Clause creates a political right not subject to economic analysis. This argument ignores the fact that the clause is about trading land for money, a paradigmatically economic issue. Moreover, reading the Takings Clause in the context of the Fifth Amendment, the Bill of Rights, and the rest of the Constitution reveals the consistent theme of risk aversion. Risk aversion constitutes the primary motivation for buying insurance.

Look closely at the Fifth Amendment. In addition to the Takings Clause, it contains the Grand Jury Clause, the Double Jeopardy Clause, the Self Incrimination Clause, and the Due Process Clause. In a sense, all of these clauses fall under the due process rubric. More specifically, they prescribe or proscribe legal procedures, not substantive rights. Furthermore, risk aversion is at the heart of due process.

Summary ("undue") proceedings would be much less expensive than the full panoply of procedural safeguards provided under the Fifth Amendment. Additionally, these proceedings would probably suffice to accurately determine the majority of cases that are relatively simple. But in criminal cases and when significant property interests are at stake, the cost of accidental error looms large. The old maxim, that it is better to set ten guilty men free than to imprison one innocent man, summarizes the appeal of due process. Each citizen is a potential victim of an erroneous conviction or civil judgment. Consequently, he or she should willingly pay for extra procedural protections. Under the Constitution, Americans pay annual premiums (taxes funding a judicial system providing due process) to insure against prosecuting the innocent.

The Grand Jury Clause of the Fifth Amendment performs an initial screening function that prevents one person (the prosecutor) from pursuing a case without some showing of probable cause. The term "probable" demonstrates that the main

56. See, e.g., Rubenfeld, supra note 13.
57. For a basic economic analysis of due process, see Richard A. Posner, An Economic Approach to Legal Procedure and Judicial Administration, 2 J. LEGAL STUD. 399 (1973).
58. "Historically, [the grand jury] has been regarded as a primary security to the innocent against hasty, malicious and oppressive persecution . . . ." Wood v. Georgia, 370 U.S. 375, 390 (1962).
thrust of this procedural requirement is derailing the persecution of innocent persons. By requiring the prosecutor to obtain the assent of a majority of the grand jurors, the clause eliminates the risk that a lone prosecutor may be motivated by personal animus, political grounds, or stupidity.

Juries, perhaps the single most prominent subject in the Bill of Rights, demonstrate the role of risk aversion in the Bill of Rights outside of the Fifth Amendment. The criminal and civil petit juries required by the Sixth and Seventh Amendments serve a screening function similar to grand juries, and they eliminate the risk that a single person, acting as a judge, will incorrectly decide a case. The traditional unanimity requirement for criminal juries further demonstrates that the Bill of Rights evinces a strong aversion to verdicts against the innocent.

The other criminal procedural protections of the Sixth Amendment are consistent with this reading. Despite the cost, the right "to be confronted with" prosecution witnesses and to compel the appearance of other witnesses insures that the defendant may present to the jury any testimony that might raise a reasonable doubt as to his or her guilt. Finally, the right "to have the assistance of counsel" is intended to provide defendants with effective counsel to argue their case.

The Eighth Amendment's ban on "excessive fines" and "cruel and unusual punishment" limits the punishment that the state can inflict on the guilty. These precautions reveal that risk aversion functions at a more fundamental level than simply avoiding erroneous convictions. The most upstanding citizen, if risk-averse, will want to place some punishments beyond the pale of the law. Even if an individual is certain that he or she will never break the law, there are two reasons to support the Eighth Amendment. First, an individual might fall victim to an

59. Akhil R. Amar, The Bill of Rights as a Constitution, 100 YALE L.J. 1131, 1190 (1991) ("If we seek a paradigmatic image underlying the Bill of Rights, we cannot go far wrong in picking the jury.").

erroneous conviction despite the procedural requirements discussed above. Second, family or friends may violate the law, causing vicarious suffering resulting from ruinous fines or brutal retribution.

Finally, consider the Fourth Amendment’s strong restraints on searches and seizures.\textsuperscript{61} Law enforcement officials could undoubtedly catch and convict more criminals without this constraint on their investigations. However, under the logic of the Fourth Amendment, the risk, albeit a smaller one, that state officials will trample the rights of the innocent is so egregious that society forgoes the “efficiency” of more convictions to minimize such intrusions.

Risk aversion animates five of the eight “nonstructural”\textsuperscript{62} provisions of the Bill of Rights and generally implies the desire for insurance. Thus, the takings insurance approach rests on a solid textual foundation. To the extent that takings insurance appeals to risk aversion, economic analysis of the Takings Clause, and indeed the remainder of the Constitution,\textsuperscript{63} need not be prefaced with an apology. After all, this interpretation of the Takings Clause evidences a central theme in the document.\textsuperscript{64}

\section*{B. Risk Aversion, Options, and the Holdout Problem}

This textual exegesis is only the beginning of the story. This section explains why, based on the constitutionally central idea of risk aversion, landowners might sacrifice the greater safety

\begin{footnotes}

62. The “structural” Ninth and Tenth Amendments address broader themes of popular sovereignty and federalism. \textit{See infra} part \textit{III.C} (discussing structural themes).

63. \textit{See infra} part \textit{III.C.1}.

64. One historical study suggests that the liberalism implicit in protecting individual property interests was a recent innovation at the time the Bill of Rights was adopted. William Michael Treanor, \textit{Note, The Origins and Original Significance of the Just Compensation Clause of the Fifth Amendment}, 84 \textit{Yale L.J.} 694 (1985) (implausibly suggesting that the populace converted from self-sacrificing civic republicans to self-serving, individualistic liberals in the span of about thirteen years (from 1776 to 1789)). For a more sophisticated and believable analysis of the tension between these two traditions in takings law, see Carol M. Rose, \textit{Mahon Reconstructed: Why the Takings Issue is Still a Muddle}, 87 \textit{S. Cal. L. Rev.} 561 (1984).
\end{footnotes}
of absolute property rights and willingly cede their government eminent domain power. The first argument is that just compensation is not free insurance, since the Takings Clause compromises an absolute property regime via the government’s option to purchase and creates instead a liability regime. Property rights are an important norm in the Constitution, seemingly motivated by risk aversion. Hence, just compensation is the quid pro quo for this reduction in ownership rights, and is not a proverbial free lunch. Moreover, it is argued this ex ante constitutional bargain makes economic sense. After explaining the options and recasting the government’s condemnation power in terms of such options, a novel economic justification is offered for adopting a liability regime. This justification uses these options to explain why risk-averse landowners resort to the liability regime to solve the holdout problem.

