AN ECONOMIC ANALYSIS OF

LEGAL TRANSITIONS

Louis Kaplow

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Program of Law and Economics
Harvard Law School
Cambridge, MA 02138

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Abstract

A wide range of issues -- including takings of property and the application of civil legislation, court decisions, and regulatory rulings to investments undertaken prior to such legal actions -- present similar questions that can usefully be analyzed together under the heading of legal transitions. The common element in all these instances is that government reform imposes gains and losses on those who, prior to the change in policy, have taken actions with long-term future consequences. Uncertainty in future government policy is ubiquitous and can have substantial consequences. Transition policy concerns whether, to what extent, and in what manner the impacts of policy change upon preexisting investments should be compensated or otherwise mitigated.

This paper takes an economic approach to legal transitions. It analyzes transitions in terms of the risk imposed by uncertainty concerning future policy and the incentive effects on investors resulting from different methods of making the transition to new legal regimes. The concern over risk favors mitigation while the need for incentives to encourage efficient behavior opposes it. The argument of the paper is that uncertainty concerning government action is in many respects like other sources of uncertainty, where the market is normally left to strike the appropriate balance between risk mitigation and incentives. As a result, market provision for uncertainty concerning government policy would seem to be preferable to any government transitional relief that seeks to provide additional mitigation. This implication is consistent with current practice in some areas, such as common law evolution, where losers from changes in the common law receive no compensation or other relief. But it is sharply inconsistent with practice in many other areas, such as the widespread provision for transitional relief in connection with tax reform, deregulation, and numerous other policy changes, and the requirement of compensation in the takings context.

This investigation is explicitly confined to an economic analysis that rests on particular assumptions and ignores unique institutional features of widely varying contexts. Further inquiry is therefore necessary to make the needed applications of the analysis and to determine the ultimate resolution of these issues. Some attention is given to the relationship between the economic aspects of the problem and institutional and fairness considerations that often are relevant in examining legal transitions. This paper does not assess the degree to which any transition policy is consistent with applicable legal doctrine or prevailing expectations of investors.

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INTRODUCTION

Most normative legal analysis is devoted to determining which procedures or policies society would most wish to prevail. It is often the case that the optimal solution differs from the regime currently in place, which raises the question of how the transition from the status quo to the more desirable system should be made. This article focuses on the choice among various transition policies.

Past analysis of transition issues has generally been confined to quite specific settings. For example, many commentators have considered whether and when retroactive legislation is permissible. Others have discussed whether court decisions should be applied retroactively. Still others have questioned whether Internal Revenue Service rulings should have retroactive application. One area receiving wide attention addresses when compensation

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1. Assistant Professor of Law, Harvard University; Research Fellow, National Bureau of Economic Research. Northwestern University, A.B., 1977; Harvard University, J.D., 1981; A.M., 1981. I grafefully acknowledge the helpful comments and assistance of Terry Fisher, Jody Forchheimer, and Frank Michelman, and of participants in faculty workshops at Harvard Law School and University of California Law Center.

should be required in the event of a taking or other government regulation that changes the use of property.

The unifying element in all these settings, and in many others that have rarely received attention, is that government action affects the value of investments undertaken prior to that action. For a simple example, consider a factory that emits radiation that is determined to harm the health of the community. The legislature might enact a statute making the operation of such factories illegal, including those built and operating prior to enactment. Alternatively, a common law court might extend the law of nuisance to cover the newly discovered problem. A third possibility would be that a regulatory agency with jurisdiction to protect the health of the population might rule that operation of such factories is impermissible; alternatively, it might impose a pollution tax that renders continued operation of the factory unprofitable. Finally, suppose that it is determined that all of the above courses of action are ultimately unenforceable because operation of such factories at night is hard to detect, leaving no alternative but to condemn the factory -- that is, to demolish the plant. From the point of view of both the factory owner and society as a whole, all these actions are virtually indistinguishable, assuming that each has its intended effect. Each policy represents an embodiment of the transition from a regime that permitted operation of the factory to one that does not; each costs the owner the value of the factory and benefits society by protecting health. Whether compensation, grandfathering of factories in operation before enactment, or some other mitigation of the effect of the reform on the factory owner is desirable would seem to depend little upon which of the four approaches the government selects.

The point of departure for this study is that all of these transition questions, and in fact many more that often remain unrecognized, have very much in common and thus can usefully be analyzed together. The central feature of each of the situations described is that, before the government action, there exists uncertainty concerning future government policy. To highlight this characterization of the problem, consider the contrasting case in which it was known before the factory had been built that at a specified future date the government would in some way prohibit the factory's continued operation. This scenario is little different from the ubiquitous case in which it is known in advance that certain activity is already prohibited. Both of the latter situations have in common that there is no uncertainty, that the rules that will govern behavior are known in advance. The apparent need for transitional relief arises only when government action changes the rules upon which prior commitments have been made -- i.e., when, at the time investments were made, the future course of government action could not be predicted with certainty. Uncertaininy concerning future government policy is therefore the central feature of the transition question.

There are some additional benefits of recognizing the similarity among transition contexts that have traditionally been assumed to present different questions. First, one may take advantage of the various insights that have been developed in specific contexts but have not yet been applied more widely. Second, recognizing the strong similarities among these different contexts directly motivates further inquiry since virtually identical issues are often approached and resolved quite differently in different settings.

Although this article hopes to unify investigation of these common questions, it does not claim that traditional demarcations are totally unfounded. It is not possible to examine fully all possible grounds for differentiation, although some of the more important issues will be discussed briefly. Rather, despite such differences, many of the arguments thought central to discourse in each of these areas are either the same or at least rest upon quite similar premises.

Moreover, even at the general level, this study does not attempt to be comprehensive. First, the analysis offered here is strictly normative; it makes no attempt to address directly questions of political feasibility or to explain current transition policies. Second, no attempt is made to include institutional considerations in the normative framework or to reconcile any approach with prevailing legal doctrine. Third, the argument is limited almost exclusively to economic aspects of the problem. There will be some discussion of the relationship between the argument developed here and other concerns, but this will not be the primary focus and I explicitly disclaim any suggestion that the analysis of these issues is more than suggestive of some directions for further study.

This investigation is organized as follows. Part I sketchs the broad domain over which transition issues arise and defines the effects that will be analyzed. Part II analyzes the economic aspects of transitions, which are the central concern of this article. The approach adopted here parallels the standard economic treatment of market uncertainty. Transition issues are seen to present a question concerning government uncertainty, as previously described in brief, which in turn raises much the same problem as more conventional instances of market uncertainty -- e.g., uncertainty concerning the success of a new product or the actions of competitors. As an initial hypothesis, government transition issues warrant the same solution as market transitions: no government transitional relief.

I begin this analysis by briefly examining familiar arguments for government transitional relief which rest on appeals to reliance interests and to the lack of expectation of legal change. This discussion demonstrates the limitations of both appeals and how consideration of these traditional approaches inevitably leads to the question of how the effects of uncertainty concerning future government policy should be borne. This article focuses on two key economic elements of this uncertainty. First, the ex post distributional impacts of change -- i.e., the bearing of gains and losses due to government reform -- are analyzed as presenting an issue of risk in the conventional economic sense. Thus, the question of mitigating transitional losses can be understood as related to risk-spreading considerations already familiar in the economic analysis of law. Second, investors' incentives will be affected by the nature of transitional relief that is anticipated. The analysis thus considers which transition policies optimize the trade-off between risk spreading and incentive maintenance.

The conclusions of Part II are subject to a number of possible qualifications and objections based upon institutional and fairness considerations, the more prominent of which are presented and examined briefly in Part III. Although some of the argument presented there casts doubt on the frequently expressed views that such considerations justify transitional relief, the purpose of the discussion is largely to motivate further analysis rather than to offer an ultimate resolution. In fact, since a significant portion of past argument in favor of transitional relief has been grounded, at least implicitly, in economic arguments demonstrated in Part II to cut in the opposite direction, one message of this investigation is that future attempts -- if they are to be successful -- will probably have to focus on precisely the sorts of institutional and fairness concerns discussed in Part III.

Part IV returns to the economic framework to discuss in more depth its concrete implications in particular contexts. Similarities and differences among various transition strategies -- ranging from compensation and grandfathering to phase-ins and delayed implementation -- are analyzed; factors commonly thought to influence the desirability of providing transitional relief are considered; and specific instances where transition policy has been discussed are examined. These applications highlight the broad applicability of the economic approach developed in Part II and suggest where some exceptions to the general approach might be warranted.

While this investigation attempts no definitive resolution of transition issues, the arguments presented have many important ramifications. First, the bulk of prior analysis of these issues, which implicitly relies on the assumptions used here, is shown to be without foundation. Second, the economic effects and their implications are directly relevant to any comprehensive analysis of transition issues, and in some instances will no doubt prove decisive. Third, the economic approach greatly clarifies the transition problem and the relationship among its many dimensions, which should facilitate more extensive examination along other fronts.

I. TRANSITION ISSUES THAT ARISE IN THE LAW

A. Ubiquity of Transition Concerns

Conventional analysis of retroactivity conceives of the issue as arising in narrow, exceptional circumstances. For example, Munzer has offered the definition that "[a] law is retroactive if it alters the legal status of acts that were performed before it came into existence."[2] Thus, retroactivity, in the conventional sense, concerns only whether a statute may have an effective date that precedes enactment or a court decision may be applied to acts that occurred before its announcement.

This narrow construction ignores the fact that a vast portion of all statutes and court decisions -- even assuming they are nominally prospective -- alter the value of prior actions for the simple reason that the results of a prior action in the future will often depend upon what rules are then in

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2. Munzer, Retroactive Law, 6 J. Leg. Stud. 373, 373 (1977); see Hochman, The Supreme Court and the Constitutionality of Retroactive Legislation, 73 Harv. L. Rev. 692, 692 (1960). In his other article on the subject, however, Munzer does suggest the similarity between the broader set of retroactive effects and his narrower definition of retroactivity. See Munzer, A Theory of Retroactive Legislation, 61 Tex. L. Rev. 425, 426 (1982). Some of the past analyses taking this narrow view (usually implicitly, in that the broader range of circumstances outlined here is not noted) include Berger, A Policy Analysis of the Taking Problem, 49 N.Y.U. L. Rev. 165 (1974); Greenblatt, Judicial Limitations on Retroactive Civil Legislation, 51 Nw. U.L. Rev. 540 (1956); New York State Bar Association, Retroactivity of Tax Legislation, 29 Tax Law. 21 (1975); Novick & Petersberger, Retroactivity in Federal Taxation: Part I, 37 Taxes 407 (1959).

force. The argument was first developed in the tax context[3] by Graetz who illustrated this phenomenon with the example of the repeal of the tax exemption for interest on municipal bonds. Consider the example of a 30 year municipal bond. Five years into the life of the bond, Congress repeals the tax exemption. A prospective repeal would cost the bondholder the value of the tax exemption for the remaining 25 years, which would probably constitute a significant portion of the bond's value. If instead Congress chose a nominally retroactive effective date, applying the repeal to the previous tax year as well, the loss to the bondholder would be the value of the exemption

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3. The problem has been noted in passing in the retroactivity context by Slawson:

> A more basic fallacy in the argument, however, is its implicit assertion that method-retroactive laws are more likely than others to defeat expectations. This assertion seems to rest, in turn, on the assumption that an act, once done, achieves its legal results instantaneously and full-blown. In fact, this is rarely the case, especially in property and contract transactions. A purchaser of property obtains a cluster of legal relations which project indefinitely into the future. A party to a contract does likewise. And all kinds of less formal relationships are entered, modified, or terminated with a view of both the present and future legal consequences of such action. To pick out just one example, the purchaser of real estate makes certain assumptions about the level of property taxes, the treatment of capital gains under the federal income tax laws, the continued maintenance of police and fire protection in his vicinity, the likelihood of urban renewal or similar eminent-domain proceedings on or about his property, the judicial implications of the mutual duties of landlord and tenant at common law and of the clauses in his lease which seek to modify these duties, and so on, virtually _ad infinitum_.

Slawson, _Constitutional and Legislative Considerations in Retroactive Lawmaking_, 48 Cal. L. Rev. 216, 219 (1960) (footnote omitted); _see also_ Hochman, _supra_ note 2, at 693. In fact, partial recognition dates at least to Justice Story. _See_ Smead, _The Rule Against Retroactive Legislation: A Basic Principle of Jurisprudence_, 20 Minn. L. Rev. 775, 782 (1936). But none of those cited have suggested the radical difference in perspective thus entailed.

for 26 years rather than 25. It is difficult to argue that such a modest difference amounts to an important difference in kind rather than a simple difference in degree.[4]

The scope of the issue is even more extensive than suggested in the bond example, as can be seen by exploring the structure of the argument in more detail. The issue generally arises with any investment -- that is, any action that has long-lasting effects where the value will depend upon circumstances in the future. This concept of investment includes not merely instances of binding contractual obligations that extend into the future -- of which there are many -- but also all investments in physical capital -- ranging from factories to the housing supply -- investments in financial assets, and investments on one's own training. In fact, all activity other than the subset of immediate consumption that has no future effects is included.[5] In each of these instances, the value of the investment activity will depend upon the situation that prevails in the future. A significant aspect of that situation will be the government rules then in force. Therefore, investment decisions must be based -- at least implicitly -- on

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4. See Graetz, Legal Transitions: The Case of Retroactivity in Income Tax Revision, 126 U. Pa. L. Rev. 47, 57-58 (1977). Much of this article reappears in essentially the same form in Graetz, Effective Dates for Tax Legislation -- Retroactivity and Transition Rules, 30 Nat. Tax J. 237 (1977), and as ABA Section of Taxation, Special Committee on Simplification, Evaluation of the Proposed Model Comprehensive Income Tax, 32 Tax Law. 563, 676-86 (1978) (Part XII on Transitional Problems); separate citation to these other versions is omitted.

5. Even some consumption decisions, particularly of durable goods, are similarly affected.

some assumptions concerning what those rules will be.[6] To the extent future government action departs from these expectations, the returns on one's investments will be affected.

Almost any change in legal rules will affect the value of firms, assets, or other commitments that are directly targeted, as well as many others -- such as those competing with the targeted actions. For example, land that is useful for production will become more or less valuable when there are shifts in the demand for what is produced, in the supply or demand for inputs, in the costs of finance, in other costs of expansion or contraction, in the security of the investment, or in the external costs that most be borne. Changes in all sorts of government activity can generate such affects. Some well-known illustrations of such changes include the imposition of rate regulation, deregulation,[7] zoning changes, product bans, tariff and tax changes, changes in patent protection, control of overfishing, redirection of research and development priorities, new government construction (e.g., a park or a dump), changes in the quantity or direction of government services (e.g., police protection, postal service), changes in monetary and fiscal policy, modifications of bankruptcy or corporate law, evolution of the common law, revamping of legal procedures, and changes in the emphasis of government

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6. Many such decisions are not commonly thought of in these terms, even though the argument is still applicable. For example, expending time and resources to learn a skill assumes that one will be permitted to enter the occupation or perform the work for which one has been trained.

7. See generally Quinn & Trebilcock, Compensation, Transition Costs, and Regulatory Change, 32 U. Tor. L.J. 117 (1982).

expenditure (e.g., between the defense and social services sectors).[8]

Moreover, it is not merely reforms themselves that trigger changes in value. Any significant change in even the likelihood of a given reform would change values as well.[9] For example, failure to enact an expected change would have effects similar to the repeal of an already enacted reform.[10] In addition, clarifications of the law -- a common result of court or regulatory agency decisionmaking[11] -- would make an uncertain situation more certain

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8. See, e.g., Samuels, Commentary: An Economic Perspective on the Compensation Problem, 21 **Wayne L. Rev.** 113, 116 (1974) (noting many of these examples, and others); see also id. at 115 (education and training policies); id. at 122-23 (all definitions and changes in legal rights). Sax notes that changes in the common law that have significant economic impacts are frequent, although it is well accepted that no right to compensation exists in such instances. See Sax, Takings and the Police Power, 74 **Yale L.J.** 36, 51 (1964).

9. See, e.g., Blume & Rubinfeld, Compensation for Takings: An Economic Analysis, 72 **Calif. L. Rev.** 569, 587 (1984) (in regulatory takings context). If it is expected that the reform would be accompanied by full compensation, values would not fluctuate with changes in the prospect for such reform.

10. For example, in the case of direct overflight, airport noise is commonly called a taking of an easement because airports are government operations. But one could look to private airfields, or to cases in which the airplane itself is privately owned instead. Then landowners would have to rely upon common law remedies rather than inverse condemnation suits. A courts failure to hold the private party liable and require payment of damages (contrary to predictions of the most knowledgeable lawyers and commentators) would have the same effects as the taking in the original case. And it is also interesting to note that few (if any) would argue that this common law determination was unconstitutional because the government did not compensate.

11. I **B. Bittker, Federal Taxation of Income, Estates and Gifts** 3-28 (1984) ("expectations can be upset by judicial decisions and administrative rulings as well as by legislative action"). Slawson argues that "[j]udicial rule-making [unlike legislation] is the product of reasoning from generally accepted premises, not fiat, and therefore its course may be predicted with some confidence at the time when action must be taken in reliance on legal effects." Slawson, supra note 3, at 245. A major distinction, however, seems difficult to maintain. Court decisions invalidating tax laws and the legislative veto, developing antitrust policy and the product liability laws, and many others suggest that courts are often involved in major changes as

one way or the other, which will affect values.[12]

The simple conclusion is that changes in government policy -- or more generally in the prospects of particular reforms being enacted -- will effect the value of actions taken prior to the change. Many of the concerns raised in examining issues of retroactivity relate to all such effects, suggesting that the issue is far broader than is generally believed. One puzzle this raises is the inconsistency between the belief that retroactivity -- as traditionally construed -- is generally undesirable[13] whereas many of the

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well. Also, it is not clear which institution is more predictable. Frequently, the prospects for legislative action build slowly, as it gradually becomes clear which way a majority is leaning, while sometimes the opposite is the case with the courts. And even if courts are usually more predictable, it cannot be denied that substantial uncertainty often exists before decisions are made, which is sufficient to raise the issues addressed here.

12. For example, even if it is thought highly likely that a court or agency will rule in a given manner (e.g., the probability is 80%), <u>and</u> the ultimate ruling is in the predicted direction, there is still a significant change from the investors point of view, because a 20% difference in the likelihood of one regime rather than another can readily have a substantial effect on the net profitability of an investment. Of course, if the result is in the other direction, the effect would be that much greater.

13. "Retrospective laws are, indeed, generally unjust; and, as has been forcibly said, neither accord with sound legislation nor with the fundamental principles of the social compact." **J. Story, Constitution** Sec. 1398 (5th ed., 1891); <u>see, e.g.</u>, Greenblatt, <u>supra</u> note 2, at 540; Smead, <u>supra</u> note 3 (history from Greeks through <u>Lochner</u> era); Note, <u>Setting Effective Dates for Tax Legislation: A Rule of Prospectivity</u>, 84 **Harv. L. Rev.** 436, 437-38 (1970).

The traditional hostility to retroactive effects is hardly as uniform over different time periods and in different contexts as is often imagined. One notable example concerns takings. At the state level -- where most of the relevant activity occurred -- there did not exist a strong requirement of just compensation in many jurisdictions at the turn of the nineteenth century. <u>See</u> **M. Horwitz, The Transformation of Americal Law, 1780-1860**, at 63-66 (1977). In addition, even after the requirements became stronger, various additional limitations arose during the nineteenth century, <u>see, e.g.</u>, <u>id</u>. at 70-85, and it is well known that many limits exist to this day.

broader retroactive effects just described -- although far more pervasive -- are typically deemed sufficiently benign to be given little weight.

B. Constitutional Protections of Private Property

Some transition issues have often received attention in the constitutional setting. This Section notes the most prominent instances. The problems in this context, as well as much of courts' analysis of the issues raised, parallel those outlined in Section A and addressed throughout the remainder of this article, although none of the discussion will consider constitutional doctrine per se.