1. A Constitutional Bargain

The Founders placed great weight on the importance of private property, motivated in large part by the sort of risk aversion behind federalism and separation of powers. James Madison, the author of the Takings Clause, argued that “[g]overnment is instituted no less for protection of the property, than of the persons, of individuals.” The famous historian Charles Beard revolutionized perceptions of the Founders by exposing the primacy of economic interests in shaping the Constitution.

65. The terms “property rule” and “liability rule,” from Guido Calabresi & A. Douglas Melamud, Property Rules, Liability Rules, and Inalienability: One View of the Cathedral, 85 HARV. L. REV. 1089 (1972), are defined later in the text. See infra note 75 and accompanying text.

66. RICHARD A. EPSTEIN, TAKINGS 29 (1985) (“It is very clear that the founders shared Locke’s and Blackstone’s affection for private property, which is why they inserted the eminent domain provision in the Bill of Rights.”). Epstein does not sufficiently explain, however, why the Founders did not create an absolute property rule. See also BRUCE A. ACKERMAN, PRIVATE PROPERTY AND THE CONSTITUTION 7 (1977) (“There can be little doubt that the Framers thought the protection of property rights a very important thing indeed, and that a reading of the Constitution which would render the compensation clause a dead letter would be contrary to their intentions.”) (citation omitted). Ackerman’s observation clearly poses a legal problem for the no-compensation theorists to the extent that the intention of the Founders controls construction of the Constitution.

stitution. 68 Other scholars have emphasized that property stood for more than just economic self-interest. 69

Does the Takings Clause mock its own use of the phrase “private property”? Under a full-bodied property rule, landowners could negotiate with the government whenever it wanted their property, and they could hold out for the highest price that the state was willing to pay. The Takings Clause, however, involves a serious incursion into the nature of private property rights. The government can take land whenever it wishes, and in return pay only a predetermined level of just compensation.

It is unlikely that the Founders would have compromised their deep-seated belief in property rights without good reason. Their norm was full-bodied property rights, not diluted with governmental power to dispossess citizens of the source of their independence. The next subsection explains the holdout problem that may have motivated the insertion of the Takings Clause into the Bill of Rights. But whatever the reason, eminent domain was a departure from the standard view of property rights and their importance. 70

Viewed in this light, just compensation offsets, to some extent, the general decrease in property values caused by the government’s raw power to condemn. Under this view, just compensation is not free insurance. Instead, it is one side of an ex ante bargain between citizens and their government and the price the government pays for eroding the property rights norm of the Constitution. 71

68. CHARLES A. BEARD, AN ECONOMIC INTERPRETATION OF THE CONSTITUTION (1935).
70. Just compensation had only weak roots in Great Britain, and uncompensated takings were common in the Colonies. Treanor, supra note 64; FRED P. BOSSELMAN ET AL., COUNCIL ON ENVIRONMENTAL QUALITY, THE TAKING ISSUE 82-104 (1973).
71. For a different interpretation of the motivations for the ex ante bargain embodied in the Takings Clause, see Daniel A. Farber, Economic Analysis and Just Compensation, 12 INT'L REV. L. & ECON. 125 (1992) (arguing that just compensation is a general mechanism to diffuse opposition to socially worthwhile projects).
2. Risk Aversion, Options, and the Holdout Problem

Does this ex ante constitutional bargain make any economic sense? This section, building on the idea of the power to condemn as an option, argues that the Takings Clause is a rational response by risk-averse landowners to the holdout problem.

a. Options and Liability Rules in a Nutshell

The holder of an option has the right to buy or sell a good under certain conditions. The most common type of options are on stocks and give owners the right to buy or sell shares at a fixed price (the "strike" price) for a fixed time period (the "term"). The right to buy shares is a call; the right to sell is a put.

The government’s right to take land is a type of call option. Unlike conventional stock options, the term of the government’s option is infinite. Moreover, the strike price is not

72. Options have appeared at least twice before in the takings literature. In contrast to the descriptive use in this article, these earlier works made normative proposals for using options to improve eminent domain. Both proposals, however, have deep theoretical flaws.

Fischel & Shapiro, supra note 14, at 274, propose that the government purchase options as far in advance as possible to avoid controversies over development in the face of a probable taking. Landowners, however, will negotiate over the strike price of the option, once it has developed, as vigorously as they would negotiate over just compensation. Using options as a preliminary step to condemnation merely pushes all the same problems back one step.

A more radical proposal aims to solve the takings problem by tying it to property tax assessments. Peter F. Colwell, Privatization of Assessment, Zoning, and Eminent Domain, ORER LETTER (Office of Real Estate Research, University of Illinois at Urbana-Champaign), Spring 1990, at 1. Colwell proposes that landowners assess their own property for tax and condemnation purposes. He would grant anyone the option to buy the property at the self-assessed value. Id. at 2. This, he assumes, would discourage underassessment as a tax dodge. It is not at all clear, however, that the incentive to underassess for tax purposes is precisely counterbalanced by the desire to avoid a forced purchase. Indeed, fear of losing one’s home might force some landowners in Colwell’s scheme to over assess the value of their homes.


74. Landowners have a symmetric put option against the government under certain conditions. If the government imposes excessive burdens on a landowner without exercising its eminent domain power, the landowner may file an inverse condemnation suit against the government, asking a court to force the government to condemn the property and pay just compensation.
fixed; instead, it floats at a level equal to the current market value of each property.

The government's takings option means that owners do not hold their land by an absolute property rule, since they cannot hold out for a particular price or refuse to sell completely. Instead, landowners are protected by a liability rule which requires the government to provide just compensation when land is expropriated. An asset held under a liability rule is generally worth less than if held under a property rule, since the owner cannot exploit any bargaining advantage. In other words, the owner cannot hold out for the full surplus created by the planned project.

b. Why a Liability Rule Makes Economic Sense

Does the government's unusual option make any sense? If takings law is pervasively inefficient, we might expect that there would have been pressure to remove the Takings Clause from the Constitution. But apparently there has never been even a proposal to amend the Takings Clause. Why?

The traditional explanation is the holdout problem. This problem is exemplified by a citizen holding a plot of land essential to a public project (e.g., a mountain pass necessary for a road) and demanding (holding out for) a price so high that it would consume virtually all the gains that the project offered to society. The discussion below presents this justification in a new light. The emphasis is on risk aversion and on the value

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75. See Calabresi & Melamud, supra note 65. See Fischel & Shapiro, supra note 14, at 275 (applying this distinction to eminent domain). I am unaware of any previous work noting that options in general convert property rights into liability rights.

76. See supra note 11A.

77. The most comprehensive list of proposed constitutional amendments to date contains no trace of any efforts to amend the Takings Clause. Michael S. Paulsen, A General Theory of Article V: The Constitutional Lessons of the Twenty-seventh Amendment, 103 Yale L.J. 677, app. at 764-69 (1993).

78. For a vivid historical example of the holdout problem, see Jean-Laurent Rosenthal, The Development of Irrigation in Provence, 1700-1860: The French Revolution and Economic Growth, 50 J. Econ. Hist. 615 (1990). The Old Regime failed to develop a number of proposed irrigation projects because of ineffective condemnation authority. Any one of a number of groups could hold out, thus transaction costs were prohibitive. Reforms enacted during the French Revolution reduced these costs, and Republican governments built a number of highly successful irrigation systems. Id.
and dispersion of information, concepts considered in greater
detail in part V.

To set up the argument, we need to ask why options are
valuable. For everyday stock options with a fixed strike price
and term, the value of an option stems largely from the
chances that the price of the underlying shares will rise. For
example, a three-month option to buy IBM at $110 a share
might seem worthless when IBM shares are trading at $100.
But this ignores the chance that prices will rise above $110
during the three-month term of the option. If they do, the op-
tion will be worth the difference between the market price and
the strike price of $110.79

Under traditional option pricing theory, a “floating” option to
buy IBM stock at the market price would seem to be worthless.
The strike price tracks the market price. Therefore, market
fluctuations cannot place the option “in the money.” But option
pricing models do not account for another source of value.
Imagine a stock market where everybody had a floating option
to buy as many shares as they wanted at the current market
price. A buyer with a better way to deploy IBM assets could
instantly seize the company. By using floating options, the
buyer might be able to avert paying any premium over the
value attached to the current use of the assets. Thus, all the
gains from any implementation of innovative plans would be
captured.

79. See Fischer Black & Myron Scholes, The Pricing of Options and Corporate
Liabilities, 81 J. Pol. Econ. 637 (1973) (authoritative work on option pricing). The
major omission from the short introduction to options in the text is that higher vola-
tility in the price of the underlying asset increases the value of options on it. To see
why this is so, observe that the purchaser of a call option can lose no more than her
purchase price; downward price movements do not impose additional losses. On the
other hand, she has unlimited upside potential, realizing the full value of all price
increases above the option’s strike price. Higher volatility means both more price
increases and more price decreases. Since the price increases enhance the value of
the option while the decreases do not decrease its value, volatility alone increases the
price of options.

At first blush, this observation seems to raise a concern. To make its taking
option more valuable, the government might have incentives to manipulate the land
market and increase the volatility in the price of land. As discussed in the previous
paragraph, however, the value of the government’s taking option does not come from
the chance of price increases, and thus, increased volatility will not increase the val-
ue of an option with a floating strike price.
Instead, under our existing property rule for share ownership, the buyer would have to proceed by purchasing shares on the open market. As a result, each share bought would drive up prices. Thus, under our present property rules for stock ownership, those with better ideas must share the gains with the existing owners.\textsuperscript{80} Risk aversion explains why shareholders do not come together and exchange takings-like floating options with each other, thereby creating a liability rule for share ownership. With property rights, gains from new ideas about asset use are more widely distributed; they would be concentrated if stock could be purchased by a takings-like option at the market price.

Eminent domain reverses this reasoning and justifies a liability rule for private property. When individuals possess assets that the government can put to a higher value use, they may be able to capture all of the gain if they control the assets by a full property rule. This ability to hold out would lead to concentrating the benefits of new projects. \textit{Ex ante} (constitutionally), it is rational for risk-averse owners to accede the power of eminent domain to the government because they trade the potential windfall for a more certain stream of small gains from each project.

C. The Nature of Government

The no-compensation theorists\textsuperscript{81} argue that this constitutional bargain is inefficient and should be abandoned in favor of a system permitting the government to seize property, thereby leaving each landowner to decide whether or not to purchase (private) insurance against takings. Their implicit answer to the argument of the previous section emphasizes that any gains, from avoiding the holdout problem and spreading gains more

\textsuperscript{80} The law does permit owners of a \textit{majority} of a corporation’s shares to extract any “control premium” that exists. \textit{See}, e.g., Zetlin v. Hanson, Holdings 397 N.E.2d 387, 388 (N.Y. 1979) (“it has long been settled law that, absent looting of corporate assets, conversion of a corporate opportunity, fraud or other acts of bad faith, a controlling stockholder is free to sell, and a purchaser is free to buy, that controlling interest at a premium price”).

\textsuperscript{81} \textit{See supra} part II.B.
widely, are offset by the wasteful development induced by free takings insurance. This is a difficult empirical question.

The remainder of this paper focuses on how best to minimize development that subsequent takings turn to waste. To the extent that the no-compensation result overestimates waste due to takings insurance, it becomes more likely that the gains from just compensation exceed its costs. Based on further constitutional manifestations of risk aversion, the next part of this paper dissects the vision of government at the foundation of the no-compensation theory.

1. Angelic Decisionmakers?

The no-compensation result contains an embedded assumption that government is Pigovian,82 however, the literature has not adequately examined this premise. The following argument clarifies this assumption, presenting it in the best possible light. Even under this sympathetic reading, the assumption is both pragmatically and theoretically implausible.