Takings of property offer one of the clearest instances of the expanded conception of retroactive effects just described. A taking does not alter the legal status of any prior acts, but, in the extreme case, it erases all remaining value from a prior investment. Much of the dispute over what constitutes a taking represents an attempt to limit the constitutional requirement of just compensation to a small subset of diminutions in value that can result from government action. In the context of analyzing one of the more commonly attempted distinctions -- that between regulation and takings -- some commentators have noted the connection between these issues and the issue of retroactive legislation.[14]

Another constitutional context is suggested by Graetz's comment that one could "treat the recipient of a tax benefit as if he had entered into a

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14. See Michelman, Property, Utility, and Fairness: Comments on the Ethical Foundations of "Just Compensation" Law, 80 Harv. L. Rev. 1165, 1172 (1967); Munzer, supra note 2, at 472, 479-80.

contract with the government."[15] Although he never makes the connection, this analogy suggests some relationship between the Contract Clause and transition issues.[16] Application of the Contract Clause to government contracts could be seen more generally as relating to any government provision of benefits upon which there had been any reliance, whereas application to contracts between private parties could be analogized to a wide range of government regulations that govern the interaction of private actors. Unlike the takings clause, which requires just compensation, the Contract Clause can be seen as forbidding reform altogether -- the comparison being similar to the distinction between property and liability rules for enforcement of entitlements.[17] Of course, the Contract Clause has never been interpreted to encompass such a wide range of actions, but the point remains that many of the questions raised are similar.

Application of the Due Process and Equal Protection Clauses[18] to

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15. Graetz, supra note 4, at 74; see Graetz, The 1982 Minimum Tax Amendments as a First Step in the Transition to a "Flat-Rate" Tax, 56 **S. Cal. L. Rev.** 527, 538 (1983).

16. The Contract Clause is not applicable to the federal government, see Pension Benefit Guaranty Corp. v. R.A. Gray & Co., 104 S. Ct. 2709, 2719 n.9 (1984), nor are similar restrictions incorporated into the Due Process Clause of the Fifth Amendment, see id. TAN 9; United States Trust Co. v. New Jersey, 431 U.S. 1, 17 n.13 (1977).

17. See, e.g., Calabresi & Melamed, Property Rules, Liability Rules, and Inalienability: One View of the Cathedral, 85 **Harv. L. Rev.** 1089 (1972).

18. One early case equated the equal protection requirement on states with the takings clause of the Fifth Amendment. See Reagan v. Farmers' Loan & Trust Co., 154 U.S. 362, 399 (1894) ("The equal protection of the laws, which by the Fourteenth Amendment no state may deny to the individual, forbids legislation, in whatever form it may be enacted, by which the property of one individual is, without compensation, wrested from him for the benefit of another, or of the public.").

economic regulation offers one final constitutional context, although the minimum scrutiny required in such cases suggests that little more is currently intended than limitation of some of the most arbitrary (i.e., random) government actions, a topic to be pursued briefly in subsection III-A-2. For instance, no federal income tax provision has ever been struck down under the Due Process Clause of the Fifth Amendment, which encompasses this equal protection requirement,[19] and retroactivity has been held permissible in other contexts as well.[20]

This article does not attempt to offer a constitutional analysis of these or any other related issues. Instead, it examines the common economic issues

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19. See B. Bittker, supra note 11, at 1-32. Leading cases upholding retroactive tax legislation include Stockdale v. Atlantic Ins. Co., 87 U.S. (20 Wall.) 323 (1873); Brushaber v. Union Pac. R.R., 240 U.S. 1 (1916); Welch v. Henry, 305 U.S. 134 (1938). Some estate and gift tax cases have held to the contrary, although their continuing vitality is subject to some doubt. See Novick & Petersberger, supra note 2, at 425-32.

20. See Pension Benefit Guaranty Corp. v. R.A. Gray & Co., 104 S. Ct. 2709, 2718 (1984) ("Provided that the retroactive application of a statute is supported by a legitimate legislative purpose furthered by rational means, judgments about the wisdom of such legislation remain within the exclusive province of the legislative and executive branches."); Usery v. Turner Elkhorn Mining Co., 428 U.S. 1, 16 (1976) ("But our cases are clear that legislation readjusting rights and burdens is not unlawful solely because it upsets otherwise settled expectations. This is true even though the effect of the legislation is to impose a new duty or liability based on past acts." (citations omitted)).

Turner Elkhorn offers an interesting illustration of the similarities among contexts presenting transition issues. That case upheld the imposition of a tax on existing mining companies to compensate past workers who had been injured as a result of working in the mines. Since the tax was to fund compensation for past workers, it was retroactive in the broad sense used in Section A. If the same sort of result had been achieved through evolution of the common law to find liability, there would not even have been a constitutional question in the minds of most. (Interestingly, the Court explicitly disclaimed the deterrence theory as a ground for retroactive imposition of liability, see 428 U.S. at 17-18, which is contrary to the argument to be presented in Part II.)

raised in all of these contexts, regardless of their status in constitutional doctrine. Although no attempt will be made to offer a comprehensive and ultimate resolution of the controversies in this field, there is little doubt about the significance of the economic aspects of the problem either in their own right or as they relate to other arguments frequently advanced.

C. Windfalls Versus Intended Redistribution

One important distinction that should be emphasized from the outset concerns the difference between intended redistribution on the one hand and the imposition of gains and losses as an incidental, and sometimes unavoidable, side-effect of government action on the other.[21] For example, the taking of one's home in order that the land may be used for an important public project typically does not reflect a desire to expropriate the wealth of a handful of individuals who by chance purchased their homes in particular locations. Compensation for such a taking is thought to promote the equitable distribution of burdens throughout a community by avoiding distributional effects. By contrast, changes in rules of taxation are typically intended to alter the income remaining at the disposal of affected taxpayers. Compensation for taxation would nullify the tax itself, and along with it any prospect for raising revenue or implementating any distributional policy.[22]

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21. This characterization is not fully accurate since Part II will argue that these "accidental side effects" are typically a desirable accompaniment of change. The point here is that neither redistribution not revenue raising per se are the objectives of the resulting distributional pattern.

22. See, e.g., Graetz, supra note 4, at 71, 82. Other examples are offered by Samuels, supra note 8, at 117 (public utility regulation, intended expropriation, absorption of the Law Merchant by the common law, and some

To the extent some reforms have incidental distributional effects, one still might consider why redistribution necessary to rectify the situation should not be performed through the general tax system rather than by directly tailored compensatory policy.[23] The most generally applicable reason is that the side-effects of any given government action are often sporadic relative to the overall income distribution -- i.e., losers may be in widely differing income classes, or concentrated among only a portion of those in an income class. No general adjustment of the income tax would offset these losses. Instead, adjustment would have to be targeted at specific losers, which is tantamount to direct compensation.[24]

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additional common law changes).

23. For example, Graetz, supra note 4, at 83, discusses effects on vertical equity, where it would seem particularly appropriate to consider this option.

24. There also may be political or other institutional reasons, such as buying off the interest groups likely to be adversely affected by the change, that explain why various adjustments would be made part of the reform program itself. See infra subsection III-B-3.

II. ECONOMIC ANALYSIS OF TRANSITIONS

This Part presents an economic analysis of transition policy. Section A briefly considers the shortcomings of analysis grounded in appeals to reliance interests or references to actors' expectations concerning legal change -- which encompass the more common rhetoric in which discussions of transition policy and retroactivity are conducted. A more careful analysis of the transition question reveals issues of risk and incentives that typically receive indirect, unsystematic, and superficial attention.

The next two Sections contain the core of the economic analysis of these issues. Section B examines the abilities and limitations of the market to maintain incentives while spreading the risk of government uncertainty. Section C argues that, in general, the factors that limit the market's potential impede government solutions to at least as great an extent. The methodology employed emphasizes the similarity between risks deriving from uncertainty in future government policy and similar risks to private actors arising from other, more frequently discussed sources. The prevailing assumption in our society that market solutions for allocating risk are preferable to government planning are shown to apply equally to the transition context, which suggests that compensation or other direct government action to mitigate risk in this context is similarly undesirable.[25] Section D emphasizes how virtually all arguments offered both here and elsewhere concerning transitional losses are equally applicable to windfall gains resulting from government reforms.

A number of important simplifying assumptions will be used in this Part. First, the discussion assesses the desirability of varions transition policies under the assumption that the transition policy to be employed in a given context is well-known in advance and will be followed consistently in the future. A contrary approach of announcing one policy and frequently using another would be difficult to maintain in the long run and would raise fairness and institutional objections. Second, the discussion assumes that the reforms themselves are desirable at the time they are made. A strongly contrary assumption would immediately suggest the desirability of transition policies that inhibited the reform to the greatest extent possible; such possibilities are in large part better considered in assessing specific policies rather than in determining how to best implement a policy once it has been chosen.[26] Third, I assume that there are no market imperfections other than those specifically noted.

These assumptions have their difficulties, but are necessary to make substantial progress in analyzing transition problems. Each assumption will

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25. In light of the analysis in Section I-A, which demonstrated the close connection between general transition questions and the traditional concept of retroactivity, the argument offered here against the desirability of transitional relief casts into question part of the basis for the long-held hostility toward retroactivity. Some of the hostility no doubt relates to some of the issues discussed in Part III.

26. A significant related assumption, implied by the stronger assumption stated in text, is that the policy decisions themselves are not affected by transition policy.

be examined in more depth later in the article.[27] It should also be noted that most previous discussion of transition issues implicitly rests on the same assumptions.[28] Finally, to further simplify the presentation, much of the analysis in this Part will focus upon arguments for and against complete, direct compensation of those adversely affected by government transitions; Section IV-A will extend the argument to other mitigation mechanisms.

A. Traditional Arguments Concerning Transitional Relief

1. Reliance on Preexisting Law

One of the most commonly noted arguments against permitting transitional losses to be borne by private actors is that they have justly relied on preexisting law in making investments and other decisions having lasting effects.[29] Among legal theorists, however, it is well established that such arguments are circular because they assume that it is reasonable to expect

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27. See infra subsections III-A-3 & IV-B-3 (consistency of transition policy); Section III-A (desirability of reform itself); subsections IV-B-1-d & e (additional imperfections).

28. The most significant exception is that some commentators -- particularly in the takings context -- have relaxed the second assumption for part of their analysis. See infra Section III-A.

29. See, e.g., Graetz, supra note 4, at 49, 53, 73 (noting the prevalence of the argument); McIntyre, Transition Rules: Learning to Live with Tax Reform, Tax Notes 7, 8-9 (August 30, 1976) (same); Slawson, supra note 3, at 225 (same); Hochman, supra note 2, at 727 (most common factor in retroactivity cases); New York State Bar, supra note 2, at 22 (taking the reliance position); Novick & Petersberger, Retroactivity in Federal Taxation: Part II, 37 Taxes 499, 499-504 (1959) (same); Note, supra note 13, at 439, 441 (same).

that laws will never change whereas in fact it is widely known that laws change quite frequently, and in ways that often can be readily anticipated.[30] In the area of tax reform, for example, where reliance arguments are often made, noone expects current tax rates or tax treatment of various transactions to continue indefinitely.[31] A similar point is that one could simply assume (or the government could decree) that all legal rules are subject to change, in which case there could never be a a contrary claim of entitlement based upon positive law.[32]

Another set of difficulties with the reliance position is that it typically ignores the myriad ways in which one can suffer losses absent takings or direct regulation. For example, private actors often lose just as much from government inaction,[33] from government action directed toward

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30. See, e.g., Munzer, supra note 2, at 430; Samuels, supra note 8, at 118-19, 124, 133 (offering legal realist argument concerning preexisting rights and rights to compensation).

31. See, e.g., Graetz, Implementing a Progressive Consumption Tax, 92 Harv. L. Rev. 1575, 1650-51 (1979); Graetz, supra note 4, at 75 & n.80.

32. See, e.g., L. Tribe, American Constitutional Law 465 (1978) (takings context). Cf. Graetz, supra note 15, at 538 (quoting Home Building & Loan Ass'n v. Blaisdell, 290 U.S. 398 (1934)). This option has been assumed permissible from the beginning in the contract clause context. See Dartmouth College v. Woodward, 17 U.S. (4 Wheat.) 518, 692 (1819) (Story, J., concurring).

The very existence of common law courts and a legislative process could be seen as statements of this position. As a result, the question is an unavoidably normative one concerning what sort of compensation or other deference to pre-reform commitments is in order. Equivalently, the question can be understood as determining what sort of "commitments" should be made in the first instance.

33. See, e.g., Blume & Rubinfeld, supra note 9, at 610 n.116 (example of expected zoning changes that do not ultimately occur).

other activities,[34] from government resolution of conflicting uses,[35] or more generally from all sorts of market changes beyond one's control, in which cases it is generally assumed that there is no entitlement to compensation.[36]

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34. See, e.g., Graetz, supra note 31, at 1652 (example of decreasing tax on a competitive product).

35.

> We can talk about a landowner having a property interest in "full enjoyment" of his land, but in reality many of the potential uses (full enjoyment) of one tract are incompatible with full enjoyment of the adjacent tract. It is more accurate to describe property as the value which each owner has left after the inconsistencies between the two competing owners have been resolved. And, of course, even then the situation is not static, because new conflicts are always arising as a result of a change in the neighborhood's character, or in technology, or in public values. These changes will revise once again the permitted and permissible uses which we call property. Property is thus the result of the process of competition.
>
> Once reoriented to this more fluid concept of property as economic value defined by a process of competition, the question of when to compensate a diminution in the value of property resulting from government activity becomes a much less difficult one to formulate. The question now is: to what kind of competition ought existing values be exposed; and, from what kind of competition ought existing values be protected.

Sax, supra note 8, at 61 (footnote omitted). The argument in subsection II-C-2 is essentially that if one believes sufficiently in the market to reject general protections from competition in that arena, the natural conclusion in terms of government activity is that no protection should be extended here either.

36. Of course, if one could overcome problems with the state action distinction, see generally L. Tribe, supra note 32, at 1147-74; Kennedy & Michelman, Are Property and Contract Efficient?, 8 Hofstra L. Rev. 711 (1980), this latter example can readily be distinguished because the losses result from private rather than government action. Such a distinction is insufficient, however, because it begs the question of why government compensatory efforts would be thought undesirable in one context and necessary in another. This government/private comparison is pursued at length in Sections B and C.

Moreover, even if actors rationally expect that there will be no legal change of a given type, there is still the question of what they are entitled to expect.[37] For example, consider a product or activity previously assumed to be safe -- an assumption rationally based on existing evidence, but by no means indicating a certainty that it might not prove dangerous in the future. It is then discovered that the product results in the illness or deaths of thousands of people. In such circumstances, it is generally believed[38] that a prohibition combined with a refusal to pay full preexisting market value to those whose investments are rendered less valuable is just for precisely the reason that there does not exist a legitimate expectation of continuing to profit from such activity.

The logic of this illustration applies to any change in preexisting law. The issue that varies from case to case concerns the legitimacy of expectation of future profit.[39] But the legitimacy question is normative,

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37. See, e.g., L. Tribe, supra note 32, at 469 (discussing this difference in the context of interpretations of the Contracts Clause); Greenblatt, supra note 2, at 553 (no strong interest in reliance on continuing imperfection in enforcement); Munzer, supra note 2, at 432-33 (retroactivity context); Sax, Takings, Private Property and Property Rights, 81 Yale L.J. 149, 180 n.64 (1971).

38. For example, there is little support to compensate the makers of asbestos, DES, and the like for profits that might have been obtained if production had continued. To the contrary, it is commonly thought appropriate that such firms pay damages for their past actions as well, even if the probability of harm at the time of production was not thought to be high.

39. This simple argument is hardly new, see, e.g., Sax, supra note 8, at 48-50 (criticizing noxious use distinction in takings context), but the position to which it responds continues to confuse the analysis of many of these questions. See, e.g., Epstein, Taxation, Regulation, and Confiscation, 20 Osgoode Hall L.J. 433, 436 (1982) (seeing "no principled way that the exception, so useful in nuisance control matters, can account for ... major forms of social regulation").

and requires an analysis of when compensation or other protection is desirable. Direct invocations of a "reliance interest" beg this question.

2. Expectations of Legal Change

Although the reliance argument favoring protection of investment interests is circular, it is insufficient to rely on the counter-argument that legal change should always be expected, thus eliminating any argument in favor of compensation. At the broadest level, it simply does not follow from the *fact* that legal change might be expected that it is normatively inappropriate to compensate in any circumstances.

The argument that legal change is to be expected is also highly misleading at the level of fact because the recognition that the legal system is dynamic does not directly translate into clairvoyance concerning the precise changes that will occur. For example, Bittker has noted the commonly advanced "theory that midyear statutory changes [in the tax laws] are so common that taxpayers cannot reasonably expect the status quo to continue and should therefore take the likelihood of change into account when entering into business transactions."[40] Of course, even in years of major tax reform, it is typically the case that the bulk of existing tax provisions remain unchanged, and although some particular changes can readily be anticipated, others cannot. Simply put, the issue of whether a *specific* change can be

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40. B. Bittker, *supra* note 11, at 1-30; *see* Quinn & Trebilcock, *supra* note 7, at 157.

anticipated is a matter of degree, and the all-or-nothing approach of deeming particular expectations of change rational or irrational simply confuses the issue.[41] Perceptive investors will typically act on probability estimates of various changes in the legal regime, just as they will take into account the probabilities of relevant events concerning acts by private parties -- such as anticipated future demand and behavior of competitors -- and acts of nature -- such as weather patterns and the ultimate feasibility of untested inventions. In addition, as any of these probabilities change, so will the

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41. Many discussions of expectations often implicitly take an all-or-nothing approach. See, e.g., Berger, supra note 2, at 174, 196, 210; Michelman, supra note 14, at 1241-42, 1244; Quinn & Trebilcock, supra note 7, at 121. Of course, the reliance position discussed in subsection II-A-1 is far more simplistic in that it implicitly assumed that the probability of any change is zero. In a related context, Ackerman takes what amounts to an all-or-nothing approach to the question of notice of governmental change, deeming it unfair if "antithetic to the premises upon which the economy was operating at the time of purchase." Ackerman, Regulating Slum Housing Markets On Behalf of the Poor: Of Housing Codes, Housing Subsidies and Income Redistribution Policy, 80 Yale L.J. 1093, 1161-65 (1971) (emphasis omitted). See also subsection IV-B-2-b (notice of change).

Munzer, although recognizing that "predictions involve probabilistic judgments, [deems] an expectation rational if the probability assigned to the predicted event corresponds suitably to the actual likelihood that it will occur." Munzer, supra note 2, at 430. Yet his analysis seems to require a determination of what probability levels are sufficient to eliminate the justification for protection and there is no apparent source for such a conclusion, nor is it clear why he believes that the probability level has anything to do with the desirability of protection. He also suggests that rationality may be a function of the ability of actors to anticipate subsequent actions, see id. at 431, without explaining how any expectation of no change could ever be rational in light of actual change. In other words, if ex ante expectations are to be judged by ex post actions, it is hard to understand how his analysis leaves a significant role for rationally unanticipated change. For example, in his analysis of United States Trust Co. v. New Jersey, 431 U.S. 1 (1977), he seems to argue that hindsight reveals that the probability of change was nonminiscule, so the contrary expectation was not rational, see Munzer, supra, at 457-58, which seems additionally unfair since he does not apply the same hindsight to the government's reasonable expectations, see id. at 459.

market values of various assets, as described in Part I.[42]

It will prove important for much of the analysis to follow that expectations are a matter of degree. Many of the relevant considerations arise precisely because there exists uncertainty. For example, if compensation was not required for takings, one would expect purchasers of land to have paid less[43] to reflect the probability that the land will be taken.[44] On the other hand, one would hardly expect such prices to be zero. Thus, if the land were taken, owners would be worse off in spite of the adjustment in land prices because they will have lost their investment,

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42. To the extent full compensation was anticipated to be available to cover all changes in value resulting from government policies, changes in probabilities would not affect value. The reason is that overall market value will consist of a weighted combination of the value assuming no government reform and the value if reform is implemented. By definition, full compensation makes the latter equal the former, so market value is unaffected by government action. In this sense, expectations would always be realized.