The Pigovian assumption posits that the government acts competently and in the public interest. If the government weighs all the costs and benefits of projects, including risk, with an eye only to the public good, we can make sense of the analogy between risks from takings and other types of risk such as lightning. When government is a truly objective and rigorous cost-benefit machine, it will choose only projects that benefit society at the margin. What determines the marginal costs and benefits of new projects that arise? Technology and the supply of factors of production drive costs, while consumer preferences determine benefits. If technology, supply of factors of production, and consumer preferences evolve unpredictably, then so too will the set of projects that they make worthwhile.83

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83. See generally Nicholson, supra note 17.
This is the only way to justify the bald assertion that "losses incurred by individuals whose property is taken should be regarded as analogous to those that occur through such unsystematic and noncompensable events as market forces or natural events." Kaplow makes the same point:

With fire insurance or market risks, one expects to be self-reliant in securing protection; when the risk is directly linked to the government, one is more inclined to look to the government for protection. But this distinction does not indicate what different values, if any, are implicated by the origin of unequal burdens, or that any such difference in values would call for a governmental response that diverges from what investors would find worthwhile when responding to market risks.

Analogizing the government takings to other risks, however, ignores the government’s control over the aggregate level of takings and the ability of the government to reduce risk by judiciously releasing information. Parts V and VI explore these issues. Simply put, Kaplow never asks how the government, along with landowners, might reduce the risks and other costs of takings.

Nobody really believes that government operates as a perfect cost-benefit machine. While the Pigovian assumption does provide a useful baseline for modeling in other contexts, it is inappropriate in the takings context. The Pigovian assumption renders all interesting questions moot. Laws need not provide incentives for a Pigovian government to act more efficiently, since by hypothesis government acts purely in the public interest. Once we relax the Pigovian assumption, we see how critically the no-compensation result depends on it.

2. Sources of Non-Pigovianism

For many students of history and current affairs, the idea that government is not a perfect servant of the populace requires no elaboration. There are, however, different reasons

84. Fischel & Shapiro, supra note 14, at 285.
85. Kaplow, supra note 37, at 578 (citations omitted).
that the government might fail to meet this ideal. A large body of literature focuses on the ability of majorities to exploit minorities via eminent domain.\textsuperscript{86} Michelman, in a seminal article, casts this theory in terms of the "demoralization" costs condemnations impose on vulnerable minorities.\textsuperscript{87} Fischel and Shapiro recast Michelman's argument to refute the no-compensation thesis.\textsuperscript{88}

While these are real concerns, this article focuses on a more general problem. The government is the agent of the People; however, the People face all sorts of costs in making sure that public agents act in the public's interest. While it is commonly believed that the Bill of Rights protects individuals and minorities, recent scholarship persuasively argues that the original motivation behind the first ten amendments has been overlooked.\textsuperscript{89} According to Professor Amar,

[the conventional understanding of the Bill [of Rights] seems to focus almost exclusively on... protection of minority against majority while ignoring... protection of the people against self-interested government. Yet as I shall show, [the latter] issue was indeed first in the minds of those who framed the Bill of Rights. To borrow from the language of economics, the Bill of Rights was centrally concerned with controlling the "agency costs" created by the specialization of labor inherent in a republican govern-

\textsuperscript{86} In the context of zoning decisions, made by paradigmatically majoritarian local governments, these worries may be most justified. Robert C. Ellickson, \textit{Suburban Growth Controls: An Economic and Legal Analysis}, 86 YALE L.J. 385, 404-20 (1977).
\textsuperscript{87} Frank I. Michelman, \textit{Property, Utility, and Fairness: Comments on the Ethical Foundations of "Just Compensation" Law}, 80 HARV. L. REV. 1165 (1967). Demoralization costs result when the state could easily compensate for losses but does not. Note that, in a no-compensation world, demoralization costs make sense only if the government focused condemnations on identifiable minorities. Random condemnations made in connection with socially desirable projects make everybody better off on average and thus cannot demoralize. \textit{See supra} note 24 and accompanying text.
\textsuperscript{88} Fischel & Shapiro, \textit{supra} note 14. For a narrower and more technical demonstration that parties fearing future majoritarian abuses would require just compensation for property taken, see William A. Fischel & Perry Shapiro, \textit{A Constitutional Choice Model of Compensation for Takings}, 9 INT'L REV. L. & ECON. 115, 116 (1989) ("compensation would be the rule chosen if the constitution framers anticipate that government will act in a 'majoritarian' fashion, in which the welfare of a minority of the population is ignored").
\textsuperscript{89} Amar, \textit{supra} note 59.
ment. . . . The essence of the Bill of Rights was more structural than not, and more majoritarian than counter.90

For our purposes, the important point is that the Bill of Rights and the original Constitution evince not a scintilla of faith in the benign nature of government. By dividing powers between branches, leaving substantial powers with the states, requiring frequent elections and the like, the Constitution assiduously avoided the risk of concentrating power based on a thorough mistrust of government. “Ambition must be made to counteract ambition.” 91

Amar has demonstrated that the same distrust of government prompted the first Congress to propose the Bill of Rights, including the Takings Clause. This distrust included not only the traditional agency problem of self-serving acts, but also the worry that government agents would be out of touch with the populace (e.g., that they would have no incentives to gauge the public’s level of risk aversion). In the language of agency law, the Constitution aimed to enforce legislators’ fiduciary duties of loyalty and care.

Thus the Bill of Rights does not exhaust the theme of risk aversion in the Constitution. It is arguably a central motivation for the major structural provisions of the rest of the document, separation of powers and federalism. By horizontally and vertically dividing power, the Constitution sacrifices the potential efficiency of a unitary, hierarchical government because of the risk that a single leader or a unified cabal might not act in the public interest.

The idea that unitary rulers offer both the best and worst forms of governments dates back to Plato.92 When strong central leadership is indispensable, such as in wartime, democracies have the ability to elect strong leaders. When conditions return to normal, such leaders may be unseated. The Constitution has enough flexibility to defer to the President.93 How-

90. Id. at 1133 (parenthesis omitted).
93. Two examples illustrate this flexibility. President Lincoln flagrantly violated the Constitution when he suspended habeas corpus during the Civil War. EDWARD S. CORWIN, THE PRESIDENT; OFFICE AND POWERS 1787-1957, at 227-42 (1957). President
ever, each branch of the federal government\textsuperscript{94} and the states\textsuperscript{95} jealously guard their own turf. Incessant political squabbling undoubtedly imposes costs in implementing policy, but aversion to the risks of centralized power justify these "premiums."

Without discussing the complex issue of the nature of government in detail, one thing seems clear; the Constitution itself creates a strong legal presumption that government is not Pigovian.\textsuperscript{96} Fears of both disloyal and careless government servants mean that the state must also receive incentives to act in the public interest.

IV. TAKINGS ACCIDENTS

A. The Basic Idea

If we assumed that all parties act in the public interest and always take every reasonable precaution, no need would exist for tort law or the creation of legal incentives for least cost avoiders since, by presumption, people would already take all efficient precautions. Less drastically, we sometimes do implicitly assume that one class of actors always takes reasonable steps to avoid accidents and impose strict liability on the other party for any accidents. While tort law does make limited use of strict liability, the more widespread use of a bilateral negli-
gence standard is simply a recognition that it is efficient to provide both parties to potential accidents with incentives to seek low-cost, preventive measures.

Kaplow cogently summarizes the no-compensation position within this tort law analogy:

"Generally, in order to ensure appropriate incentives, it is necessary to evaluate the behavior of one of the parties and leave the residual cost, in the event of appropriate care by the monitored party, on the other party (unless that party's behavior is also to be evaluated). Under such a method, a negligence rule would monitor the government, and strict liability with contributory negligence would monitor the private investor. If government is Pigovian, the government's behavior will presumably be appropriate, so placing liability (which, in this context, amounts to allowing costs to be imposed) on the private investors would always create correct incentives."

Other scholars have made the same point arguing that if the government is Pigovian, it will behave efficiently by definition and no need would exist for incentives.

The no-compensation literature has recognized that private citizens fail to act in the public interest, but have been blind to the same problem with the government. The constitutional presumption that the government is non-Pigovian lies at the heart of the Takings Clause. The Pigovian view of government ignores the very half of the problem on which the Constitution focuses.

Kaplow and others are correct to hold that efficiency demands landowners to factor in takings risk like any other form of exogenous risk. This, however, is no reason to ignore incentives necessary to induce efficient government behavior. When making overall takings policy, efficiency requires attention to incentives that improve the behavior of a non-Pigovian government. The law can deter violations of government agents'

99. The courts have been sensitive to socially inefficient development in the shadow of likely takings. See infra part VI.
duty of care and their duty of loyalty. The no-compensation theory aims only to influence private landowners. Kaplow's contention, that "[f]or purposes of analyzing risk and incentive issues, the source of the uncertainty [government or other sources of market risk] is largely irrelevant," makes little sense outside the confines of Pigovian fairy tales.

Once it is clear that eminent domain law must deter both landowners and the government in order to maximize gains and minimize risks, takings look strikingly like accidents. Two parties interact in ways not foreseeable far in advance and impose costs on each other. This in turn suggests that tort theory offers the proper tools to achieve efficient results.

If bargaining costs between landowners and the government were inexpensive, the Coase Theorem\(^\text{101}\) indicates that we could rely on the parties themselves to find the least cost avoider of takings accidents. The allocation of costs would depend on the legal regime in place. If the law adopted the no-compensation rule, but the government was able to avoid some takings accidents without substantial cost, we would expect private landowners to make side-payments to the government to avert surprises. Individual landowners could pay the government to provide information on the likelihood that their plots would be taken in the near future before deciding whether to develop. Landowners as a group could pay the government to limit aggregate takings to reflect their level of risk aversion.

On the other hand, if property owners had absolute property rights (instead of ownership under a liability rule), the government would pay landowners to avoid developing land the government would like to buy. There would be no such thing as aggregate takings risk under an absolute property rule.

It seems unlikely, however, that the Coase Theorem applies to takings accidents. Transaction costs for purchases of a unique asset like land are nontrivial. In a non-Coasean world, efficiency requires both parties to take precautions until the marginal cost of further avoidance exceeds marginal bene-

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100. Kaplow, supra note 37, at 534.
Tort law can reach this result by negligence standards that hold both parties potentially accountable for accidents.

In takings law, this implies that the courts must look at takings accidents on a case-by-case basis. When landowners develop unwisely, in the face of well-publicized risks of government projects, a strong argument arises that they have proceeded negligently and should not be compensated. This is akin to a fire insurance policy that does not cover unduly risky acts undertaken consciously by the insured. On the other hand, when the government fails to release information about a possible taking until very late in the process and a landowner develops his property, the government's negligent failure to provide notice should make it liable for the cost of the improvements.

Traditional doctrine holds that the cost of acquiring the property provides the optimal deterrent to government takings. But costs increase only if we assume that the courts will in effect penalize the government for failing to release information in a timely fashion in a takings context. If we erased the Takings Clause and instead opted for private takings insurance, no increased costs would be necessary to induce the government to publicize potential condemnations and warn off prospective developers.

Kaplow attempts to distinguish takings (and other government transitions) from accidents as follows:

Calabresi analyzes accidents, an area in which externalities are a crucial factor in the incentives analysis. In the context of uncertainty with regard to future government policy, externalities do not present any special problems except when they are created by government transitional relief. Therefore, if one prefers the market approach generally, there is not a priori reason for the government to mitigate transitions.

102. This principle has aptly been labelled “double responsibility at the margin.” Cooter, supra note 98, at 27-29.
103. “The simplest economic explanation for the requirement of just compensation is that it prevents the government from overusing the taking power.” Posner, supra note 12, at 58.
104. Kaplow, supra note 37, at 563.
It is not at all clear what Kaplow means by “externalities,” or why they are relevant. If the Coase Theorem applies, then defining the costs that should be internalized by each actor has only distributional, not general efficiency, ramifications. And if the Coase Theorem does not apply, then the law should seek to impose costs on the least cost avoider to create socially efficient incentives.

Given our assumed inapplicability of the Coase Theorem, takings law should create incentives for both government and landowners that minimize the net cost of takings accidents. The government’s informational advantage in eminent domain means that it is especially important that the law create incentives for efficient use of this information. Private takings insurance would create no such incentives and thus makes little economic sense.

B. Government Choice of Aggregate Risk Level

Before examining how the courts (unlike the theorists) have attempted to deal with the government’s informational advantage in condemnations, this section briefly addresses a larger policy issue. The government determines the total amount of risk from takings. It could purchase all property via conventional market transactions, abstaining from its eminent domain powers. This would eliminate all takings risk. The more the government uses its eminent domain power, the more takings risk it injects into the economy.