43. This is strictly a ceteris paribus argument; in particular, no claim is made that property could not generally be more valuable as a result of the government activity, even after taking account the decrease in value due to the possibility of an uncompensated taking. <u>See</u> subsection II-D-1. For the purposes of the argument it might be best to consider an example in which the project, and thus the resulting benefits, will be built with certainty, and the only uncertainty concerns whose land will be used for the project. In any event, the argument in text only relies on the relative point that the value will be less without compensation than with compensation, and that in the former instance there will be uncertainty over future value due to the uncertainty concerning whether the uncompensated taking will occur.

44. Blume and Rubinfeld argue that "[t]he payment of compensation is not a windfall to the junkyard owner, but a redistribution of income from those gaining by the regulation to those who have lost by it." Blume & Rubinfeld, <u>supra</u> note 9, at 581. They are correct if compensation was anticipated, <u>see supra</u> note 42; but if compensation was not assumed in advance to have been the expected result -- but rather no compensation -- then there is a windfall gain since the owner's purchase price was discounted for the probability of an uncompensated taking. Thus their argument, which is commonly made in the transition context, is circular in that it only holds if it is already assumed that compensation would be provided.

whereas if the land were never taken, they would be better off because they will have gotten the full return by comparison to the discounted price they had to pay.[45] On average -- or, equivalently, viewed ex ante -- these effects cancel, which is precisely what determines the market price in the first instance. This result may be sufficient to address some appeals to fairness.[46]

But this average is not typically realized ex post, which raises the two fundamental economic issues that are the focus of this investigation. First, the prospects of change do impose uncertainty upon investors -- or, alternatively, the results are different ex post -- which is thought undesirable for a number of reasons that will be explored as the argument proceeds. This uncertainty remains an issue that must be considered in formulating transition policy. Second, ex post results -- including the effects of transitional relief -- affect ex ante incentives. In fact, arguments concerning expectation and reliance often expressly raise questions concerning incentives. For example, it is often suggested that the effect of uncertainty concerning future government action -- in particular, uncompensated action adversely affecting investments -- will over the long run serve to increase the cost of future government incentive programs

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45. <u>See</u> Blume & Rubinfeld, <u>supra</u> note 9, at 609.

46. Michelman may therefore be correct in arguing that failure to compensate for anticipated changes is not unfair because if no compensation is expected prices ex ante will adjust, but his analogy to a sweepstakes ticket and the resolution of a gamble illustrate how the government has still caused the imposition of uncertainty, to be explored in the next paragraph. <u>See</u> Michelman, <u>supra</u> note 14, at 1238-39.

because of diminished confidence in their permanence.[47] Transition policy must therefore consider incentive effects as well as the direct costs of bearing uncertainty.

B. The Market Solution to the Trade-Off Between Risk Spreading and Incentives

This Section models the economic effects of transition policy by developing an analogy to familiar market institutions that provide insurance or other means to diversify risk. Subsection 1 expands on the argument that legal transitions present a problem involving questions of both risk and incentives. Subsections 2-4 consider the applicability of market imperfections that frequently arise in the risk-spreading context to the case of uncertainty concerning future government action. The conclusion reached is that, although one would expect specific market responses to such uncertainty, some of these imperfections will significantly impede the market from reaching a perfect solution. Subsection 5 briefly compares the issues addressed here to those in two previous, well-known treatments of similar questions.

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47. Graetz interprets the reliance interest in terms of such incentive effects, see Graetz, supra note 4, at 71 n.75, and Michelman's development of the utilitarian property theory as it applies to the takings context emphasizes similar concerns, see Michelman, supra note 14, at 1211-13. This point relates to the previous one concerning the adjustment of market prices when change is anticipated.

1. Defining the Issue in Terms of Risk and Incentives

Perhaps the greatest shortcomings of previous commentary in this area result directly from the failure to define the problem in a complete and appropriate manner. The analysis here will focus on two components: risk and incentives. The risk aspect arises because of the uncertainty concerning future government action. It is well understood how the imposition of risk is undesirable and its mitigation desirable.[48] Insurance is one of the more common techniques of mitigating risk, and compensation for takings has occasionally been evaluated in these terms.[49] For example, from the owner's point of view, losing one's home to a taking is very much like losing it to a fire. Just as homeowners typically purchase fire insurance, the requirement of just compensation could be seen as government-sponsored takings insurance. Diversification through the financial markets is the other

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48. The simplest illustration is that most actors in most circumstances prefer a certain outcome to a 50-50 chance of a result that is greater or lesser than the mean by an equal amount. The willingness to purchase insurance as well as investor behavior that demands a greater return for risky investments are two of the strongest sets of evidence in support of this general proposition. Such risk aversion is expressed in formal economic analysis as an implication of the decreasing marginal utility of income -- i.e., that people place more value on an additional dollar when they have low incomes than when their incomes are greater. (Thus, the hypothesized even bet, when evaluated in utility terms, is a loser because the increase in utility when the bet pays off is less than the loss in utility when it does not because the marginal utility of the increase in income becomes less the larger the increase whereas the marginal utility of the income lost becomes greater the larger the decrease.) For more in-depth discussions of this issue, see, e.g., K. Arrow, **Essays in the Theory of Risk-Bearing** (1971); H. Raiffa, **Decision Analysis** (1968); Blume & Rubinfeld, supra note 9, at 600-06.

49. See Blume & Rubinfeld, supra note 9.

primary mechanism for spreading risks.[50]

It is not enough to consider the risk aspect of changes in government policy without also considering effects on incentives. As previously discussed, the prospect that legal provisions favoring an investment might be repealed makes the investment less attractive, and thus results in less investment. Similarly, assurance that compensation or other protection will be provided in the event of change encourages investment ex ante.

It is not, however, the case that this latter result is preferable, as is commonly assumed.[51] Two simple, parallel examples illustrate the point. Suppose there is a substantial chance that land will be taken and leveled for a highway, or that a product will be found hazardous and therefore be banned

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50. The concepts of insurance and diversification are, in fact, closely related. See Kaplow, Optimal Policy Toward Risk Imposed by Uncertainty Concerning Future Government Action (unpublished, April 1984). For the most part, I will refer simply to insurance, which should be understood as indicating the full range of possible risk-spreading arrangements.

51. Graetz appropriately questions why Feldstein, On the Theory of Tax Reform, 6 J. Pub. Econ. 77, 93-94 (1976), assumes that precautionary behavior is inefficient, see Graetz, supra note 4, at 64-65, although his own argument concerning reliance and incentives, discussed supra at note 47, as well as his argument that grandfathering provisions avoid the need to increase incentives ex ante, see id. at 69-70, suggests that he believes that such maintenance of incentives is efficient. Others making this assumption include New York State Bar, supra note 2, at 21, which argues that tax uncertainty is "crippling," leading to "the inability to act at all." Of course, this extreme position is rather absurd, as the economy functions daily in light of innumerable uncertainties. See subsection II-C-2. Ackerman's discussion of the issue is generally similar, although surely less extreme. See **B. Ackerman, Private Property and the Constitution** 44-45 (1977). Sax is one of the few to consider the incentive effects of compensation, see Sax, supra note 37, at 178-84, although his analysis is expressly limited to technological innnovation, and when that issue is a draw, he would ignore the incentives aspect altogether, see id. at 184 & n.70.

from the market.[52] Should either event result, investments in improvements on the land or in manufacturing equipment to produce the product will be rendered worthless.[53] Accordingly, ex post, it would have been socially preferable for the landowner and the manufacturer not to have made the investments.[54] The opposite preference would exist if the opposite events

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52. Another analogy would be common law evolution leading to liability where no liability had been found before but it was known that there was a good chance that the law would be so extended if such facts arose. This result may be harsher than the hypotheticals posed in text because not only may future value be destroyed, but payments must also be made for effects in the past; despite this comparison, this example would probably not be viewed by most as presenting the strongest case for compensation.

53. If the equipment in the latter instance can be used to produce other goods, there would not be a complete loss in value, but only a decrease reflecting the lesser value in the other use (that value is presumably not greater or the investment would have been there in the first place) and the costs of the conversion or movement of the equipment. But the compensation issue only arises to the extent of the decrease in value in any event, so this adjustment can best be subsumed into the definition of the effects of the new policy.

54. This argument, which is the basis for the ex ante incentives analysis that follows in text, serves to distinguish government takings (where compensation distorts incentives) from government purchases (where payment is necessary to maintain incentives). The issue can be seen in an example where the government must take some factories in order to build a highway, but must purchase goods from others (e.g., cement) in order to construct the highway. Superficial application of the argument developed in this Part might be seen as suggesting that payment in the latter instance is undesirable, which would be strongly contrary to common intuition, which has never suggested that those who produce goods and services for government projects should not be paid market prices. The reasoning that demonstrates the soundness of this intuition is that if the government simply took what it needed, there would be a disincentive to engage in the manufacture of products used heavily by the government, which would be precisely contrary to what the government desires.

Placing this argument in the framework developed in text, the point is simply that in the case of cement needed to build the highway, it is <u>not</u> the case, as it was with the factory constructed along the highway's path, that "ex post, it would have been socially preferable for ... the manufacturer not to have made the investment[]." Given the decision to build the highway, the cement needed for construction is valuable whereas the factory that must be leveled is not. In fact, the increased need for cement may bid up the price

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if the government's demand is sufficiently large relative to the market. That higher price is the proper one for incentive purposes since it reflects the value of cement in the event that the highway is to be constructed. The more likely it is that the highway will be built, the more cement would be available due to the ex ante incentives that result from this price effect. (Recall that Part I offered changes in government demand as an example of the transition problem. The argument in that respect would be that those who gain and lose from shifts in the government's needs should not be taxed or compensated to mitigate such changes; implicit in that application is that private actors are in fact paid for production that serves the government's demand.)

This analysis permits further understanding of the frequently-stated argument that it is preferable for the government to purchase land rather than to take it because voluntary sale gives better assurance as to the land's value. In particular, if the value of the land to the owner is in fact higher than the government's estimate, the project may no longer be desirable, or it may be preferable to undertake the project using an alternative site. From this perspective, only the need to assemble large parcels, when there is reason to fear hold-out problems, justifies takings. See, e.g., R. Posner, Economic Analysis of Law 40-41 (2d ed., 1977).

This argument certainly has merit as to the valuation issue, but in part it is inconsistent with the argument offered here since compensation, which surely would include payment of full value in a negotiated purchase, is claimed to interfere with incentives. This is the case in the sorts of examples presented thus far, such as that involving the highway. Of course, in such a case, the hold-out problem is likely to be significant, which would justify a taking even given the traditional understanding of the issue. The typical case in which direct purchase is possible is when the needed land is largely fungible. (That there be few, or only a single parcel that is required is not a sufficient condition if the owner knows of the government project, because there is still the possibility of a bargaining breakdown as the owner and the government each attempt to gain as much surplus as possible.) But when the land needed is fungible, alternative locations can be used instead, and in such instances it might often be the case that if a factory has been built on one (or some) parcels, it would be appropriate for the government to simply use another. In such instances, the ex ante incentives problem is largely mitigated.

The incentives issue depends on the likelihood that the investment will be rendered worthless (or significantly less valuable) if the government chooses to go forward with the public project. To the extent many different parcels would be adequate, investment will have been wasted only if all parcels have been developed in the interim. This will, however, happen in some instances; for example, if the potential parcels are all in the same area, the economic incentives for development may be similar for each, with the result that all will, for example, have high-rise apartments at the time the government needs a parcel. Therefore, the incentives argument suggests that sometimes, even when there is no serious hold-out problem, it might be appropriate for the government to take (without compensation) nonetheless. (This may appear occur. As a result, it is socially desirable for the landowner and manufacturer ex ante to take both possibilities into account -- of particular importance here, the adverse contingency -- just as it is socially desirable for investors to take into account the possibility that the production resulting from their investments might be rendered obsolete by superior competing products or changes in demand, or that investments in research and development may lead to a dead-end.[55] A simple example that may arise in the insurance context, which will be pursued further in subsection 2, is that those investing in land or equipment located in high risk earthquake or flood zones should take into account the prospect that their investment will be

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capricious, but the more parcels there are, the lower the probability of a taking for any single parcel, and the lower the costs of insurance would be, as developed in more depth in subsection II-B-2. Insurance would be more costly precisely to the extent that a given parcel was particularly likely to be the one needed for the government project; the higher premium would internalize the expected social loss that would result in the event that the project goes through.)

55. One helpful interpretation of this argument is that the government is often assumed to act to remedy externalities. Future government action in such circumstances would be to regulate externalities that arise in the future. If the externality is to be appropriately internalized, it is necessary that the private party bear the cost. This result, typical with a common law court's finding of liability, would be defeated if the government compensated the private party an amount equal to the appropriate liability determination, as discussed further in the text to follow.

This interpretation explains why the incentives analysis is applicable to all government reform, rather than limited to cases such as takings or product bans that physically limit the future use of the investment. Enactment of a pollution tax, or pollution control requirement, for example, does not destroy, or even necessarily shut down, a plant (although the latter result may occur). It does make operation less profitable, but this results precisely because the reform signifies that operation has greater social costs. (Recall the assumption that the analysis here assumes the desirability of the government action.) Thus, making investors bear the potential increase in future costs of operation is desirable even though the factory, for example, is not destroyed or shut down, precisely because the expected future costs -- whether caused by destruction, prohibition, taxation, or regulation -- represent real social costs.

destroyed in determining whether the project is worthwhile.[56]

These examples can be generalized by noting how the incentives question

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56. A familiar mode of analysis that contrasts with that advanced in the text is the first-in-time approach, which is essentially analogous to prescription in the water rights context. This approach was advanced by Baxter and Altree, Legal Aspects of Airport Noise, 15 J. L. & Econ. 1 (1972), in the airport noise context and has since been advocated as a rule for takings generally. See Berger, supra note 2, at 193-98; see also Michelman, supra note 14, at 1242-44. This approach has some appeal on incentive grounds, but only if the analysis is kept at a rather superficial level because the implicit assumption is that the first use will be the most valuable. As the analysis in text makes clear, appropriate treatment of the ex ante incentives issue requires that those who act first explicitly take into account changes the future may bring. This argument has been developed in the nuisance context. See Wittman, First Come, First Served: An Economic Analysis of "Coming to the Nuisance", 9 J. Leg. Stud. 557 (1980). Essentially, the problem is that the first-in-time approach replicates the all-or-nothing reasoning described in subsection A-2's discussion of expectations; the first-in-time approach ammounts to arguing that first users reasonably or legitimately anticipate a zero probability of change or future conflict. See id. at 196, 217, 219, 223 (instances where this extreme assumption is implicit).

Berger would like to offer incentives for both private parties and the government (the latter for fiscal illusion reasons, see subsection III-A-1), but since he essentially divides possible expectations into two cases, one calling for compensation and the other not, he has sacrificed one half or the other in every situation, although he seems to think that he can have the best of both worlds. See id. at 223. Finally, Berger does not take his priority system to its logical conclusion, and instead advocates limits based on a category he refers to as gains or losses attributable to "competition", see id. at 200 & n.91, which is not only inconsistent with much of his argument but also at least a problematic a distinction in both theory and practice as all the distinctions in existing takings law (and in others' proposals) that he spends much of his article criticizing.

Baxter and Altree's analysis is far more sophisticated than most in their recognition of how compensation may adversely affect ex ante incentives. Thus, they make a number of ad hoc exceptions to their first-in-time approach in an attempt to deal with this problem. Yet they fail to recognize completely that they are dealing with a full-scale trade-off problem, analogous to that arising in the tort context with strict liability and contributory negligence. See infra subsection III-A-1 and notes. (In that connection, their failure to address more directly how their analysis should be affected by the fact that the airport is often operated by the government is a serious limitation to their analysis.) They also do not provide a systematic analysis of the risk aspects of the problem.

is in essence an application of the analysis typically used in connection with externalities. Simply put, government compensation creates an externality that otherwise would not be present. Externalities refer to costs borne by third parties; compensation shifts part of the long-run cost of private investments to the government and thus distorts an otherwise efficient decisionmaking process. It is socially desirable for investors to take into account the prospects of government reform; compensation eliminates this incentive by insulating the investor from this component of downside risk.

Although the incentive aspect of this problem has occasionally been noted, most analyses of legal transitions largely ignore this issue.[57] Not

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57. For example, Michelman's extensive analysis of the takings problem, Michelman, supra note 14, does not consider the ex ante incentives issue. Nor does Shachar's analysis of transition issues arising in the move from an income tax to a consumption tax. See Shachar, From Income to Consumption Tax: Criteria for Rules of Transition, 97 Harv. L. Rev. 1581, 1592-94 (1984).

The one extensive treatment of the incentives issue is Blume, Rubinfeld, and Shapiro's treatment of the takings problem in the economics literature. See Blume, Rubinfeld & Shapiro, The Taking of Land: When Should Compensation Be Paid?, 99 Q.J. Econ. 71 (1984). What is surprising is that this analysis virtually ignores all considerations of risk (a brief section on risk assumes away the part of the problem relevant here), whereas the extensive, roughly contemporaneous discussion of the takings issue in the legal literature by Blume and Rubinfeld, supra note 9, devotes extensive attention to the risk issue and essentially assumes away the most important aspects of the incentive question, see id. at 598, 618 & n.144. See Kaplow, supra note 50. Thus, their article examining the incentives issue comes out largely against compensation, while their article examining the risk issue concludes far more favorably toward compensation. One suspects that both conclusions cannot be right. This Section demonstrates how analysis of the two issues must be carried out simultaneously to determine which result is in fact more desirable from an efficiency point of view.

One example of the confusion that results from the separation can be seen in Blume and Rubinfeld, supra, at 609 n.115:

surprisingly, one's conclusions might change if this additional aspect is taken into account. More generally, the analysis to follow demonstrates that the issue cannot be understood simply by considering risk and incentives in isolation, and then making some attempt to balance the competing considerations to the extent they lead in opposite directions, as they often do. Rather, they must be analyzed simultaneously to determine how the components interact in this particular context.

2. Incentives, Moral Hazard, and the Market Solution

This Section focuses on the analogy between compensation and insurance. The previous subsection noted how, from the perspective of mitigating risk, compensation indeed might be seen as a form of government insurance. But the need for the government to provide such insurance has yet to be demonstrated. An important first step in the analysis requires determining whether the market is capable of providing some form of insurance in the vast

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> Generally, insurance will be demanded by those who face large expected damages, that is, in cases in which the probability of a loss is deemed to be large *ex ante*, or the amount of the loss will be large relative to wealth. Thus, an ideal rule requires compensation if, at the time the individual purchased the parcel of land, he or she could have reasonably expected a "taking" to occur, or if the damage or loss could reasonably be expected to be relatively large.

This aspect of this rule relating to the high expectation supporting the need for compensation seems counterintuitive from many perspectives, and if private incentives are taken into account seems, if anything, backwards. Variations in the probability of change and the magnitude of effect both absolutely and relative to wealth will be explored further in subsection IV-B-1.

range of instances where government policy is subject to change. The simplest hypothesis would be that the market would and does in fact provide such insurance, so there is no role for special government protections to be incorporated into transition policy.[58] This subsection and the next two consider market imperfections that are likely to impede complete risk spreading, and Section C analyzes the subsequent question of whether the government is generally in a position to overcome these imperfections.

The major impediment to complete insurance against many risks concerns is precisely the incentives problem discussed in subsection 1, which in the insurance context is generally referred to as moral hazard. The problem is that, to the extent losses are covered by insurance, or otherwise spread among other parties, there is less incentive to avoid them, either by taking actions that diminish the probability of loss or by behaving in a manner that keeps down the amount of the loss.[59] A simple example of the former arises with fire insurance. Full, unconditional coverage diminishes the incentives to install costly fire protection devices, especially where loss of physical property is involved. A well-known example of the latter concerns the

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58. Since compensation has existed much longer than established insurance markets, for example, in the homeowner context, it is no surprise that compensation insurance of this type is not currently offered. Of course, analogous insurance is in fact offered in many other instances. One prominent example would be the insurance offered by Lloyd's of London on oil tankers subject to the uncertain government action of being hit by a missile in the Persian Gulf. Risk of government action is also sometimes allocated in private contracts. See, e.g., Blume & Rubinfeld, supra note 9, at 593 n.78; Quinn & Trebilcock, supra note 7, at 120. More generally, the risks of many enterprises are spread quite widely through financial markets. See supra note 50.

59. See generally K. Arrow, supra note 48, at 177-222; Pauly, The Economics of Moral Hazard: Comment, 58 Amer. Econ. Rev. 531 (1968); Shavell, On Moral Hazard and Insurance, 93 Q.. Econ. 541 (1979).

frequently-hypothesized decrease in the incentive to contain health care costs when they are fully covered by insurance. In the case of uncertainty concerning future government action, however, particular actors will often have little influence over the probability of changes in future policy, and to the extent they do it is not at all clear that it is appropriate for the government to maximize the economic incentives for actors to exercise such influence.[60] But actors will typically affect the magnitude of the loss, as illustrated by the examples involving takings and product bans offered in subsection 1. In general, the level of investment in a wide variety of projects will be affected by whether or not compensation is offered in the event government policy becomes less favorable.

The preceding analysis indicates how spreading adverse risks affects incentives, leading to excessive expenditure or investment. In general, there is a risk/incentives trade-off. Private transactions tend to respond to the existence of this moral hazard problem by diminishing insurance coverage. The reasoning is as follows. Greater risk spreading requires more complete coverage. More complete coverage decreases incentives, thus producing an inefficiency that must be borne by the parties. For example, if

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60. I will simply assume that such potential for influence is either insubstantial or not greatly affected by marginal changes in economic incentives. In some contexts, this assumption is clearly false, and thus raises an entirely different set of issues concerning institutional structure. _See_ subsection III-A-4.

In connection with the discussion _supra_ in note 57, it is interesting to note that this is the one source of moral hazard given significant weight in Blume and Rubinfeld. _See_ Blume & Rubinfeld, _supra_ note 9, at 593, 598. Also, despite their argument to the contrary, _see id_. at 594, it is hardly clear that this problem will often be more significant than moral hazard with fire insurance, which is generally insufficient to prevent individuals from obtaining insurance coverage.

full coverage on average increases the expected loss by 50%, insurance premiums would have to rise by approximately 50% to offset the increase in costs. Because the insured party must pay for the resulting inefficiency, it may be that partial coverage is a more desirable alternative.[61] It provides greater (although still incomplete) incentives for efficient behavior -- which will lower the expense of coverage -- at the cost of spreading less of the risk. It will often be the case that some sort of intermediate result -- as commonly observed with insurance policies requiring percentage copayments (coinsurance) or deductables -- will be the best contract the parties can arrange.[62]

The common resolution therefore involves the insured bearing some portion of the loss. A more extreme case would involve a complete inability to offer insurance. For example, one reason there might not exist insurance spreading the risks concerning fluctuations in one's future income is because incentives to produce income would be diminished the more one's income did

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61. The insured would prefer a full coverage contract that required efficient behavior as a condition, because the condition would lower the cost of insurance. But, as described in the text to follow, this often is not possible.

62. A comprimise is often desirable (rather than the extreme of full coverage or no coverage) because the costs of bearing risk are generally nonlinear. For example, beginning with full coverage, a marginal decrease in coverage will result in a discrete increase in incentives but an infinitesimal increase in the costs of risk-bearing, and thus will be an improvement. The latter result holds because for small changes in income a utility function is approximately linear. See, e.g., Shavell, Risk Sharing and Incentives in the Principal and Agent Relationship, 10 Bell J. Econ. 55, 59-60 (1979). Similarly, beginning with no coverage, a slight increase in coverage may yield significant benefits from spreading risk, due to the diminishing marginal utility of income. See supra note 48. Since this will often exceed the marginal loss due to the incentive effect, the optimal result will often be partial insurance.

not depend on effort. A general exception to this phenomenon exists to the extent the insured's relevant decisions can be monitored. Thus, for example, since most individuals will not voluntarily cause severe physical damage to themselves to secure early retirement, and since severe disability can be ascertained reasonably well by independent evaluation, it is not surprising that disability insurance exists (although coverage is typically partial). Similarly, fire insurance companies may offer nearly full coverage contingent on the insured's buildings passing regular inspections for fire safety precautions.

Although sometimes the moral hazard problem is insignificant or reasonably soluble at low cost, this often will not be the case in a wide range of circumstances involving uncertainty concerning future government action. Consider, for example, an insurance contract covering a manufacturer of potentially hazardous products against the risk that its products will be banned as dangerous. Full coverage would produce a serious moral hazard problem by decreasing the manufacturer's incentives to engage in optimal research and decisionmaking concernign product design. And a monitoring solution would require that the insurance company be able to assess the level and composition of investment in safety research as well as choices in product design. This is not to argue, however, that no risk-spreading arrangements would exist in such circumstances, for companies manufacturing hazardous products often distribute their risks widely through the financial markets, where investors rely on general reputations of the firm and expectations concerning its likely future performance, as well as on their estimation of their ability to induce management to behave in their interests.[63] As in this example, it will often be the case that the market will be unable to maintain appropriate incentives while simultaneously spreading all the risk. The important point here is that, although the moral hazard problem represents an important market imperfection, there is no a priori reason to believe that the market will not make the best possible trade-off between risk-spreading and incentive maintenance in light of such informational constraints on monitoring behavior.[64]

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63. It is unclear why Blume and Rubinfeld, supra note 9, at 594, suggest that the moral hazard issue they discuss would be sufficient to eliminate the possibility of insurance altogether. For example, the moral hazard problems with fire insurance seem, a priori, at least as significant as those in the takings context.

In addition, more nearly complete insurance will be more feasible in some instances than in others. The takings context -- the only instance where government compensation is required -- may be an instance where insurance arrangements would work rather well from this perspective. An actuarially fair insurance premium -- i.e., a premium equal to the expected value of the payout -- would simply equal the probability of a taking over the time period of the insurance contract multiplied by the value of the property. If one can assume that the insured has little influence over the probability of a taking, moral hazard problems would be confined to overinvestment (affecting the amount of the loss in the event of a taking). (I assume that the insurance company can make reasonable estimates of the probability of a taking, which often would be plausible, and which will be discussed briefly in the following subsections under the rubric of adverse selection.) But since the insurance premium varies directly with the level of investment (to the extent any incremental investment is to be covered, which is all that matters), this problem takes care of itself. For example, if there is a 10% change of a taking, there is only a 90% chance the project will pay off. With full insurance, the investor receives a return 100% of the time, but has to pay 10% of it up front in premiums, leaving a net of 90%, which provides just the right incentive. Insurance differs from compensation because the latter guarantees a return 100% of the time, but does not exact an ex ante premium proportional with the level of investment, and thus encourages overinvestment.

64. Compare the discussion of how the presence of private insurance affects the assessment of strict liability versus negligence in Shavell, On Liability and Insurance, 13 Bell J. Econ. 120 (1982), and Shavell, Accidents, Liability, and Insurance (Harvard Institute of Economic Research Discussion Paper No. 685, February 1979).

3. Imperfect Information and Adverse Selection

It often is the case that the probability of possible adverse events is not known with great certainty. That does not, however, always cause private insurance markets -- much less other forms of diversification -- to fail. It is often sufficient for insurance companies to use reasonable approximations, taking averages over groups that either cannot be more precisely differentiated or can be more carefully distinguished only at significant cost. Thus, for example, fire insurance premiums may be higher in some regions than in others, and on some buildings than on others, when there are readily detectable differences among them, although one might not expect fire insurance contracts, especially in the case of single-family homes, to take into account precise differences in building layout, wiring patterns, and the exact distance from the fire department and nearest fire hydrant. On the other hand, if probability estimates were highly uncertain, it would be difficult to offer insurance because it would be hard to know whether the insurance company would have sufficient resources to make payments in the event of catastrophe. Of course, there do exist insurance consortia -- most notably Lloyd's of London -- that insure against virtually anything imaginable. It might be that the spread of insurance over the past few centuries reflects in part the collection of more extensive information from which probability estimates can be derived and the creation of a more extensive institutional framework for the spreading of risk. In the latter regard, it should again be noted that financial markets are also a major avenue for diversifying risk.

A more serious problem arises, however, if the difficulty is not that average probability estimates are uncertain, but that the probability of loss varies among individuals in a way known to them but not ascertainable by insurance companies. The result may be an adverse selection problem that can be described as follows.[65] Suppose the insurance company charges a premium based on the average probability of loss.[66] Those with high probabilities of loss would gladly purchase such insurance, whereas those with lower than average probabilities might refuse to purchase coverage since they are forced to pay more than the expected value of their losses.[67] If a significant number of such individuals refuse, the average probability will now be significantly higher, so premiums must be higher, which in turn may induce the lower risk individuals of those remaining to drop out, and so on. In some instances, no insurance would be offered, or at least it may be the case that a significant portion of individuals would end up uninsured.

Adverse selection may not, however, be a significant problem in many

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65. See, e.g., Akerloff, The Market for "Lemons": Quality Uncertainty and the Market Mechanism, 84 Q.J. Econ. 488 (1970); Rothschild & Stiglitz, Equilibrium in Competitive Insurance Markets: An Essay on the Economics of Imperfect Information, 90 Q.J. Econ. 629 (1976).

66. If it charges higher, it is subject to competition and will lose additional customers.

67. It is important to note that this might happen. If insurance is offered at an actuarially fair rate (based on the insured's own probability of loss), insurance would always be purchased. If the rate is not too much higher, the desire to spread risks will still be sufficient to motivate lower probability individuals to purchase insurance. The problem typically arises when there exist substantial differences in individual's probabilities that cannot be ascertained by the insurance company.

contexts involving uncertainty concerning future government action. The two necessary conditions for adverse selection problems to arise are that the probability of loss differ significantly among individuals and that insurance companies or other institutions be unable to observe those differences. But much government action is quite general, having the same probability of affecting a large group. An example where the first condition fails is the prospect that the government will repeal a tax benefit, a reform having a common probability for all. Differences may arise if only a partial repeal is expected, leaving a subset of investors exempt. Even then, however, it seems that it would often be the case that the second condition would fail. Such differences in probability of being affected by different sorts of repeal would not be the private, personal knowledge of the affected individuals, but would be more generally known by the relevant investment community, and thus by the financial institutions and investors that might be involved in spreading such a risk.[68] Adverse selection problems are

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68. Blume and Rubinfeld offer an example concerning adverse selection that seems to suggest that differences in individual's subjective estimates of probabilities may cause an adverse selection problem. See Blume & Rubinfeld, supra note 9, at 596. If such subjective differences merely reflect different estimates of a common probability, the adverse selection problem will not arise because when those with lower estimates refuse to purchase insurance, the average risk of the remaining group will not increase. In fact, their later suggestion, see id. at 597 n.14, that the problem is diminished if insurance companies develop local knowledge concerning the probability of a taking suggests that they must have in mind actually differing probabilities, although it is unclear what would contribute to such differences in the takings context that would constitute personal, private information.

It has been argued in the takings context that it may be too costly for insurance companies to do the necessary risk rating since it would require information concerning all future possibilities of eminent domain. See Palmer, Book Review: Property, Compensation and Risk, 22 Osgoode Hall L.J. 163 (1984). Of course, similar arguments can be made for most of currently insured risks to property, where the problem has not been sufficient to typically thought to arise in instances such as auto insurance -- where individuals have different driving habits that cannot readily be observed[69] -- or life and health insurance -- where the insurance company cannot determine the health of individuals at the time of enrollment as well as individuals can.

It is not the case, however, that adverse selection has no application to uncertainty concerning future government action. In the example of future product bans, the probability of a future ban for any given product or company's products is likely to depend substantially upon factors known well by the company but not capable of simple observation by the insurance company. This sort of difficulty interacts with moral hazard because one source of the incentives problem is that the insurance company is unable to monitor activities by the insured that change the probability of loss -- and in particular increase it because of the change in incentives resulting from insurance coverage.

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undermine insurance, and the argument assumes that homeowners would in fact have sufficient information concerning the degree to which the risk to their own property differs from the average. Ultimately, these are empirical questions that would require further study in any given context.

69. Experience rating, as well as age and sex classification, offers a partial, highly imperfect check on this problem. A more probative factor sometimes used is to connect premiums to miles driven. Insurance companies could also choose to vary premiums to take into account seatbelt use, for example by selling policies that provide far less coverage if the injured insured party is not wearing a seatbelt at the time of the accident. Of course, for third-party liability coverage, such adjustments are not feasible.

4. Administrative and Transaction Costs

Insurance companies must charge more than an actuarially fair premium to stay in business because they must cover such costs as the collection of information upon which to base premiums, the original contracting itself, and, in the event of a loss, the determination of the amount owed under the contract.[70] The greater such administrative costs, and thus the greater the price of insurance coverage, the less likely it is to be purchased. As a result, some actors may not be covered for some losses. In some instances, such costs are likely to be quite small,[71] and in others, individuals will be sufficiently risk averse that they will purchase insurance in spite of such costs. The widespread existence of homeowner's insurance (even when not required by banks) and life insurance illustrate this phenomenon. On the other hand, it is well known that many hazards remain uninsured, although it is often difficult to know which of many possible reasons cause that result.[72] When events have a very low probability,[73] the up-front

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70. Other factors may be relevant, including the need to charge enough to cover losses when an unusually large number of claims result.

71. Information costs may be spread over a large number of policies, contracts may be simple and standard form, and determination of the amount owed is only a problem in the event of an alleged loss and may be an insubstantial portion of the total if the loss is large and easy to ascertain.

72. Often the reasons interact. For example, moral hazard and adverse selection can be mitigated to the extent the insurance company spends more to determine the relevant information in individual cases, but if such costs are substantial, the policy may not be purchased. In addition, there are other reasons not explored in this Section. See, e.g., infra subsection IV-B-1-e.

administrative costs may represent a large fraction and thus discourage insurance protection. Similarly, when the losses imposed are relatively small (which also indicates that there is less to be gained from spreading risk[74]) the administrative costs of determining the amount of the loss in any given case may be a substantial portion of the total amount at stake, making insurance unattractive.

5. Previous Treatments of Risk

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73. See, e.g., Blume & Rubinfeld, supra note 9, at 598-99. This might be the case with the prospect that one's home will be taken, although if one already has a comprehensive homeowner's policy, there may be little cost in adding another item to the coverage, either in standard form or as a rider. And in instances where the probability is not likely to differ substantially in an area, there may be little information cost in obtaining an average estimate and little adverse selection problem in relying upon such averages. It is also common for many low probability events to be grouped in various ways. Thus, for example, an individual with general health and disability insurance is covered against most of the losses incident to a wide variety of accidents. And general diversification through financial markets similarly spreads large numbers of risks simultaneously. Finally, it should be noted that one advantage with relying on the market rather than government compensation is that events that are low probability for most may be high for some; private insurance can be expected to adjust premiums to reflect such differences whereas compensation does not.

74. Importantly, the benefits from mitigating risk decrease more than proportionately as the magnitude of the loss decreases. This is simply the inverse of the argument that the costs of bearing risk rise more than proportionately with the magnitude of the loss, which follows from the diminishing marginal utility of income. See supra note 48

a. Michelman's "Demoralization Costs"

Michelman's analysis of the takings issue offers a utilitarian calculus that balances the efficiency gains of a project against the lesser of demoralization or settlement costs -- the former resulting from the lack of compensation and the latter being the administrative costs of compensation.[75] Here I explore the connection between my discussion of risk and his notion of demoralization costs, which he defines

> ... as the total of (1) the dollar value necessary to offset disutilities which accrue to losers and their sympathizers specifically from the realization that no compensation is offered, and (2) the present capitalized dollar value of lost future production (reflecting either impaired incentives or social unrest) caused by demoralization of uncompensated losers, their sympathizers, and other observers disturbed by the thought that they themselves may be subjected to similar treatment on some other occasion.[76]

The intuition suggested by the first item seems directly connected to the economist's notion of risk, since the disutility to losers is precisely what is captured by the concept of risk aversion.[77] The second item refers to an

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75. See Michelman, supra note 14, at 1214-15. The rule is that if demoralization costs exceed settlement costs, it is better to compensate, otherwise not, and if the lesser of these costs exceeds the gains from the project, better to cancel it, otherwise not. See id.

76. Id. at 1214 (footnote omitted). Cf. Note, supra note 13, at 441 (taxpayer confidence, integrity of tax system).

77. The notion that sympathizers lose as well suggests general interdependency in utilities, a sort of positive externality stemming from one's own well-being. If one thought this phenomenon to be significant and compelling, it would support a general government subsidy program for insurance against all risks, and other measures as well. This effect will

incentive effect resulting in less investment in the future. One does not need the psychological notion of demoralization to suggest that actors will in fact invest less if there is some probability of a taking that will not be compensated.[78] This is precisely the incentive argument developed in subsections 1 and 2, where it was demonstrated that this disincentive was desirable to eliminate the overinvestment that results from compensation. As a result, this conception of demoralization costs envisions that the factors of risk and incentives both favor compensation, whereas the economic analysis developed here suggests that they are in conflict since compensation distorts incentives.[79]

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not be considered further here.

78. To the extent the lack of compensation has additional psychological effects that further deter investment, there would be an additional problem. Since individuals usually discount risk excessively in such situations, see, e.g., H. Kunreuther, Disaster Insurance Protection 235-43 (1978), it is unclear what the overall balance would be. Further speculation concerning such perceptual effects is beyond the scope of this article, although it should be noted that one might expect such effects in both directions to be less significant when dealing with large investors rather than homeowners.

In connection with the institutional issues discussed in Section III-A, it has been noted in the takings context that the major psychological factor relates not to compensation itself, but to the theoretical availability of just compensation, which legitimates government action. See Samuels & Mercuro, The Role and Resolution of the Compensation Principle in Society: Part One -- The Role, 1 Res. L. & Econ. 157, 179-81 (1979).

79. In situations involving one actor (here, the government) attempting to induce optimal behavior from other actors (here, private parties), it is typically the case that risk and incentives will be in conflict as suggested here. See, e.g., Shavell, supra note 62.

b. Calabresi's "Secondary Accident Cost Avoidance"

The tort literature has for some time been influenced by Calabresi's work. His framework, and in particular his concept of secondary accident cost avoidance, which provides the motivation for "loss spreading," is very close to that presented here. Since these concepts are more familiar, it is helpful to consider briefly the precise connection.

> [In economic theory, t]he advantages of interpersonal loss spreading would probably be stated as a pair of propositions: (1) taking a large sum of money from one person is more likely to result in economic dislocation, and therefore in secondary or avoidable losses, than taking a series of small sums from many people; (2) even if the total economic dislocation were the same, many small losses would be preferable to one large one simply because people feel less pain if 10,000 of them lose one dollar apiece than if one person loses $10,000.
>
> While the first of these propositions is an empirical generalization not too difficult to accept, the second is a variant of the empirical generalization known as the diminishing marginal utility of money theory [which] has been in substantial disfavor among modern economists.[80]

In fact, both propositions can be directly related to the diminishing marginal utility of money concept,[81] discussed previously as relating

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80. G. Calabresi, **The Cost of Accidents** 39 (1970).