Moreover, as Blume and Rubinfeld observed in a slightly different context, takings risk is not generally diversifiable.¹⁰⁵

¹⁰⁵. Blume & Rubinfeld, supra note 14, at 616. In discussing the risk of zoning changes, they state:

[The risks associated with the government action cannot be shifted completely to risk-neutral parties. Unlike an insurance policy for whole life coverage on a large group of unrelated individuals, the risk of zoning changes is not easily spread among the population. Rather, adverse zoning decision are likely to affect a large number of landowners within the jurisdiction. Thus, the risks of loss borne by the landowners are not independent of each other, and diversification is no longer possible.

Id.
In this sense, increased risk produced by more frequent government action is like an adverse increase in the rate of a natural disaster. Society cannot diversify away the costs of a ten percent increase in lightning strikes. Everyone must pay higher insurance rates.

Unlike lightning, however, takings have benefits as well as costs. It is likely that some amount of taking is desirable. The optimal societal level of takings must account for the population's risk aversion. This optimal level does not include every project where the dollar benefits exceed the costs excluding the incremental risk it introduces. This is easy to see if potential projects were ordered by their net benefits, excluding risk. The first projects presumably offer enormous benefits, so even though they entail greater risk, these projects offer a positive return after accounting for risk. In contrast, projects that offer only marginal net benefits are not economical because they introduce takings risk, which is an additional cost. The next two sections explore, respectively, the theory and practice of creating legal rules that encourage both efficient development by landowners and efficient condemnation by the government.

V. INFORMATION

A. The Government's Information Advantage

Information about risks is essential for avoiding accidents, and the government possesses by far the best infor-

106. Carol Rose suggests that, aside from introducing risk, excessive condemnation reduces societal wealth by creating a disincentive to work:

Continuous property transfers, though they may all eventually even out, will not encourage wealth production. In John Locke's language, "industrious and rational" persons cannot get a foothold if legislatures transfer their property rights, and force them to pool their labors with the "quarrelsome[s] and contentious." Hence pure transfers should be restrained in the political market, not because they may go uncompensated over the long run, but because they cause too much turmoil for wealth producing enterprise.

Rose, supra note 64, at 586-87.

107. Some commentators have theorized that information gathering, along with risk aversion, is a primary reason for the existence of insurance. See Goran Skogh, The Transaction Cost Theory of Insurance: Contracting Impediments and Cost, 56 J. RISK & INS. 726 (1989). Skogh points out that large, diversified corporations, with diversi-
mation on the probability of takings. Large projects usually begin on government planners' or engineers' desks. Maps with proposed routes circulate through state agencies until the various players decide on a final plan. Throughout this process, the government controls the amount of information available to the general public.

However, the government's possession of information apparently is not so obvious, since it has continued unnoticed. Blume and Rubinfeld noted that "individuals are likely to have more information about their own ability to affect the regulation of land than would an insurance company."108 They claimed that this created an adverse selection problem.109 According to Blume and Rubinfeld, "[Ind]ividuals with more accurate information than the insurance company will be gambling with an advantage . . . ."110 Although they conclude that this advantage will cause the private market for takings insurance to fail (and advocate government compensation), Blume and Rubinfeld never mention the state's undisputed informational advantage and its implications for efficiency in takings law.

Cooter suggests that the fundamental tension in takings law is that the government spreads risks better, but individual landowners know more about their own development plans.111 Cooter seems to imply that every development project poses a risk to the government's condemnation power.112 However, this implication cannot be correct, given the relative frequency of the two events. For instance, every barn constructed does not pose a risk to the ability of lightning to strike freely; therefore, we continue to insure against the risk of lightning. More generally, when two events together cause a loss, one of them frequent and the other relatively rare, the rare event is classified as a risk to the frequent, and not vice versa. Cooter's

109. Id. at 595.
110. Id. at 596.
111. See Cooter, supra note 98, at 38-40.
112. Id.
theory is a contorted way of ignoring the risks posed by government condemnations.

In discussing moral hazard and arguing that the market generally balances risks and avoidance incentives more efficiently, Kaplow hypothesizes that "[i]f the government has better information concerning the future than private markets do, there might be potential for improvement through government action." However, Kaplow never contemplates the importance of the government's virtual monopoly on information concerning the likelihood of takings. He does note that the government might be the most efficient information gatherer, but he simply observes that this information could be used most efficiently by releasing it to private insurers (i.e. making the information public).

B. Information in the No-Compensation World

The no-compensation result thus implies a very simple strategy for exploiting its informational advantage: the government should release all details about possible takings immediately. Kaplow summarizes the logic behind this inference:

Simply put, government compensation creates an externality that otherwise would not be present. Compensation shifts part of the long-run cost of private investment to the government and thus distorts an otherwise efficient decisionmaking process. It is socially desirable for investors to take into account the prospects for government reform; compensation eliminates this incentive by insulating investors from an important element of downside risk.

It is impossible for landowners and developers to "take into account the prospects for government reform" without all relevant information. Beyond requiring the government to announce condemnations as early as possible, efficiency in a no-compensation world demands that the government release tentative plans

113. Kaplow, supra note 37, at 541-42 n.90. Kaplow further claims the "general implausibility of this informational assumption," but cites only his own unpublished manuscript as documentation. Id.
114. Id. at 545 n.98.
115. Id. at 551 (citations omitted) (emphasis added).
and revisions that affect the probability that it will eventually condemn property.\textsuperscript{116}

Early release of information helps in two ways. First, it enables landowners to avoid wasteful development. In demonstrating that free takings insurance is, in effect, an externality that induces wasteful development, Kaplow directly implies that the government should release information because of the “desirability of exposing investors to the full costs and benefits of their decisions.”\textsuperscript{117}

Suppose there is a substantial chance that land will be taken and leveled for a highway. . . . Should [this event] occur, investments in improvements on the land . . . would be rendered worthless. Accordingly, ex post, it might well have been socially preferable for the landowner and the manufacturer not to have made the investments in the first place. The opposite preference would exist if the events were not to occur. As a result, it is just as socially desirable for the landowner . . . to take both possibilities into account ex ante. . . .\textsuperscript{118}

“To take both possibilities into account ex ante” means to estimate the probability that the government will take the property. Landowners can only accurately assess this probability with information about government plans.