81. "Dislocation" is a rather loose concept, being essentially a matter of degree rather than an all-or-nothing effect. Combining that element of continuity with his indication that dislocation becomes "more likely" as losses become larger, his position can be understood as indicating that, as losses increase, a larger fraction of persons would be experiencing "dislocation" of at least a given degree of magnitude. But diminishing marginal utility implies precisely that result.

directly to the economic concept of risk,[82] and his statement that the theory is in disfavor is highly misleading in this context.[83]

Central to Calabresi's analysis is the idea that primary accident costs (i.e., the frequency and seriousness of accidents) -- which are affected by incentives -- and secondary accident costs (now interpreted as risk) must be traded off in the sense that attempting to minimize either category of cost to the greatest possible extent often involves unacceptable sacrifice in terms of the other.[84] This tension has been the central problem explored in this Section. The difference is that in the context of uncertainty concerning future government policy, unlike with accidents, the existence of externalities is not central,[85] so if one prefers the market approach

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82. See supra note 48.

83. He claims that it is questioned because it cannot be proven universally and because it has been shown invalid in certain circumstances. See G. Calabresi, supra note 80, at 39. The first element either refers to the impossibility of ever proving a theory universally applicable in fact, which would hardly be a mark against the concept of diminishing marginal utility, or to the inability to make utility comparisons across individuals, which is in fact unprovable in any conventional sense and which explains much of the hostility to marginal utility theory among economists of the twentieth century. The interpersonal comparison aspect, however, is not central to the use of the diminishing marginal utility concept in many contexts involving risk, including that considered here, as evidenced by the quickly expanding attention devoted to uncertainty and risk by modern economists for over three decades. That there exists some behavior inconsistent with the theory, see, e.g., Friedman & Savage, The Utility Analysis of Choices Involving Risk, 56 J. Pol. Econ. 279 (1948), cited in G. Calabresi, supra, at 40 n.2, has hardly caused economist's to reject the approach in most circumstances given the substantial evidence and strong intuition in support of the theory.

84. See, e.g., G. Calabresi, supra note 80, at 44.

85. This is not necessarily true for two reasons. First, if one views the government as a private actor, see infra subsection III-A-1 (especially the comparison in footnote to the debate between strict liability and negligence) -- which is not standard in such analysis -- then all costs and benefits of government action are externalities and private actions may in some instances

generally, there is no a priori reason for the government to intervene and no obvious method of intervention that, in general, offers the prospect for clear improvement over the market result. This claim is the focus of the next Section.

C. Government Versus Market Solutions

Section B considered compensation as a form of government insurance against the prospect that its future actions will impose losses. Much of the analysis focused on how well the market (and in particular, private insurance arrangements) could be expected to address the trade-off between risk and incentives. Direct compensation differs from private insurance in a number of important respects: it is provided by the government, it is typically considered to be full[86] (whereas many insurance contracts or other diversification channels only partially spread the risk), and no premium need be paid. Of course, the latter two features are within the government's control; it could offer insurance -- requiring the payment of premiums -- rather than compensation, and the insurance contracts could in principle be given any additional characteristics possessed by private insurance. The question thus becomes whether there are reasons to believe that the

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be externalities affecting the government actor.

86. Of course, compensation is typically less than full in that many incidental losses are not included. See also Munch, An Economic Analysis of Eminent Domain, 84 J. Pol. Econ. 473 (1976) (indicating that high-valued parcels receive more than market value and low-valued parcels receive less). The point here is that compensation typically purports to be full, and in theory could be operated in a manner that better approximates a full compensation result. Of course, just as one can envision partial insurance, partial compensation could be considered as well. This is discussed briefly in subsection II-C-1. It should be noted that neither courts nor commentators have articulated theories calling for partial compensation for the reasons and modelled along the lines implicit in the discussion here.

government can improve on imperfect private markets, and, if so, through what sorts of mechanisms.

Subsection 1 reviews the various imperfections in the private insurance market described in Section B and suggests that in general one would expect compensation to be inferior to private insurance and public insurance at best to duplicate private insurance, but more likely to be little better than compensation. Subsection 2 briefly considers the wide range of risks that are more traditionally considered in the insurance context. It is commonly thought that there usually does not exist a strong case for government insurance for ordinary market risks, and the view is even stronger if one were to consider the option of full compensation for all private losses. This analogy is powerful because it will be argued that there is little relevant difference between market- and government-generated risks.

1. Can the Government Solve Market Failure?

The moral hazard problem arises because insurance coverage or compensation distorts incentives. Absent other imperfections, to be discussed momentarily, private contracts can be expected to produce the most efficient possible balancing of risk spreading and incentives. If this is true, it follows by definition that if the government provides further insurance coverage or compensation -- i.e., more than would have been offered by the market -- it would be undesirable, a point commonly misanalyzed by the few commentators who consider the alternative of private insurance.[87] The examples offered in subsections B-1 and B-2 indicated how compensation distorts incentives. If the benefits of greater risk spreading were so great that a substantial loss of incentives were worth the price, private parties would be willing to pay the higher price for more nearly complete insurance coverage.

Full compensation will therefore be undesirable whenever the market would not have provided full protection. In addition, partial compensation will be undesirable whenever it exceeds the level of mitigation provided by the market.[88] Finally, providing partial compensation at an amount less than the market would provide in its absence would fail to accomplish any incremental mitigation of risk.[89]

Since the government typically will be in a worse position than private parties to determine their risk preferences, it is in no position to second-guess the market in this respect. In addition, it is generally agreed that the government will rarely be in a better, and often in a worse position to assess such incentive effects than private insurance companies or

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87. See, e.g., B. Ackerman, supra note 51, at 45 & nn.5 & 6; Blume & Rubinfeld, supra note 9, at 593-95.

88. Moreover, even partial compensation within the amount of protection that the market would offer can be less efficient because investors are not charged the insurance or other risk premium, those charges serving to internalize the costs in some contexts.

89. If such partial compensation is anticipated, as assumed here, private provisions would simply cover that much less of the loss. This would be a wash, except to the extent benefits of insurance over compensation are sacrificed. See supra note 88.

financial institutions.[90] Perhaps the strongest case for intervention would be premised on the assumption that certain actors in certain contexts will underestimate risk, and thus refuse to purchase insurance when it is in their interest.[91] Here the preferred alternative may be an insurance subsidy rather than full compensation.

It is more plausible that the government would be in a position to deal with other information problems, including adverse selection. In the event that information concerning probabilities generally is difficult to collect, the government may be of some assistance, although once likelihood tables are compiled they could be made available to private insurance companies.[92] In general, the benefits of insurance[93] -- whether government or private -- over compensation would be maintained.

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90. Note here that I simply rely on the common assumption that the government is inferior to the market, for the usual reasons. No attempt is made to assess this issue or advance the argument in either direction. <u>See also infra</u> subsection II-C-2.

91. This topic is pursued further in subsection IV-B-1-e.

See the discussion <u>supra</u> in note 78, indicating that this may be plausible with homeowners, and less likely with large investors. (More generally, if the government had better information concerning the future than did private markets, there would be potential for improvement through government action. On the general implausibility of this assumption, see Kaplow, <u>supra</u> note 50.) To the extent the probability of loss is also low there would be little loss of incentive from providing compensation or excessive insurance coverage. <u>See supra</u> note 73; <u>infra</u> subsection IV-B-1-a.

92. <u>See</u> Shavell, <u>Liability for Harm Versus Regulation for Safety</u>, 13 J. Leg. Stud. 357, 360 (1984). His comment concerning the difficulty of communicating the information to private parties would be inapplicable in this context.

93. The benefits I refere to here are the possibility for partial coverage and conditions on recovery discussed in the preceding paragraph and in subsection II-B-2, and the fact that charging premiums itself helps control the moral hazard problem, <u>see supra</u> note 63.

If there were an adverse selection that lead to an "unraveling" of the market, as described in subsection B-3, the government would have the advantage that it could compel the purchase of insurance, preventing the low risk individuals from dropping their coverage, and that it could operate at a loss if low risk individuals were lost -- although the latter aspect could be accomplished directly by offering a subsidy. If adverse selection were a significant problem in some instances, contrary to the more general conclusion of subsection B-3, there would be some room for the government to improve on the situation, although it would generally be true that the incentive benefits of requiring the payment of a premium ex ante would again lead to a preference for insurance over compensation.

Administrative problems have varied implications, depending upon the circumstances.[94] In general, they suggest little preference for government insurance over private insurance since the former has all the administrative requirements of the latter, and perhaps at greater cost for the reasons to be noted in connection with compensation. As between compensation[95] and insurance, however, there are some administrative reasons to prefer the former. The primary difference is that the costs associated with creating the policy and collecting the premiums are avoided because compensation only

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94. Michelman includes what I term administrative costs under the rubric of "settlement costs." See Michelman, supra note 14, at 1214.

95. Other transition mechanisms, discussed in Section IV-A, typically have even less administrative costs, although they will be shown to be inferior to compensation in dealing with the risk spreading, incentives, and implementation of policy issues.

requires administrative response in the actual event of a loss.[96] This benefit would be particularly great for losses with low probability that had high contracting costs.[97]

This advantage of compensation must be balanced both against the complete loss in incentives and the possibly higher costs of administering government compensation. The latter arises because our government institutions, at least as currently constituted, must rely upon review procedures that are on average more costly than those used by private parties in similar contexts. One reason to expect a substantial administrative cost difference with respect to compensation is that the most difficult evaluation will be the decrease in value resulting from the government's action. The government must determine this figure to calculate compensation, and one can expect major disputes.[98] The market avoids such needs to the extent risk is spread through financial markets -- e.g., diversified stock ownership -- and mitigates them in many instances with private insurance because value has been agreed upon in advance when the investor determined what level of coverage to purchase.[99] Thus, the savings compensation offers through not contracting in advance can in the end have substantial costs, although often they would not outweigh the savings. Finally, to the extent administrative

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96. Cf. Shavell, supra note 92, at 364 (before-the-fact regulation versus after-the-fact tort liability).

97. See supra note 73.

98. See, e.g., B. Bittker, supra note 11, at 3-38.

99. Thus, in a complete taking, no valuation would be necessary, and if a partial loss results, the damages may in some instances be specified by contract and in others the range of dispute may be narrowed because at least the total value of the property has been set in advance.

costs of compensating for losses are substantial relative to the loss itself, as will be true for wide ranges of losses,[100] it may be that either spreading through financial institutions or no provision for risk spreading whatsoever will be superior to standard insurance or compensation.

Finally, it is sometimes thought that the government (particularly the federal government) is in a better position to spread large risks than is the private sector.[101] Why this would be the case is rarely specified and hardly clear. The government is capable of spreading risks over the entire population through taxation and expenditure policy, but private financial markets reach almost all available wealth as well.[102] The refusal of the

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100. One commonly noted example concerns widely dispersed indirect losses from a government project or zoning change. See, e.g., Blume & Rubinfeld, supra note 9, at 600.

101. A related argument is that government-created risks are either greater overall or less stable. The numerous and varied examples of both government and market risk offered thus far suggest that this is not the case. See, e.g., Kaplow, supra note 50; cf. R. Posner, supra note 54, at 41 (noting relative stability of takings). In addition, if the argument in text holds, this issue would be largely irrelevant in any event.

102. Losses in wealth must be spread over wealth, rather than people, independent of their wealth. For example, those least involved in the financial markets have a small portion of total wealth, and are not in much of a position to absorb massive losses that may result from a very large and highly risky project. Also, to the extent financial markets extend across national borders, it would seem that in theory they can spread risks even further. For most changes in government policy under consideration, one would expect that both the government and financial markets would be in roughly similar positions to spread the relevant risks. See Kaplow, supra note 50.

Blume and Rubinfeld analyze a government not fully able to spread risk as if it were a risk-averse private actor. See Blume & Rubinfeld, supra note 9, at 616-18. This modelling is misleading because the it reifies the government rather than considering the government as the combination of its citizens, which seems more relevant in this context. Thus, as suggested by the analysis just offered, it seems reasonable to view the risk to the government as that imposed on all citizens after it has done made the best possible market to spread a given risk will often reflect the high incentive costs of such risk mitigation rather than some unspecified defect calling for government correction.

2. Government- Versus Market-Created Risks

It is hardly the case that most risks are attributable to uncertainty concerning future government action. It is more common to speak of risks -- which I will refer to as "market risks"[103] -- arising from predictions of future demand (general levels as well as for specific differentiated products), technology (research and development), behavior of immediate

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allocation of risks through its tax and expenditure policy.

Blume and Rubinfeld also argue that, for example, local governments may not be in a position to spread the risk of zoning changes since they affect a large number of landowners within the jurisdiction. See id. at 616. If this were true, this would favor market rather than government solutions, contrary to their general recommendation. But their argument is largely incorrect in any event because they ignore, as do many, see infra Section D, that there are also gains resulting from unexpected reforms. If losses can be compensated, gains can probably be taxed. And if the gains exceed the losses, as one would hope they would, there will be sufficient revenue to offer compensation.

Blume and Rubinfeld note that compensating at the state or federal level allows risk to be diversified across a larger population, although the disadvantage is that costs are no longer borne by the appropriate parties. See id. at 623 n.154. The diversification aspect of their comment has already been addressed. The latter reservation relates to their earlier point that "charges for the compensation program must be structured in a way that ensures that individuals most likely to receive compensation will be taxed." Id. at 615. This argument can be viewed as raising the fiscal illusion point, see subsection III-A-1, or the ex ante incentives point, see, e.g., supra note 63.

103. As will become clear, I use the term "market risks" to refer to all risks not caused by uncertainty concerning future government policy; thus, for example, natural events such as floods are included.

competitors, and prices of other goods (such as inputs) that in turn depend upon a variety of causes.[104] Market risks generally are not mitigated by the government precisely because of the incentive arguments developed in this Section.[105] Previous discussions of transitions in tax policy[106] and

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104. See, e.g., Samuels, supra note 8, at 119 n.16 (changes in market prices resulting in different injuries and benefits); id. at 121 (changes in others' spending patterns); id. at 124 (listing many sources). There is a conceptual problem in defining market risks distinct from government risks that is related to the problem with the state action distinction in that the impacts of market risks are as they are only because legal rules make it that way. See, e.g., id. at 124-25; sources cited supra in note 36 (state action). For example, a firm would not be injured by competitors if legal rules enforced monopoly rather than permitting competition. Alternatively, consider Blume & Rubinfeld's example where rezoning permits an industrial use that creates noxious odors, see Blume & Rubinfeld, supra note 9, at 590-91: the state action question is unclear here, but it might be thought different if zoning had never prohibited the use, but different again if a nuisance ruling resulted in an injunction or a statute regulated industrial pollution. The distinction I have in mind is that market risks refer to risks that arise even when existing legal rules and government policies (which I generally intend to include under the rubric "legal rules") are taken as given whereas government risks arise from changes in legal rules (or changing expectations concerning the prospects for such change, as described in Part I). I refer to changes in legal rules and government policies rather than simply to government activity because additional risk is imposed only to the extent future activity might differ from that already anticipated. See supra Section I-A.

105. An analogy can be made between the argument in this paper and the long-recognized notion that compensation is a defense to injury imposed on business rivals. See also Quinn & Trebilcock, supra note 7, at 143-44 (recognizing the analogy but failing to see the efficiency aspects due to the effect on compensation on ex ante incentives).

106. Graetz argues as follows:

> The risks of a change in law do not seem necessarily different in kind nor in magnitude from the risks of a change in market demand or technology. A priori, it cannot be said that the latter are less random, more predictable. Absent any convincing empirical showing that the losses from political change are disproportionately distributed or more burdensome on productive output than market-reflected changes, efficiency criteria seem not to require delayed or grandfathered effective dates. In fact, efficiency may demand that persons expect changes in the law. In the market context, only behavior that takes into

takings[107] have occasionally noted the connection between market risks, for which there generally is no compensation or other direct government mitigation, and government risks, where there often is.

> account probabilities of change is treated as reasonable. Reasonable expectations in the political context may, likewise, consist of only those which assess some subjective probability of change in the law.

Graetz, supra note 4, at 65-66 (footnotes omitted). He proceeds to note that "[t]he Treasury Department apparently takes a contrary view," id. at 66, and in the end he advocates phased-in or delayed effective dates as well, see, e.g., id. at 87. Yet, having recognized the analogy to market risk and having conceded that such mitigation would be inappropriate in that context, he never indicates why he believes government risk should be treated differently.

107. Michelman notes the similarity between the two situations and the corresponding need to distinguish them if one is to justify compensation in one context when it is not appropriate in the other. See Michelman, supra note 14, at 1216-17. The distinctions he offers, concerning the relative difficulty of insuring against government risk, which is systematic (unlike private risk), see id. at 1217, is unpersuasive. Subsections B-2 through B-4 have characterized the general reasons that insurance markets might fail and indicated how there is no systematic reason to believe that government risks are atypically problematic. Moreover, subsection C-1 indicated that in any event the government could not generally remedy such difficulties that might arise. The focus on insurance also ignores the spreading of risk through financial markets. Finally, the claim that government risks tend to be systematic whereas private risks do not seems wholly dependent upon the examples one selects. Piecemeal and incremental government reform is the rule, not the exception, and massive, systematic private risks arise through many sources, such as the business cycle, weather patterns causing major and widespread crop failure, natural disasters, and major technological breakthroughs. (It should be noted that Michelman offers this distinction as the "only ... possible way to defend [the necessary] behavioral supposition," but explicitly refrains from committing himself on the question whether it is necessarily accurate. Id. at 1217. He does, however, claim that it lies behind "any attempt to rationalize current compensation practices in utilitarian ... terms," id., which would presumably include his own utilitarian argument.)

Samuels has also noted the connection between government and market risks. See Samuels, supra note 8, at 113, 118, 124. Samuels is largely agnostic toward policy recommendations and argues explicitly that government and market risk are not distinguishable in any generally significant way, although he notes that this functional equivalence does not necessarily imply that each has the same normative status, see id. at 124 n.23.

Although most who recognize this connection typically go on to defend some sort of mitigation specifically in the context of government risks, no important distinctions have been offered.[108] Except for institutional reasons of the sort addressed in Section III-A,[109] I believe that in fact there is little to distinguish losses arising from government and market risk. Considering both risk and incentive issues, the source of the uncertainty is largely irrelevant.[110] As to the risk component, a private actor should be indifferent as to whether a given probability of loss will result from the action of competitors, an act of government, or an act of God, except to the extent that the source of the risk will affect the likelihood of some sort of compensation, which is precisely the issue this analysis is attempting to resolve. And for incentive purposes, it matters not whether a given probability that an investment will prove worthless arises from it being leveled for a highway or being leveled by a storm; in either case, investment should be more moderate the greater is the risk that it will turn out to be worthless.

That government risks are generally analogous to market risks does not resolve the question of the desirability of government mitigation. If one

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108. See the discussions supra in notes 106 and 107.

109. Fairness concerns, discussed in Section III-B, would also be relevant to the extent the concerns were explicitly linked to particular government processes.

110. One possible distinction arises in connection with mitigation strategies since the government has the option of making less change. Yet with market risks this is typically possible as well because the government can intervene in a variety of ways to modify or slow private changes. For further discussion of direct mitigation of government reforms, see infra subsection IV-A-3.

accepts the common belief that government relief of market risk is generally undesirable because the market usually operates efficiently when left to itself, or at least that government intervention would be no better, it would follow that mitigation of government risks would be unjustified for precisely the same reasons. On the other hand, one could conclude that the original assumption that the government should leave the market to itself was in error, calling for widespread government action to mitigate market risks.[111]

It is, in fact, the case that the government occasionally mitigates private risk, as through the provision of disaster relief, income maintenance programs, and the subsidy of risky undertakings.[112] Although there are far more such instances than most would immediately recognize, such programs must be viewed as exceptional relative to the vast scope of market risks. For example, there is no general government compensation for new products that fail, production facilities that prove more costly than anticipated, or people who earn less than they had expected due to a variety of unfortunate circumstances.[113] Adoption of mechanisms to deal with all conceivable market risks would be tantamount to government displacement of the private economy.

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111. See supra note 90.

112. See, e.g., Blume & Rubinfeld, supra note 9, at 597 (social security, agricultural price supports, bank insurance, flood insurance, unemployment insurance, and general income maintenance); Samuels, supra note 8, at 125 (farm subsidies, tariffs, disaster relief).