A second way in which releasing information early helps landowners is that it naturally divides properties into risk categories. Private insurance on plots the government will almost certainly condemn would be prohibitively expensive, while premiums would be relatively inexpensive on land the government expresses absolutely no interest in using. This would, in turn, enable private citizens to allocate risks among themselves more efficiently. Speculators could provide a market for risk-averse owners to sell property the state is likely to condemn. In turn, the speculators could invest in property with only a small probability of being condemned. Just as information on the riskiness

\textsuperscript{116} “The issue of whether a specific change can be anticipated is a matter of degree . . . . Perceptive investors will typically act on probability estimates of possible changes . . . .” \textit{Id.} at 525-26.

\textsuperscript{117} \textit{Id.} at 529.

\textsuperscript{118} \textit{Id.} at 529 (citations omitted).
of other assets is essential for investors developing investment portfolios that match their personal risk/reward tradeoffs, information on the riskiness of land helps owners choose properties with which they are most comfortable.119

C. Problems with Releasing Information and Why Private Insurance Will Not Work

As case law shows, releasing information on the odds of potential takings creates a problem that is easy to overlook from the perch of high theory. The timing of information releases and their effect on compensation raise various problems. For example, knowledge that the government may condemn property will inhibit potential buyers from purchasing property and owners from developing property.120 The longer that land remains under a “cloud of condemnation,” the greater the monetary loss to the owner. In addition, releasing every gyration in government plans might increase volatility in land prices since prices generally reflect the government’s latest forecast of future condemnation possibilities. These costs may outweigh the benefits from the early release of information. Paradoxically, information on potential takings is not always a good thing. A Pigovian government always correctly weighs these factors by definition, but a negligent or corrupt government generally does not.

Private takings insurance would not alleviate any of these complications. For example, any attempt to insure against the cloud of condemnation, in addition to condemnation itself, faces grave definitional problems. For purposes of an insurance contract, one can foresee a number of lawsuits to determine whether a government announcement diminished the value of insured property, or whether other factors account for the price decline.

119. For a modern treatment of portfolio theory (the tradeoff between risk and return), see E.J. ELTON & M.J. GRUBER, MODERN PORTFOLIO THEORY AND INVESTMENT ANALYSIS (1964).
120. See infra part VI (exploring this and other problems in determining compensation when there is a significant gap between the time information about a possible taking becomes likely and the time the government formally begins condemnation proceedings).
Moreover, private insurance raises additional difficulties inapplicable to government compensation. First, if landowners pay annual premiums, they would be subject to rising and perhaps prohibitive insurance bills if a taking appeared imminent. In a worst-case example, the insurer might refuse to renew a policy the day before the government condemned the property.

Even assuming that private takings contracts permit landowners to get around this problem by locking in coverage for a long-term fixed premium, there is yet another problem. In a private insurance world, an increased likelihood of a taking makes the sale of property more difficult. New owners would face prohibitive premiums, if they can obtain insurance at all. This makes the cloud of condemnation worse than when the government pays just compensation because purchasers risk losing everything, not just further erosion in the market price of the property.

Private insurance could conceivably get around this problem by making policies “run with the land.” Private takings insurance, once purchased, would survive changes in ownership and protect subsequent buyers of the property. Combining this type of private insurance with a long-term, fixed premium, however, seems to remove most of the distinctions between private insurance and public just compensation. Under such a system of private insurance, premiums would bear no relation to the current chance of a taking. The value of this dated insurance policy would become capitalized into the price of properties, trivializing the role of the private market in most transactions.

Also, it seems likely that transaction costs would be much higher in a world of private takings insurance. Under present law, society does not incur any contracting costs under the Takings Clause. While in some cases there are significant costs in litigating the true measure of “just compensation,” there is no reason to believe that private insurers can avoid such suits. Homeowners will want to insure the market value of their homes, not the purchase price, and private insurers have all the same incentives as the government to contest the amount they pay out.

For these reasons, private takings insurance either fails when it is most needed or differs little from public compensation. The
nature of governmental releases of information makes it difficult to structure an insurance contract that would protect landowners.

Moreover, private insurance ignores a fundamental tension in takings policy. On the one hand, releasing information as soon as it becomes available minimizes wasteful development and helps categorize the risks in properties. This is the end of the story for the no-compensation theorists. On the other hand, this same information may cause needless variations in land prices and inhibit the liquidity of land by placing a cloud of condemnation over many properties that ultimately will not be condemned. The optimum amount of information to release in each case depends on the relative size of the benefits versus the cost in additional risk to landowners.

Private takings insurance removes any need for the government to consider these issues. The government has few concrete incentives to worry about either late or early release of information. It does not have to pay for development that turns out to have been wasteful, and it does not have to litigate issues surrounding the cloud of condemnation. With private insurance, the party with an overwhelming informational advantage has no incentive or legal requirements to weigh the costs and benefits of releasing information on possible takings. The next section explores legal doctrines that have aimed to structure proper incentives for government (and landowner) behavior.

VI. THE LEGAL RESPONSE TO TAKINGS ACCIDENTS

Extended delays between the first publicity about a possible taking and the final decision to condemn or not to condemn create two types of takings accidents. When the state proceeds with a taking and the landowner subsequently develops the property after the initial publicity, the courts must decide whether just compensation includes the value of the improvements. When the state abandons a project and declines to take land it previously expressed interest in, the courts must decide whether landowners can recover for lost income during the period of uncertainty.
In either case the no-compensation result dictates that landowners bear the cost; but we have shown that this ignores the need to provide the government with incentives to act efficiently. This section examines how courts and legislatures, sharing the Constitution’s skeptical view of government, have created incentives for the government, as well as landowners, to avoid these takings accidents. Just as in tort law, the courts have appealed to “reasonable” behavior by both parties across a wide range of takings accidents.

A. Right of Way Reservations

A number of state legislatures have enacted statutes purporting to give government officials wide power to reserve land for future condemnation. The point of these laws is to discourage development in places the government may need in the future. The key provision in these laws is the denial of compensation for any improvements made after the state files the proper papers to reserve a site.

These statutes simply create a no-compensation regime. For example, if the government applied these statutes to every plot of land in a state, it would effectively result in a no-compensation world. The courts, however, have objected to even limited use of these statutes. While usually not found facially unconstitutional, the statutes have been struck down as applied in most cases. “The few . . . that have been held not to constitute a taking (1) limit the duration of the reservation and (2) allow the owner an opportunity to develop the mapped lands by obtaining a variance.”