113. Even in these instances, there are some aspects of government that can be viewed as partial mitigation, such as the tax system that has the effect of the government bearing a portion of both gains and losses. However, taxes are not designed primarily for the purpose of risk mitigation, and no attempt is made to make such mitigation as complete as it might be. For example, full mitigation would involve taxes of 100% -- i.e., full government ownership, in which case market risk would largely be borne by the government in the first instance.

The argument presented in subsection 1 provides the basis for choosing the noncompensatory approach rather than the more intrusive one just described. The basic point was that even to the extent market imperfections inhibited achieving a hypothetically ideal treatment of risk and incentives, the government could generally do no better, and through direct forms of compensation it would do worse. It should be noted, however, that the argument really bears little on the larger question of private versus mixed versus planned economies since, for example, the government insurance could perform essentially the same role as private insurance, and government planning could take risk and incentive issues into account in a variety of ways. Rather, my more limited claim is that, from an economic perspective, there is nothing particularly unique about risk concerning future government policy that would justify departing from a society's more general approach toward its economy.

D. There Are Gains as Well as Losses

1. Windfall Taxes on Gains

Just like most all previous studies of transition issues, the analysis thus far has been conducted as though future government policy (as well as market uncertainty) caused many losses but no gains. This implicit assumption is particularly inappropriate for government risk since policy change is presumably undertaken because it is expected that gains will exceed losses.[114] A few examples should suggest the general scope of the argument. If repealing a tax exemption creates losers, enactment of an exemption, or

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114. Of course, depending upon the government's objectives and the definitions of gains and losses, this need not be the case. It still may well be that on average government action produces more gains than losses even given the economic definition employed throughout, and in any event no one would doubt that even if this were not the case, gains are so prevalent that they should merit significant attention.

My argument that it is often the case that gains are significant, and in fact often exceed losses, should be distinguished from Shachar's superficially similar position recently argued in the context of tax transitions. In analyzing the example of repeal of the municipal bond interest exemption, he argues that the losses to holders of municipal bonds will be precisely matched by gains to issuers of such bonds. _See_ Shachar, _supra_ note 57, at 1587 & n.31. One simple way to see that his argument must be wrong is that he ignores that the repeal results in the government receiving additional tax revenue on the transaction -- a point Shachar had explicitly noted in an earlier footnote, _see id_. at 1586 n.28, which he somehow fails to apply shortly thereafter. Since the government now takes a share and there is no place from which the loss is recovered, it must be the case that the parties to the newly taxed transaction are as a whole worse off, so the gains, if any, to issuers could not possibly offset the losses to bondholders. One could also consider the case where the new tax were not simply the personal income tax at the applicable rate, but a 100% tax on the principal and interest involved. The issuer still must pay principal and interest -- only it is paid to the government rather than the bondholder. The only instance in which there would be equality of loss and gain in this example is if the city were not planning to issue debt in the future and for some external reason it needed to redeem current debt at just the moment of the tax reform. At one point, Shachar refers to "_[w]hen_ the bonds are retired (repurchased) at the lower market price," _see id_. at 1598 n.65, but his argument only holds _if_ they would _otherwise_ would have been immediately repurchased in any event. For example, if the city continues to hold the obligation until maturity, it must over the course of the remaining life of the bond pay precisely the same interest and principal as it would have in the event the reform had not been implemented. (Shachar's example involving the lease of property, _see id_. at 1588 is similarly flawed because he ignores that the lessee who would gain by accepting a payment from being released from the lease must then pay higher rental obligations under a new, substitute lease which will have an expected value that precisely equals the payment it received from allowing its favorable lease to be cancelled.)

Of course, if one included the government's revenue gain, the result would be different. And, more generally, if one included whatever gains motivated the reform in the first instance, one would not be surprised to find that they exceeded the loss.

any other subsidy, for that matter, creates winners. Enacting regulations may create losers; repeal winners. There are also indirect, and often opposite effects. Regulated businesses may be losers, while consumers or workers or breathers of cleaner air are winners. Holders of assets that have lost their subsidies and tax preferences are losers; holders of competing assets will typically be winners. Owners of land taken for highways are losers; owners of land near the new highway may be even bigger winners due to changes in land use patterns. And, as some of these examples illustrate, it is not always the case that gains are dispersed whereas losses are concentrated; the opposite is quite frequently be the case as well.

The implication of this recognition is rather straightforward. Many of the arguments that have been given for compensation, grandfather provisions, and other mitigation of government action to protect losers who do not "deserve" their losses since they are caused by "bad luck" suggest that it is similarly appropriate to "tax"[115] those who have gains that are similarly not "deserved" because they arise from fortuity, not industry.[116] In particular, the analysis presented thus far applies to both. Risk aversion applies to gains as well as losses. For example, projects with uncertain although very high possibilities of profit may be discouraged if investors

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115. Here, the tax I have in mind would be 100% of the increase in value, the mirror image of compensation which is a 100% subsidy for the decline in value.

116. To consider briefly some of the institutional considerations from Section III-A, just as one would worry if the government singled out a selected few to bear all losses, one would worry about the singling out of a selected few to receive all benefits. Equal protection provisions are applicable to both, and concerns over corruption also illustrate the parallel nature of the situation. (I do not claim in this institutional context that the two worries are always equal in magnitude.)

must bear too much of the risk and investors will be less well off if they proceed bearing the full risk. In addition, incentives apply in both directions. For example, if a change may occur that will make an investment more profitable rather than less, it would be efficient if more were invested at the outset than would otherwise have been the case. Similarly, the more the upside risk is spread, the less would be this incentive to invest.[117]

Despite this strong similarity between gains and losses, virtually all investigations of losses arising in various contexts have ignored almost completely the appropriate treatment of windfall gains.[118] In particular, those advocating mitigation of windfall losses almost never suggest that taxation of similar windfall gains would be in order.[119] In the takings

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117. I am not claiming that there do not exist any arguments that may suggest that some distinction be made between gains and losses. Rather, since it is the case that a wide range of arguments made in the context of losses apply with similar, and often equal, force to gains, there is substantial benefit in analyzing them together and there is at least some presumptive inconsistency is arguing for special treatment of one while making no mention of the other.

118. See B. Bittker, supra note 11, at 3-28 ("rarely even mentioned").

119. See, e.g., Feldstein, Compensation in Tax Reform, 29 Nat'l Tax J. 123 (1976) (advocating compensation for losses); Hochman, Rule Change and Transitional Equity, in Redistribution Through Public Choice 320 (H. Hochman & G. Peterson, eds., 1974); Joint Committee on Taxation, Analysis of Proposals Relating to Comprehensive Tax Reform (1984), reprinted in Tax Notes (Oct. 8, 1984), at 161, 177-78. As another example, Graetz fails to consider the symmetric role of gains. Indicative of this general tendency is his explanation of the Treasury position that he believes, if taken to its logical conclusion (itself showing the scope of these transition issues, as argued in Part I), would call for compensation to investors in the defense sector if the federal government shifted its budget from defense spending to the health sector. See Graetz, supra note 4, at 66. No mention is made of the equally compelling argument to tax the unexpected gains to investors in the health sector.

The Department of Treasury report on tax reform offers an additional example. At one point they emphasize that "special transitional rules to context, unlike, for example, in the area of transitions in tax policy, it is not very surprising that losses have been considered while gains have been ignored since the takings clause of the Constitution is limited to a requirement that losses be compensated. Yet even authors who explicitly offer a general policy analysis, directed as much at legislative and administrative action, do not evaluate the parallel case for taxation of windfall gains.[120]

One explanation for the limited scope of prior analysis is that losers

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protect assetholders from loss should not give them the opportunity to earn windfall gains." **D. Bradford & U.S. Treasury, Blueprints for Basic Tax Reform** 167 (2d ed., 1984) [hereinafter cited as **Blueprints**]. What is remarkable is that the much more likely and significant event of windfall gains that result from the lack of a transition scheme never seems to be a concern, except in the special context of carryover problems, discussed in subsection IV-B-2-e. And, at one point when discussing goals, they explicitly emphasize losses rather than changes in general. See id. at 181; cf. New York State Bar, supra note 2, at 23 (consensus that effective date should not preceed announcement of a change when the affects on taxpayers are adverse).

120. See, e.g., Blume & Rubinfeld, supra note 9, at 571 (indicating that they are going to "evaluate[] the efficiency arguments both for and against compensation"); Michelman, supra note 14 (emphasizing the need for legislative and administrative involvement to achieve results in accord with his nondoctrinal arguments); Samuels, supra note 8 (offering an economic, not legal, analysis of the compensation problem); Sax, supra note 37 (explicitly considering the realm of policy choice, to the extent it goes further than requirements of constitutional law).

One exception to this pattern of ignoring gains is Berger, supra note 2, at 196. Yet he advocates only limited recognition of windfall gains, ignoring the most prominent instances. See id. at 202-07. In addition, he advocates taxing mechanisms, id. at 208, with little regard for obvious efficiency problems in that the analysis supporting the mechanisms he selects violates standard marginal cost pricing theory. Finally, his proposals for block-by-block voting to determine whether a nuisance should be condemned, see id. at 214, raise serious bargaining problems far beyond those he addresses.

Another exception is Baxter and Altree's treatment of airport noise, which devotes substantial, though not fully symmetric, attention to the treatment of gains. See Baxter & Altree, supra note 56.

cry louder for compensation than winners cry for taxation. Of course, when there are very large winners, as in the cases of oil and gas price deregulation, the possibility of windfall taxation is openly considered.[121] And there have been occasional instances, more similar to the traditional takings scenario, where benefits have been taxed.[122]

The similarity between the arguments for and against compensation of losses and taxation of gains suggests that strong advocacy of a given position on one side without advocating the same position on the other is inconsistent. If the common view in many contexts is that losses should be compensated, or otherwise mitigated, while gains can be ignored, the inconsistency does not, however, tell us which of the two positions should be abandoned. The analysis presented in this article suggests a general preference for ignoring both gains and losses. One possible reservation to this consistent leaning toward leaving gains and losses where they fall is the subject of the following subsection.

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121. Discussions of major tax reform, such as transitions to a consumption tax or integration of the corporate and individual income taxes, have occasionally elicited discussion of the appropriate treatment of windfall gains when they arise, for example, from wholesale repeal of a tax. See, e.g., Shachar, supra note 57, at 1595 & n.57 (and sources cited therein).

122. See, e.g., B. Bittker, supra note 11, at 3-28 (noting that New York City has compensated landowners adjacent to elevated railroad when built, and taxed them on gain when the system was removed). The issue also arises in standard takings cases where the question is often whether a party that has had property taken may be compensated less than full value on account of benefits conferred by the action on the party's remaining land. See Bauman v. Ross, 167 U.S. 548, 584 (1897) (permitting such an offset). Generally, if the case involves benefit to the same parcel that has been partly taken, an offset is permitted, whereas if benefits are to other property, no offset is allowed. Taxation of gains to parties who had no land taken would extend the concept even further.

2. Revenue Costs

The preceding subsection has argued that gains as well as losses resulting from uncertainty in future government policy are subject to much the same analysis because the risk and incentive issues are virtually identical. There is, however, one obvious difference between the two issues from the government's perspective: compensation costs money, and thus increases revenue-raising requirements, whereas windfall taxation raises funds, thus decreasing the need to raise revenues through more conventional means. This difference is limited, although only partially,[123] in the event that mitigation of both gains and losses is accomplished through grandfathering provisions, delayed effective dates, and the like, alternatives that will be explored in more detail in Section IV-A.

The difference in revenue effects is important because raising revenue is costly in a variety of ways. Of most relevance here is the fact that the degree of economic distortion and evasion usually increases with the tax rate. Therefore, the revenue costs of compensation are another argument

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123. For example, in the tax context, grandfathering or delaying implementation of repeal of a tax exemption results in the same revenue loss as compensation. Compensation results in the revenue being taxed, and then returned, whereas these other mechanisms mitigate transition by eliminating both halves of this cycle, never collecting the revenue in the first instance. In other instances, where the costs are not revenue costs but real resources costs, the argument is different but even stronger because the amount of the compensation at stake is typically less than the value of the harm imposed as a result of permitting the undesirable activity to continue, as explored in Section IV-A.

against it. By contrast, the revenue effects of windfall taxation may make it desirable because such benefits may exceed the previously-examined costs in terms of the optimal trade-off between incentives and risk spreading. The net result may be that frequently-ignored opportunities for taxation of gains should be pursued while often-discussed pleas for compensation should be ignored.

Before leaving this conclusion rest, it is useful to consider in greater depth the nature of revenue costs. First, revenue costs should not be confused with efficiency costs. As a first approximation, government tax and expenditure policy involves the redistribution of resources, whereas efficiency losses by definition refer to the loss of potentially available resources.[124] Second, running in precisely the opposite direction is the fact that raising revenues does impose resource costs. Costs of administration are likely to be secondary when one considers adjusting the level of current taxes rather than imposing new ones, although the greater the rate, the more attempted evasion one can expect, and thus the greater the enforcement costs would be. More important is the fact that taxes tend to

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124. Graetz seems to confuse the two when arguing that, for example, requiring compensation for certain types of changes would render change too costly. See Graetz, supra note 4, at 66. Similarly, his discussion of the costs of grandfathering versus compensation seems to treat revenue costs as economic losses. See id. at 71. It is unclear whether Michelman's concept of "settlement costs" is meant to include revenue costs as well. See Michelman, supra note 14, at 1214. Of course, as a matter of practical politics, revenue costs are often thought more significant than resource costs not borne by the government, an issue pursued further infra in subsection III-A-1.

This distinction has occasionally been noted in passing. See, e.g., Blume & Rubinfeld, supra note 9, at 572 n.20, 584 n.63; Michelman, supra, at 1181 n.32 (possibly referring to aspects of the question in querying the possible meaning of a point by Hayek).

distort economic decisionmaking. Although the issue of how much distortion results from various taxes is quite controversial,[125] it is probably reasonable to assume that increases in taxes impose some nontrivial cost, and, similarly, decreases result in some benefit, suggesting that the argument concerning the distinction between compensation and windfall taxation might hold to at least some degree.[126]

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125. See, e.g., A. Atkinson & J. Stiglitz, Lectures in Public Economics chs. 205 (1980).

126. This argument is made much more complex, and the conclusion may be vitiated, if one takes into account the ability to make a wide range of adjustments in the preexisting tax system to optimally respond to the effect of realized levels of windfall profits taxation or compensation. For some discussion of these complications, see Kaplow, supra note 50.

III. ADDITIONAL CONSIDERATIONS IN FORMULATING TRANSITION POLICY

This article does not attempt to offer a comprehensive analysis of all issues relevant to determining transition policy. Most of the argument here concentrates on questions of economic efficiency that are often raised, if indirectly, in examining uncertainty concerning future government action. It is useful, however, to consider briefly a number of other issues that are either closely related to such economic questions or often confused with such economic issues in order to clarify the applications and limitations of the arguments offered thus far.

A. Institutional Considerations

One set of assumptions used in the preceding discussion concerns the operation of government. The arguments concerning the benefits and disadvantages of various compensatory policies took as given that the reforms themselves resulted from sound processes that exhibited no significant biases or irrationalities, and that such processes would not themselves be affected, for better or worse, by the transition policy selected. This approach is justified for many reasons. Most simply, the assumption may sometimes be accurate, or at least a reasonable approximation. More importantly, it is usually helpful and often essential to understand how a process should work if all goes well if one hopes to analyze how it should be adjusted when complications arise. At a minimum, it must be recognized that modifications to accomodate institutional concerns may come at a direct cost to economic efficiency. FInally, advice to particular decisionmakers grounded on the assumption that they cannot be trusted may be cast aside despite its accuracy.

At the same time, however, much of the business of the law -- particularly constitutional law, where some of the issues addressed here arise -- concerns precisely such issues of constructing and constraining government institutions in recognition that they cannot be assumed to be free from the biases and other imperfections with which all are familiar. This Section briefly notes a number of institutional factors that may be relevant in the context of transition policy.

1. Fiscal Illusion

One of the more commonly expressed arguments in favor of compensation[127] in the takings context -- with obvious, but rarely noted applicability elsewhere -- is that it is necessary to insure that government decisionmakers take into account the cost of their actions.[128] Put simply, the fear is that

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127. The argument to follow is premised upon using compensation, or some equivalent, as transitional relief. To the extent alternative mitigation is employed and does not result in a sufficiently direct cost to the decisionmaking body, the fiscal illusion argument could not be applied.

128. See, e.g., Blume & Rubinfeld, supra note 9, at 620-22; Blume, Rubinfeld & Shapiro, supra note 57, at 488-90; Michelman, supra note 14, at 1218; L. Tribe, supra note 32, at 458-59.

Berger not only considers fiscal illusion, but often treats it as though it subsumes the concept of efficiency as it relates to takings, see Berger, any sort of cost-benefit balancing otherwise will be biased because costs will be discounted if they are not directly borne by the decisionmaking body.[129]

This fiscal illusion argument alone is insufficient to justify a requirement of full compensation in light of the analysis offered in Part II. Essentially, if such fiscal illusion were a real fear, there would be incentive issues on both sides: absent compensation, the government may be overactive in its takings policy, and with compensation, private parties will overinvest.[130] No obvious a priori conclusions can be drawn, and in such

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supra note 2, at 171, 189-90, 197, aside from administrative cost considerations, see id. at 169-70.

Sax's original proposal -- later abandoned, see Sax, supra note 37 -- to require compensation any time (but only) when the government acts as a participant rather than as a mediator is motivated in large part by the fiscal illusion problem. See Sax, supra note 8, at 62-67.

129. If the fiscal illusion analysis is accepted, there arises a related problem: even to the extent there is a requirement of compensation, so long as it is not comprehensive, decisionmakers would similarly have an incentive to structure their project to minimize the amount of compensation paid rather than minimizing actual loss. For example, if large diminutions in value absent a physical invasion are not compensable, or if indirect and widely disbursed losses, no matter how significant in aggregrate, are not compensable, the effect of requiring inevitably limited compensation may be in large part to distort project choices toward what may be even more costly alternatives.

Blume and Rubinfeld offer a similar argument in the context of government takings insurance, to the extent it is not purchased by all potential landowners subject to a taking. See Blume & Rubinfeld, supra note 9, at 597-99. They fail to note, however, that to the extent the compensation scheme they advocate is less than comprehensive (as they surely intend), it is subject to much the same problem.

130. See Blume, Rubinfeld & Shapiro, supra note 57, at 488-90.

This problem is analogous to issues arising in the tort context in choosing between strict liability and negligence, and the possible need for a defense of contributory negligence, when it is assumed that both sides rather than just one affect the probability or magnitude of losses from accidents. See circumstances partial compensation may be a good solution, or it may be even better to attempt to change directly the decisionmaking process.

There is another, more obvious flaw in this argument that potentially has even more significant implications: the implicit assumption that government decisionmakers treat costs and benefits assymetrically, with a systematic bias toward overdiscounting costs relative to benefits.[131] The reason costs

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generally Shavell, Strict Liability versus Negligence, 9 J. Leg. Stud. 1 (1980). (A similar analogy can be made in analyzing "coming to the nuisance." See Wittman, supra note 56. In the takings context, the analogy can be detailed as follows. Requiring compensation is like imposing a rule of strict liability on the government. And since there is (for the most part) no defense of contributory negligence (i.e., that the private investment should never have been made), there will be insufficient private incentives. If there is no compensation, as when there is no liability, there would be no incentive for the government to limit its actions (in terms of care and activity level). Generally, in order to insure 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). A negligence rule monitors the government in this case, and strict liability with contributory negligence monitors the private investor. If there is no fiscal illusion or related problem, the government's behavior is presumed to be appropriate, so placing liability on the private investors would always be appropriate from an incentives point of view. (The analysis of Part II goes further in suggesting that risk considerations do not generally change this conclusion.) With fiscal illusion, either alternative methods (other than compensation) must be found to insure proper government decisionmaking, private investment must be monitored, or some sacrifice of incentives is unavoidable. Further analysis of this comparison is offered in Kaplow, supra note 50.

131. Blume and Rubinfeld have noted in passing that this assumption underlies the fiscal illusion argument. See Blume & Rubinfeld, supra note 9, at 621. Yet they underplay the point, not noting how the same analysis that suggests the possibility of fiscal illusion on the cost side applies equally to the benefit side. Berger does advocate taxation of windfall gains to internalize the benefits of a project to the government decisionmaker. See Berger, supra note 2, at 196.

Blume and Rubinfeld also suggest a related problem of project choice moral hazard connected with government decisionmaking. The claim is that if the government takings decision fully reflects costs, which are based on existing market values, it may be that private investors will overinvest to make it less likely that their land will be taken, which they would have an incentive are assumed to be discounted is that they are not directly borne by the decisionmakers themselves. But neither are the benefits. To the extent both are discounted in roughly the same proportions, no bias would result.[132]

It was often argued in the past that governments generally tended to

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to do if there were not full compensation, a problem that would be avoided if the government taking decision were not based on the actual investment but rather on what the ideal investment would have been in the absence of such strategic considerations. See Blume & Rubinfeld, supra note 9, at 622-23; Blume, Rubinfeld & Shapiro, supra note 57, at 81-86. Although this government response seems implausibly difficult to implement, the private investor's strategy absent such a response would also be very difficult. Strategic action would only be helpful if the public project (at least using that investor's land) were sufficiently close a question that additional investment would change the public choice. If the investor miscalculates, more is lost than otherwise would have been the case. It may be that the investor can only make a good gamble shortly before the taking decision is made, when both the probabilities of a taking and the precise balancing being performed by the public body can more readily be ascertained. But just as courts tend to refuse to compensate for additional investment after a taking has become imminent, a decisionmaker could plausibly ignore the additional market value arising from such investments as well. More importantly, except for some unique takings situations, this problem is inapplicable to the more general transition context because it is usually the case that a single investor's losses will have virtually no impact on the total cost-benefit balancing. Such an investor would have to spend vast amounts relative to the amount at stake to have even a miniscule change of affecting the overall decision. Investors as a whole would have difficulty coordinating such action due to the free rider problem.

132.

> Given that neither the benefits nor the costs of a proposed course of action are (at least fully) internalized to the bureaucrats and politicians involved in the decision, it is difficult to predict how a requirement of actual compensation payments is likely to affect public sector incentive structures or to discern any clear linkage between such payments and welfare-maximizing outcomes.

Quinn & Trebilcock, supra note 7, at 135. Note, for example, that if one thought there were a moderate bias in the balancing of costs and benefits, requiring compensation could go much too far in internalizing all the costs but none of the benefits, with the result that the net bias, although in the opposite direction, would be far worse than previously. Of course, if full taxation of benefits (gains) were employed as well, see supra Section II-D, one might achieve parity in this respect.

overspend because benefits were directly perceived by constituents whereas unseen costs added to the regular tax bill, and thus elected representatives were inclined to give excessive weight to the former. With all the recent talk of tax revolt, it could now readily be argued that, if anything, the opposite is the case.[133] More sophisticated arguments have suggested that the direction of bias is highly contingent, depending upon such factors as whether the costs or benefits are widely dispersed or concentrated and how organized are the affected groups.[134] If anything, such an approach suggests that concentrated costs -- as are typical with takings -- would be given too much rather than too little relative weight,[135] subject to the qualification to be discussed in the following subsection.[136]

It cannot be denied that imperfections in the weighting of various costs and benefits are a serious problem. It is not the case, however, that strong requirements of compensation offer a ready solution. For that to be the case, it would have to be that the sacrifice in private incentives was worth

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133. It is not even obvious that one must look to recent events to support this conclusion. See, e.g., Hobbet, Transitional Mechanisms to Facilitate Tax Reform, 34 L. & Contemp. Probs. 818, 823 (1969).

134. See, e.g., A. Downs, An Economic Theory of Democracy (1957); M. Olson, The Logic of Collective Action (1965).

135. More generally, "[r]equiring compensation when a conflict among competing users is resolved in favor of diffuse interest-holders, and not when it is resolved against them, inevitably skews the political resolution of conflicts over resource use and discriminates against public rights." Sax, supra note 37, at 160.

136. The standard analysis also assumed that mitigation imposes direct budgetary costs. To the extent other transition mechanisms are employed, this need not always be the case. See also supra note 123, infra Section IV-A (noting that mitigation mechanisms without direct revenue costs are typically even less efficient than compensation).

the cost (including administrative costs), that biases in giving weight to benefits could safely be ignored, and that compensation would lead to appropriate evaluation of costs by the decisionmaker -- itself a highly questionable proposition in light of all the political complications associated with raising revenues and the partial separation of responsibility between taxing and other government decisionmaking that often prevails in any event.[137] It is not my claim that there exist no situations in which appropriately constructed requirements of government mitigation may improve the incentives of some government actors, but rather that the frequently asserted simple connections may often be misleading, which calls for more subtle analysis of government institutions.

A less frequently discussed but possibly more important problem than direct fiscal illusion concerns the possibility that there exist biases not directly influencing elements of the cost-benefit analysis, but rather operating directly on the results chosen. For example, an agency may seek to

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137. One study has shown that a compensation requirement did induce federal highway agencies to alter their behavior. <u>See</u> Cordes & Weisbrod, <u>Governmental Behavior in Response to Compensation Requirements</u>, 11 J. Pub. Econ. 47 (1979). The authors were careful to note, however, that to draw normative conclusions concerning the desirability of this effect, it would be necessary to establish that the agency budget had previously been inefficiently large and that the compensation was for real, rather than pecuniary, losses.

This latter issue concerning the distinction between real and pecuniary losses if often overlooked. Requiring compensation for pecuniary losses but not demanding taxation of offsetting pecuniary gains (which is often not discussed, <u>see supra</u> subsection II-D-1) would result in a significant bias in the opposite direction, if the simple fiscal illusion argument or various modifications thereof are to be believed. Moreover, since pecuniary effects may far outweigh real effects, the net bias from a policy of full compensation for losses that does not simultaneously tax all gains could easily be worse than any fiscal illusion problem resulting from no compensation.

enhance its budget or prestige.[138] Requiring compensation would not obviously solve this bias either.[139] For example, greater losses requiring greater compensation would require an increase in the agency's budget, which furthers its alleged objective. Presumably, restraint would have to come from the body appropriating funds (or, in the case of the legislature, directly from the voters). The effect of requiring compensation may make costs more visible to such a reviewing body. The analogous argument can be made in regard to requiring full taxation of benefits as well. Of course, if one's general fear is of excessive government action -- whatever the reason -- making government action more difficult in any way might be seen as desirable. From a more neutral perspective, however, the connection between particular transition policies and such hypothesized government behavior requires substantial further study before any firm conclusions can be reached.

2. Abuse of Power

A narrower, but potentially more serious concern related to the general possibility that a government may not evenly weight all costs and benefits is that it may -- arbitrarily or intentionally -- single out particular individuals or groups, either as direct targets of punishment or as

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138. See, e.g., W. Niskanen, Bureaucracy and Representative Government (1971).

139. The other arguments offered in connection with fiscal illusion are also applicable.

undeserving of equal consideration when considering benefits or costs that may accrue to them. In fact, precisely such fears underlie much of the historical hostility against retroactivity and takings without compensation.[140] Equal protection provisions, particularly as applied to suspect and quasi-suspect classes, such as race and sex, are designed with precisely such fears in mind.[141]

One instrumental argument sometimes offered in favor of equal treatment requirements is that if the majority is required to share in the costs allocated to the minority or to forgo the benefits kept from them, it simply will refuse to engage in such practices. Demanding that both costs and benefits of programs be evenly distributed, rather than allowed to fall as

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140. See, e.g., Greenblatt, supra note 2, at 540 (retroactivity context); Sax, supra note 8, at 54-60 (takings context); see also Quinn & Trebilcock, supra note 7, at 123 (stronger claim to compensation for individuals or groups who consistently "suffer losses at the hands of stable winning coalitions").

141. Tribe argues that the just compensation requirement is designed to prevent the sacrifice of the many to the few, see L. Tribe, supra note 32, at 463-64, which is similar to the argument offered here. It is unclear why economic equal protection requirements are not similar in strength given that, as suggested in Part I-A, many of the same values are implicated. One obvious explanation, not fully borne out in light of notorious doctrinal difficulties, is that takings was one context where the problem could clearly be defined, unlike issues involving economic equal protection, where the court has largely abandoned any attempt to scrutinize legislative action.

A similar argument in the context of individuals rather than groups provides some of the justification for the prohibition on ex post facto laws and bills of attainder. Although the ban on ex post facto laws has been limited to the criminal context, see Calder v. Bull, 3 U.S. (3 Dall.) 386 (1798); B. Bittker, supra note 11, at 1-30 n. 60; L. Tribe, supra note 32, at 10-2, similar analysis has been offered in the retroactivity context, see, e.g., Munzer, supra note 2, at 438. Especially if no compensation were required, one could imagine a government taking motivated by the desire to punish a specific individual, although when dealing with more general action, such as in the area of tax legislation, this problem seems more remote.

they may, could contribute to similar ends. Of course, it is not questioned that programs may have as a legitimate purpose redirecting the distribution of benefits among various groups in society, as discussed in Section I-C in relation to the general distribution of income. Thus, to apply a general transition policy that requires mitigation of losses and redistribution of benefits, one would have to consider both whether the unmitigated distributional effects were desirable or permissible,[142] whether the costs of altering such effects were worth incurring, as well as whether other approaches might better deal with such problems.[143]

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142. The significance of this requirement cannot be overstated. Assume it was accepted that <u>some</u> redistributions (or, if one prefers, rectifications for past violations of what otherwise would have been a just distribution) were permissible, but that otherwise compensation of losses and taxation of gains to equalize the distribution of benefits was required. If this requirement is motivated by the perceived need to prevent legislative or executive abuse of power, it would be necessary for the reviewing institution (the courts) to consider all claims that distributional effects were not in fact mitigated and to determine in each case whether the effect was a permissible redistribution or rectification and, if not, whether the costs of mitigation were sufficiently great and the risks that abuse of power in that instance sufficiently small to permit the effect to remain. Combining this standard of review with the argument of Part I concerning the ubiquity of government actions causing such effects and the range of effects from any such action creates a rather imposing picture indeed. The solution adopted in current constitutional doctrine is simply to deem virtually all distributional effects (unequal or adverse impacts) permissible, subjecting only a narrow range of discrepencies to review, and then only under a limited set of circumstances. <u>See, e.g.</u>, L. Tribe, <u>supra</u> note 32, at 994-96. The issues of transition policy and scope of judicial review are thus much the same in this context, for a strong standard of review essentially prohibits governmental actions that are not enacted in a manner that makes the impacts across groups sufficiently even.

143. Of course, there are also limits to what checks and balances within government can accomplish. <u>See</u> Samuels & Mercuro, <u>supra</u> note 78, at 179 ("Insofar as the compensation requirement serves as a check on arbitrary and tyrranical power, it does so only through the use of governmental power to check other governmental power the exercise of which in its totality remains arbitrary.").

3. Constraint on Future Government Action

To the extent the government is committed to full compensation for takings, or more generally to any transition policy requiring or forbidding mitigation or redistribution of the gains and losses imposed by government action, its future options may be constrained in various ways. Such limitations have both advantages and disadvantages. Benefits accrue to the extent one believes that future deviation from preestablished policy is rarely, if ever, desirable, as is typically thought to be the justification for most constitutional provisions.

From a different perspective, the government may benefit from being able to commit itself in advance, as might be the case where private actions will be affected by expectations concerning future government policy. For example, one of the assumptions used in the analysis of Part II was that the government will maintain a consistent transition policy that will be anticipated and acted upon by investors. If the government has selected the best possible transition policy, such action in reliance may be desirable, and the government might benefit if it could increase the degree to which it could be trusted to continue in such a manner. To a large degree, expectations of future government policy will depend on past decisions, so consistent action over time can be quite successful in fostering particular expectations.[144]

On the other hand, it may often be difficult to specify rigidly a particular policy in advance, especially given the incredible complexity and detail one must confront in this area.[145] One component of this problem is that future events may cause the best judgment concerning transition policy to change. In light of all these considerations, it is difficult to determine whether transition policy should be constitutional, statutory, or customary in any given context. This complication raises additional problems addressed in subsection IV-B-3.

4. Motivation for Government Reform

A broader way to examine the fiscal illusion issue concerning whether particular reforms reflect an unbiased cost-benefit assessment is to consider how the analysis changes if one assumes that government reforms are not at all the product of ongoing application of a rational decision framework, but

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144. Section I-B already discussed the sense in which, for example, the Contract Clause and the takings clause serve as constitutionally mandated transition policies. Tribe has previously noted how the Contract Clause can be seen as committing the government in the manner described here. _See_ L. Tribe, _supra_ note 32, at 470, 473. The ability of the government to establish a credible transition policy is examined further in Kaplow, _supra_ note 50.

145. This no doubt has something to do with the courts' difficulty in formulating consistent, predictable rules in the takings area. _See, e.g._, decisions and commentators quoted in Samuels & Mercuro, _supra_ note 78, at 181 n.4. (If the concepts underlying the doctrine were in some way contradictory or incoherent, one could still imagine there existing rather predictable rules if the bulk of situations could be sufficiently described in advance.)

rather are a function of whim or changes in political power largely unrelated to actual changes in anyone's understanding of what policies are more sensible.[146] The difference between these two perspectives is sometimes quite important in determining the relevance of the incentives analysis presented throughout Part II. The reason is that the overinvestment argument -- i.e., that compensation for losses results in more investment than is efficient -- assumes that if the reform decreases the private value of the investment, the social value decreases as well.

Even in this context, the original conclusion holds rather directly in the event of a takings or a product ban, where the investment is destroyed or otherwise rendered useless. Even if the social policy is undesirable from some perspective, given the fact of its implementation, it would have been better if investors ex ante took the possibility into account. The overinvestment argument does not, however, apply as directly to other policy changes once one removes the assumption that the reforms are desirable.

In the event of changes in economic incentives, such as through taxes and subsidies, the analysis is more complex. Consider a subsidy that was previously offered to correct a positive externality -- i.e., it was thought that the social benefit to investment in some area exceeded its private value. Later the subsidy is repealed because this divergence no longer exists. In this instance, the same efficiency argument would apply because

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146. This subsection differs from subsection 1 in that the earlier discussion of fiscal illusion addressed whether a requirement of compensation might improve the incentives of government decisionmakers to take more desirable actions, whereas this subsection addresses the applicability of Part II's analysis taking as a given that reforms actually undertaken may not be desirable from all perspectives.

repeal reflects that such investment produces less social value than before, ceteris paribus.[147] At the opposite extreme, if repeal solely reflects a change in power unaccompanied by any change in the actual desirability of the investment, the same argument, upon which the overinvestment analysis was premised, could not be made. The reason is that, from the point of view of those initially in control of government, there is no overinvestment because the project is still valuable. In contrast, from the point of view of the reformers, there was always overinvestment because the project was never a good idea -- or at least should not have been subsidized.

There is no obvious way to assess reform caused by political change. From the point of view of those who have just come to power, merely letting losses lie where they fall in fact does not even go far enough. Anticipation of a further penalty would be necessary to have produced the outcome they desire. On the other hand, full compensation would have to be anticipated to produce the results thought appropriate by the previous regime (and the past policy would have to be continued as to new investment as well). Yet few would contend that newly elected politicians are forever (or even for a long time) bound to the policies of predessors. The implications of these sorts of political considerations for transition policy will not be considered further here.[148]

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147. This argument is developed further supra note 55. The analysis is similar, though not indentical, for the case where facts change or where facts remain the same and new information becomes available that revises previous assessments of costs and benefits. See infra subsection IV-B-2-g.

148. For a partial analysis of the issue, see Kaplow, supra note 50.

B. Fairness Considerations

This section does not attempt to deal exhaustively with the wide range of fairness arguments that might be raised in this context. Rather, I will discuss a few of the more frequently-raised claims that are most closely related to the economic analysis offered here.

1. Fair Distribution of the Benefits and Burdens of Government Action

One common instinctive reaction to the transition issue is that "fairness" requires an even distribution of the benefits and burdens of government action.[149] The argument is most common in the case of losses, particularly when they are large and concentrated, as is sometimes the case in the takings context. Full analysis of this position is beyond the scope of this study. Here I offer the limited claim that our instinctive preference for a more even distribution of the effects of government reforms can be largely explained without reliance upon an additional, independent principle of justice. In particular, a close connection exists between this

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149. See, e.g., Berger, supra note 2, at 195; Blume & Rubinfeld, supra note 9, at 578. Cf. Berger, supra, at 167-69 ("community's sense of justice," ascertained using informal surveys of law students); Costinos, Presumptive and Per Se Takings: A Decisional Model for the Taking Issue, 58 N.Y.U. L. Rev. 465, 469, 486-87, 498 (1983) ("just share" principle).

normative intuition and the economic analysis presented previously.[150]

First, I briefly note, without in-depth exploration, one possible explanation for the ethical intuition: that the desire for even distribution of the benefits and burdens of particular projects is simply derivative of the larger egalitarian preference for distributional equality. Seeking equality in each instance and equality overall are not necessarily equivalent.[151] Moreover, consistent pursuit of the former may accomplish the latter in an inefficient manner.[152] Yet it is quite conceivable that the intuition commonly cited in narrow contexts reflects heuristic application of a preference for overall equality.[153]

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150. This argument should not be interpreted as suggesting that the ethical intuition and previous economic analysis are necessarily the same. The claim is only that the commonly held intuition and the economic argument have congruent implications in the typical setting. Although this casts some doubt on whether there exists an independent normative principle that goes beyond the economic concept, it cannot rule out the possibility. It suggests that if an independent principle is to be maintained, argument beyond that often given needs to be developed.

151. If property and contract rights are included in governmental activities, see, e.g., Kennedy & Michelman, supra note 36, the argument for context-specific equality can be translated more directly into the broader distributive justice concern.

152. This would be the case if two actions increased available resources and had offsetting distributional effects, but each considered separately would have to be abandoned because of grossly unequal impacts.

153. Well-known results from cognitive psychology, more typically applied to perceptions of facts, offer a possible way of understanding the source of such commonly-held value judgments. See generally R. Nisbett & L. Ross, Human Inferences (1980). For example, Nisbett and Ross refer to the "representativeness heuristic," which refers to people's excessive tendency to categorize based upon similarities in salient features of objects to typical objects in the category when further analysis (that often will not be undertaken) indicates that such similarities are misleading. See id. at 24-28. One possible application to this context considers familiar conceptual categories relating to value judgments rather than groupings of objects -- in this case the concept of equality. The fairness considerations

Another explanation -- more directly related to the economic analysis of Part II -- is that the motivation for an even distribution of burden, especially in the case of large concentrated losses, reflects an instinctive appreciation for the basic principles of risk analysis. This interpretation is strengthened by the appealing nature of Michelman's use of the rubric "demoralization costs."[154] Risk aversion, premised on the declining marginal utility of income,[155] posits that greater monetary losses will cause more than proportionately greater losses in actual well-being. Thus the instinctive desire for private insurance protection against fire destroying one's home and the desire for compensation in the event of a taking, or grandfathering in the event of a major change in the legal system that otherwise would substantially destroy the value of one's investment, can be

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addressed in this subsection and the concept of horizontal equity addressed in the next both appeal directly to instincts relating to equality. A strong presumptive preference for or insistance on equality can be supported from a number of perspectives (some interrelated). At least four are relevant here. First, from a simple instrumental perspective, equal treatment is generally optimal because if two individuals are equal in all relevant respects then the optimal decision rule will almost always demand the same outcome for each. Second, equality can be employed in the sense of overall distributive justice -- e.g., equality in the income distribution -- as discussed in Section I-C and in this subsection. Third, equality is related to problems of domination, discrimination, and abuse of power that suggest independent reasons, both instrumental and intrinsic, for favoring equality in many contexts. Fourth, the analysis of risk essentially equates equality ex post (in results) with higher average welfare. The question can then be restated as asking whether ex post inequality is offensive when there are countervailing gains <u>and</u> all four of these reasons for favoring equality are either inapplicable or (in the case of the last) in some manner outweighed. In contexts where one is accustomed to one or more of these reasons being decisive, the representativeness heuristic may lead one to believe that equality is required (and to be unlikely to question that belief) even if an additional justification is lacking in instances where it turns out that the usual reasons are inapplicable.