In distinguishing between acceptable and objectionable reservations, the courts have applied a reasonableness standard. “At

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122. 8A NICHOLS’ THE LAW OF EMINENT DOMAIN § 17.03[1][a] (J. Sackman rev. 3d ed. 1990) [hereinafter NICHOLS].
present, most of the courts which have confronted the issue have held that right-of-way reservations are an improper use of the police power if they do not allow the landowner a *reasonable* and economically viable use of his property after it is reserved. ¹²³ In other words, the courts will not permit the legislature to use reservations to make an end run around the Takings Clause. Such statutes cannot create a presumption that the landowner, as opposed to the government, acted unreasonably and caused a takings accident by developing property the government expresses some inchoate interest in acquiring. The value to society of at least some development may exceed the risk that an eventual taking will lay waste to the improvements.

B. *Cloud of Condemnation*

Reservations, along with a host of other forms of publicity, put the world on notice that the government may (sooner or later) condemn a piece of land. This practice places the property under a cloud of condemnation, discouraging development and inhibiting sales. ¹²⁴ Even if the government eventually pays fair market value for the plot, landowners often sue to recover income foregone during the period between the first hint of interest and the official date of condemnation. As discussed in the previous paragraph, to the extent that private losses exceed public gains, the courts should support recovery to deter the government from inefficiently clouding the use of property. The courts’ “reasonableness” standard aims to draw this line.

Early decisions cast the issue in terms of justice:

> It would be highly unjust to deprive an owner of the right to make the best use of his property except at his peril merely because it lies in the path of one of the many public improvements which are so often discussed and projected without being actually consummated for many years. ¹²⁵

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¹²³. *Id.* § 17.01 (citation omitted) (emphasis added).
¹²⁴. *See supra* note 118 and accompanying text.
More recent decisions, however, explicitly invoke reasonableness:

Property owners who are aware of proposed condemnations nevertheless may make reasonable improvements to their property and are entitled to the value of the improvements made with such knowledge before the taking. . . . On the other hand, the property owner is not entitled to the value of improvements made solely in bad faith for the purpose of enhancing an award. \(^{126}\)

The cases clearly indicate that courts scrutinize government behavior for gradations of fault and draw on concepts of tort law such as proximate cause:

We perceive in eminent domain cases—or "just compensation" cases—various degrees of culpability on the part of the public entity which entitle condemnees to an escalating amount of relief, depending upon the determination of that degree. Unusually oppressive conduct results in a determination of "de facto taking" while delay is answerable in proximately caused damages. What constitutes oppression, or direct and substantial impairment of property rights by the condemnor, is essentially a factual question, one determinable on a case-by-case basis. \(^{127}\)

As in tort law, establishing standards for reasonableness and proximate cause is not always easy. In *People v. Peninsula Enterprises*, \(^{128}\) for example, the court stated:

[A] property owner’s ability to collect damages . . . for unreasonable precondemnation delay depends upon whether the conduct of the public agency in question has evolved to the point where its announcements result in a special and direct interference with the owner’s property; the widespread impact resulting from mere general planning is non-compensable. \(^{129}\)

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129. Id. at 335.
The difference between (compensable) "special and direct interference" and "mere general planning" sounds like the fuzzy standards used to distinguish regulations from takings. The important point, however, is that the courts realize that takings law must provide incentives for the government to behave efficiently.

The seminal "cloud of condemnation" case for precondemnation delay damages is Klopping v. City of Whittier. In Klopping, the city dropped condemnation proceedings against land targeted for a parking lot in the face of a lawsuit, but officially declared its intention to proceed if and when it won the legal battle. After the lawsuit dragged on for two years, targeted property owners brought suit for inverse condemnation and for damages due to the extended failure to take after the city announced its plans.

Although the court rejected the inverse condemnation claim, it held that the government could be liable for precondemnation delay damages. It laid down a reasonableness standard for government behavior. "When the condemnor acts unreasonably in issuing precondemnation statements, either by excessively delaying eminent domain action or by other oppressive conduct, our constitutional concern over property rights requires that the owner be compensated." The court noted, however, that the benefits of early publicity must be weighed against its costs. "To allow recovery in every instance in which a public authority announces its intention to condemn some unspecified portion of a larger area in which an individual's land is located would be to severely hamper long-range planning by such authorities.

Courts in many other jurisdictions have followed Klopping's approach. Although the court in Littman v. Gimello refused to compensate a landowner because the state included his prop-

131. Id. at 1346.
132. Id. at 1348-49.
133. Id. at 1355.
134. Id. at 1350 n.1.
erty in a list of potential waste sites, it declared that “[s]everal factors must be considered and balanced in deciding whether a compensable-taking claim flowing from precondemnation activity has been established. First and foremost, extraordinary delay or other unreasonable conduct on the part of the condemning authority may give rise to a taking claim.”

VII. CONCLUSION

When risk-averse landowners adopt eminent domain as a way of spreading the costs and benefits of worthwhile public projects, the analogy of just compensation to takings insurance is intuitive and clear. The Constitution, replete with explicit and implicit appeals to risk aversion, strongly supports this construction of the Takings Clause. The no-compensation theory, however, has presented a skewed picture of takings insurance by adopting the Pigovian assumption and ignoring the incentives necessary to insure efficient behavior by government as well as landowners. Critics of the no-compensation result have focused too narrowly on majoritarian threats. General problems with controlling the People’s governing agents better explain the need for balanced compensation law that provides both the state and constituent landowners with incentives to avoid wasteful development. When such waste does occur, it is often the fault of one party or the other, and in many ways looks like accidents in tort law. The courts have realized the need to look at both sides of the takings equation to minimize takings accidents and have developed reasonableness standards much akin to the negligence standard of tort law.

136. Id. at 320-21; see also Standard Indus., Inc. v. Department of Transp., 454 N.W.2d 417 (Mich. App. 1990) (finding no unreasonable delay since unexpected end to federal funding caused cancellation of project); McGaffic v. Redevelopment Auth., 548 A.2d 653 (Pa. Commw. Ct. 1988) (arguing that 12 years between initial interest and withdrawal of proposal amounted to a de facto taking, but that 3 year delay might not); Roth v. State Highway Comm’n, 688 S.W.2d 775, 776 (Mo. App. 1984) (granting landowner new trial for “aggravated delay” because state refused to grant building permit for over 7 years, with one official telling landowner that “over my dead body will you get [a building permit] until you settle with the Highway Department.”).