154. <u>See</u> <u>supra</u> subsection II-B-5-a.

155. <u>See</u> <u>supra</u> note 48.

seen as very similar not only in terms of standard economic analysis but also in terms of underlying motivations.[156]

The major distinction between the two sets of cases from this perspective is that with fire insurance or market risks one expects to be self-reliant in securing protection, whereas when the risk is directly linked to the government, one is more inclined to look to the government for protection. It is not necessarily the case that this distinction based upon different causal origin indicates that different values are implicated, or that any such difference in values -- if it exists -- calls for a governmental response that is different than that investors would find worthwhile when responding to market risks.[157] Of course, it may be that special concern for

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156. One modification of this analysis would be in order if one thought that individuals' preferences were thought be be affected by the existing state of affairs. One particularly relevant possibility is that individuals become accustomed to any state that has existed for a substantial period of time, making downward adjustments in standard of living particularly painful relative to the benefits of upward adjustments. (This argument would be most applicable to major changes or reforms that had particularly strong negative effects on some individuals.) This could be viewed as an aspect of what Michelman intended by the concept of "demoralization costs," discussed in subsection II-B-5-a, and is suggested by Calabresi's secondary accident cost avoidance analysis in his brief reference to change in social or economic status, see G. Calabresi, supra note 80, at 45. This would suggest that losses are weighted relatively more heavily than one might have thought, and might further explain the preoccupation with losses rather than gains, although it is not clear that there would be any significant effect on the analysis. For example, individuals who felt especially worried about losses would be willing to pay more for insurance or other risk mitigation, and there is no a priori reason that such preferences would not adequately be taken into account, other than the generally applicable issues explored previously.

157. One would expect that a priori views concerning the appropriateness of compensation for different categories of risk to be contingent upon prevailing legal culture. For example, the current legal system and more generally current understanding of the role of government is based heavily on the state action (public/private) distinction. Whether this justifies a distinction in this context does not necessary follow. Cf. supra note 153

government-created risk would be based on fears of abuse of power, as discussed in subsection II-A-2.

A related point is that it seems arbitrary at best and malicious at worst to enact reforms that result in highly unequal distributional effects to the extent various mitigation schemes are available at little cost. Thus Michelman reasonably inquires in the takings context why it is that "a redistribution which would have been unacceptable if undertaken for its own sake may be tolerated if it is the accidental consequence of a measure claiming the independent justification of efficiency."[158] The argument suggested in Part II is that mitigating the distributional impact has costs in terms of incentives and that the market generally will balance these competing considerations at least as well as can the government in its efforts to supplement the market. Of course, if the incentive effects were absent,[159] then risk could be mitigated without cost (aside from administrative cost qualifications), and it indeed would be optimal from an economic point of view to spread the effects of uncertain future government action as evenly as possible. The significant remaining question is whether there exist notions of fairness that call for a more even distribution

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(discussing similar questions of applicability in the context of the concept of equality). In this particular context, the tendency to assume that a distinction is justified is bolstered by the existence of a tradition of assuming that one will be compensated for adverse effects of government action, in spite of a largely contrary reality, _see_ Samuels & Mercuro, _supra_ note 78, at 180-81 (mere existence of requirement of compensation, although generally not applied, serves to legitimate government action), combined with a laissez-faire attitude toward private action (which is equally illusory in many respects).

158. Michelman, _supra_ note 14, at 1183.

159. This is pursued briefly _infra_ in subsection IV-B-1-e.

independent of the impetus provided by concerns for an equal distribution of income or wealth and for spreading risk.[160]

2. Horizontal Equity

Graetz has stated that "[p]erhaps the most widely accepted notion of fairness in taxation is the concept of horizontal equity."[161] The general principle calls for the equal treatment of equals, which in the tax context is translated into the notion that "similarly situated" taxpayers should pay

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160. It is interesting that Michelman explicitly argues that his fairness approach would tend to be quite similar to a utilitarian calculus. See Michelman, supra note 14, at 1223-24. His primary illustration of divergence is an example indicating that the utilitarian calculus may permit the government to lie to the population about its compensation scheme, and even here he notes "that [if] publication and perceptive interpretation of decisions must be assumed, then the divergence between utility and fairness will narrow sharply." Id. at 1224. Another related source of difference is that utilitarian decisionmakers may take into account differing individual psychological makeups that may affect perceptions in manners parallel to government lies. See id.; see also, e.g., id. at 1233 (applying the latter possibility). Whether either is truly part of a utilitarian framework (the aspects he emphasizes would only be relevant to the analysis offered here to the extent ex ante incentives, which Michelman does not analyze in detail, were affected), will not be considered further here. The point is that the divergences Michelman does suggest are rather different from the general fairness notions typically noted in the transition context.

Graetz offers a fairness analysis based on Rawls which he asserts is similar in implications to his economic arguments, although his precise conclusions in the fairness context are simply listed without any explanation as to their derivation. See Graetz, supra note 4, at 85-87.

161. Graetz, supra note 4, at 79 (citing **H. Simons, Federal Tax Reform** 8 (1950)); Hobbet, supra note 133, at 821 ("It is relatively easy to find agreement for the statement that taxpayers having equal amounts of income should pay equal amounts of tax.").

similar amounts of tax.[162] Applied to takings, the idea is that since homeowners as a class are similarly situated it is unfair for one to bear a significant burden in supporting a public project whereas others do not. In practice, appeals to horizontal equity generally are quite similar to claims that the benefits and burdens of government actions should be spread evenly -- with the qualification that the requirement only holds among those for whom there exists no relevant differentiation. Horizontal equity is often invoked in a manner suggesting that it should weigh heavily against actions that might otherwise be justified on grounds of efficiency or overall equality in distribution.[163]

Since horizontal equity is essentially another version of the notion that burdens and benefits be spread uniformly, even as applied to individual projects rather than government action as a whole, the analysis offered in subsection 1 is largely applicable here. Some of these issues can better be seen by examining the concept of horizontal equity more directly. In the contexts addressed in this article, such as the repeal of the municipal bond interest exemption, there is always _a_ relevant distinction among those affected more adversely than others -- in this instance, whether one owns municipal bonds. The question is whether this distinction is sufficient to

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162. _See, e.g._, A. Atkinson & J. Stiglitz, Lectures in Public Economics 353 (1980); R. Musgrave, The Theory of Public Finance 160 (1959); Feldstein, _On the Theory of Tax Reform_, 6 J. Pub. Econ. 77, 95 (1976); Graetz, _supra_ note 4, at 79. In the contstitutional context of equal protection, see Tussman & tenBrock, _The Equal Protection of the Laws_, 37 Cal. L. Rev. 341, 344 (1949) (Constitution requires, "in its concern for equality, that those who are similarly situated be similarly treated").

163. _See, e.g._, Shachar, _supra_ note 57, at 1595 (arguing as though unquantified gains in horizontal equity would be decisive against considerations of vertical equity -- i.e., equality in overall distribution).

justify disparate treatment. The analysis offered in Part II provides an affirmative justification. Thus, the question becomes whether some independent principle of justice underlying horizontal equity should be weighed in some manner against the benefits from differential treatment. The concept of horizontal equity itself gives little clue as to what such a principle might be.[164] The previous subsection indicated how intuitions suggesting this should be the case can be interpreted as motivated by concerns for general equality of distribution[165] -- with which horizontal equity, literally defined, may come into conflict -- or for the appropriate spreading of risk.[166] More generally, the concept of horizontal equity can be seen as an a priori (unsupported) bias in favor of the status quo, in that it is commonly understood to demand that the relative positions of individuals before a reform is enacted be maintained afterward.[167]

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164. See generally Kaplow, Horizontal Equity: Measures in Search of a Principle (unpublished, October 1984); Westen, The Empty Idea of Equality, 95 Harv. L. Rev. 537 (1982).

165. See generally supra page 88; Kaplow, supra note 164.

166. See generally supra pages 89 - 90; Kaplow, supra note 164. For example, Shachar's discussion of the reasoning behind horizontal equity essentially repeats his analysis of risk. See Shachar, supra note 57, at 1595-96.

167. See generally Kaplow, supra note 164 (discussing economists' interpretations of horizontal equity and suggesting that the concept is not supported by an independent normative principle). For example, the Department of Treasury tax reform study argues that a main objective of transition policy should be the "prevention of immediate or long-run redistribution of economic welfare." Blueprints, supra note 119, at 181. No reason is given for this priority. Moreover, it is hardly obvious that the pre-reform distribution is one that should be accorded special normative significance, especially when the tax reform might be motivated precisely because that distribution is thought inequitable. To reformulate the policy as one of preserving the post-reform distribution would, rather obviously, render the objective irrelevant.

3. Political Feasibility Distinguished

The preference for maintaining the status quo can often best be understood as either a concern for politicial feasibility or an appeal to self-interest disguised as fairness. If one is interested in the practical political question of how to get a desirable reform enacted over potential opposition, it may well be that various forms of transitional relief would be appropriate.[168] My argument here focuses on the normative aspects, in order that arguments such as those frequently heard from lobbyists having little more justification than self-interest might be exposed for what they are. At the least, any attempts at pragmatic compromise should be informed by an understanding of the preferred outcome from which one is forced to depart.

168.

> How can a congressman satisfy constituents who want him to vote for tax reform and remain at peace with supporters enjoying the benefits of a loophole or a special provision? If you answered "transition rules," you have the instincts of a good tax lobbyist, for it is in the design of transition rules that the art of lobbying achieves its grandest moments.

McIntyre, supra note 29, at 7; see Tullock, Achieving Deregulation -- A Public Choice Perspective, **Regulation** (November/December 1978), at 50. Much of Hobbet's concerns seem so motivated, although at various points he mixes normative substance with politics. See Hobbet, supra note 133. Similarly, when Graetz refers to the views of various political actors and professional groups, it is not at all clear whether he or they are concerned with practical politicals, normative values, or both. See Graetz, supra note 15, at 528-29; see also O'Hare, "NOT ON MY BLOCK YOU DON'T": Facility Siting and the Strategic Importance of Compensation, 25 **Pub. Pol.** 407 (1977); Quinn & Trebilcock, supra note 7; Samuels & Mercuro, The Role and Resolution of the Compensation Principle in Society: Part Two -- The Resolution, 2 **Res. L. & Econ.** 103 (1980).

IV. CHOOSING A TRANSITION POLICY

This Part applies the rather abstract analysis of Part II to a number of examples that clarify the implications of the economic argument and suggest how the arguments presented can be used in concrete contexts. Section A examines the wide range of transition mechanisms that have most commonly been proposed or implemented in various contexts. This Section emphasizes the substantial similarities among the many alternatives, including the use of direct compensation (or windfall taxation in the event of gains) that was the focus of most of the discussion in Part II. Surprisingly, much can be said about the comparative desirability of these options even without examining specific situations. Section B focuses on particular context-specific factors that affect the general applicability of the argument against mitigation offered here and then examines a few instances that have received attention from courts and commentators. In the process, it illustrates how the analysis offered here diverges from that usually presented. This Section closes by offering some additional remarks concerning the implementation of the sort of transition policy discussed here. It should be emphasized that all the analysis in this Part continues with the assumptions used in Part II, not taking into account the additional considerations raised in Part III. As a result, all proposals and solutions must be understood as an elaboration of the economic framework in Part II and not as definitive conclusions.

A. Similarities and Differences Among Transition Mechanisms

The available transition mechanisms span a broad spectrum, ranging from doing nothing (i.e., implementing the reform immediately and letting gains and losses lie where they fall), delaying implementation, phasing-in implementation, or implementing a reform only partially, to complete grandfathering, providing full compensation (and windfall taxation), or completely foregoing the reform (thus avoiding any disruption).[169] This Section assesses the extent to which these options differ, other than as to the degree to which they move in the compensatory direction, and considers some additional aspects concerning their implementation. The analysis will be general and therefore cannot purport to be complete; for example, many context-specific administrative costs will not be analyzed and the applicability of the considerations raised in Part III to mechanisms other than simple full compensation will not be discussed.

1. Direct Compensation

Direct compensation was discussed throughout Part II because it is conceptually the simplest of transition policies that seek to mitigate the effects of government reforms. This subsection extends that analysis by considering briefly two modifications of the simple compensatory approach.

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169. See, e.g., Graetz, supra note 4, at 52-53 (listing particular versions of many of these alternatives).

One rather complex alternative would be to offer full compensation with offsetting ex ante adjustments of incentives to avoid the risk/incentive trade-off. Such a system would provide full ex post compensation, thus eliminating the problem of risk. To combat the distortionary effect on ex ante incentives, an offsetting system of taxes would be implemented.[170] For example, if the probability of a product ban were 10%, suggesting that investments in the product should be discounted by a factor of 10%, compensation would be joined with an ex ante tax of 10% on investments linked to production of the product. As a result, investors would face no uncertainty (their risk would be eliminated), but would have proper incentives since they would make the appropriate 10% discount of returns in determining what amount to invest.[171]

This proposal has theoretical appeal precisely because it amounts to compulsory insurance: the ex ante tax is the insurance premium and the ex post compensation is the coverage.[172] But, as suggested in subsection II-C-1, there are obvious and significant practical difficulties. Complex

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170. The analysis would all be inverted for windfall taxation of gains. For example, instead of ex ante taxes there would be ex ante subsidies.

171. The idea that government taxes and transfers can eliminate all risk, implicit in this proposal, is highly misleading due to the presence of systematic, i.e., undiversifiable, risk. See Kaplow, supra note 50.

172. In theory, this scheme operates much like the insurance contract described supra in note 63 wherein premiums were proportional to the level of investment, thus effectively taxing ex ante an amount equal to the expected loss that may result from adverse government action. Ordinary government compensation differs from government insurance in that no premium is charged ex ante. This modified compensation scheme charges such a premium in the form of a tax. Essentially, feasibility of the scheme discussed in text is equivalent to the feasibility of fully accounting for the moral hazard problem, so the analysis in subsection II-C-1 of that issue is directly applicable.

adjustments would have to be made in the investment incentives for all activities to take into account probabilities of all possible future government activities. Each time such probabilities changed, readjustments would be necessary. Moreover, each such incentive adjustment would itself be a government action, triggering compensation and further ex ante adjustment. In addition, it would be necessary to make ongoing valuations of all investment activity, segregarating portions subject to each of the wide array of risks. It is precisely this complex pattern of risk and incentive adjustments that is performed -- to the extent of its capabilities -- by the market system. The only point I make here, parallel to the argument of Section II-C, is that the assumption that the government could undertake such action as well as the market, much less better, is contrary to prevailing views and largely inconsistent with the desire to rely heavily on markets rather than a more planned economy.[173] To my knowledge, no such scheme has been proposed.

Another variant of compensation that has received some mention, but little attention, is the possibility of partial compensation.[174] To clarify, I refer here to compensating losers for only some fraction of their loss; the idea that full compensation might be appropriate in some instances even if inappropriate in others is deferred to subsection B-1.

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173. See generally Kaplow, supra note 50 (discussing these issues and other aspects of the government/market comparison).

174. See Blume & Rubinfeld, supra note 9, at 579 n.52 (noting that Michelman, supra note 14, does not analyze the possibility); id. at 627 (formally extending the cost-benefit framework to account for partial compensation). They do not analyze what factors might make partial rather than complete or no compensation most desirable.

If full compensation is not desirable, it is unclear why partial compensation would be. First, partial compensation will typically have the same or similar administrative costs of full compensation.[175] It may be thought, however, that partial compensation better takes advantage of the risk/incentive trade-off. The reason is that losses associated with the bearing of risk rise more than proportionately with the magnitude, whereas, a priori, it may be that incentive effects are directly proportional to the magnitude of the gain or loss. Thus, for example, 50% compensation would alleviate more than half of the loss from risk while causing only half of the adverse incentive effect, so it may seem possible that in some instances partial compensation is desirable even if full compensation is not. Such an argument, however, confuses the analysis. Essentially, this argument that partial compensation may be best is simply the argument that due to moral hazard considerations[176] partial insurance or diversification may be optimal when full risk spreading is not. But the major point of subsection II-C-1 was that given the partial mitigation provided through private markets, any additional compensation generally would be undesirable, because it results in more incentive distortion than is optimal. Thus, partial compensation, which would presumably be advocated most strongly precisely when it makes a difference -- i.e., when it provides greater risk spreading than the market -- is presumptively inefficient for precisely the reasons offered with regard

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175. For example, the cost of processing a check is largely independent of its magnitude, and valuations would be required in order to determine how much compensation is required under a given partial compensation rule.

176. See supra subsection II-B-2.

to full compensation.[177]

2. Grandfather Provisions

Outside the takings context, direct compensation is not commonly employed, or even suggested, as a transition mechanism. Grandfather provisions, which exempt pre-reform investments from newly-enacted regulation, are one of the more common alternatives.[178] As described in Section I-A, nominally prospective reforms will often have virtually the same impact on long-term investments as nominally retroactive enactment. If grandfather provisions are employed, investments made before the effective date of the reform are forever exempt and thus tend to be unaffected.[179] Although it is not commonly recognized, the effects of grandfathering are often very similar to compensation.[180] To the extent this is true, all the analysis of Part II would apply directly. And in those instances where the two approaches differ, it will be demonstrated that grandfathering is

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177. See supra page 54.

178. Grandfathering also often appears implicitly in an initial program design that provides all payments up front, so later repeal does not deprive the investment of any of the benefits of the original provision. See infra subsection IV-B-2-f.

179. It is also common for various forms of partial grandfathering to be used; for example, a grandfather provision may provide only partial exemption, or be phased-out after some period of time. Such alternatives can readily be analyzed using the argument offered in text, combined with the discussion of partial compensation offered in subsection 1.

180. See Graetz, supra note 4, at 80 (noting, but not analyzing, the similarity).

typically an inferior alternative.[181]

To explore the similarity between grandfathering and compensation, consider again the example of the elimination of the tax exemption for municipal bond interest.[182] As a first approximation -- to be refined at the close of this subsection -- a grandfather provision has the same effect as compensation. Compensation leaves the bondholder with a less valuable bond, but makes up the loss in value by providing a transfer for the difference,[183] whereas grandfathering simply preserves the value of the bond. In other words, grandfathering exempts the investor from the reform while compensation makes the investor whole.[184] Grandfathering does not require the expenditure to finance compensation, but results in a revenue

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181. Graetz seems to oppose grandfathering provisions on account of the ubiquity of their application. See Graetz, supra note 4, at 77-78. This argument is unpersuasive because if grandfathering is a good idea in each instance, all the better to do it extensively, whereas if it is not a good idea, it should not be employed regardless of how many instances arise. Moreover, the ubiquity is not due to grandfathering, but to the scope of the transition problem, as described in Section I-A. As a result, any resistance to a particular transition mechanism on this ground would seem to apply equally to any other mechanism, although in his conclusion, he does not seem reluctant to advocate a general policy of phased-in or delayed effective dates. See id. at 87 (also arguing that this is preferable to grandfathering, although the reason he believes it to be preferable is unclear).

182. Virtually all tax or subsidy provisions would be subject to precisely the same analysis.

183. To make this work out precisely would be a bit more complicated because the tax treatment of both the loss and the compensation payment would have to be accounted for. Treating the compensation as a like-kind exchange for part of the bond rights, to be recognized only upon sale or redemption of the bond, would seem to eliminate most problems.

184. For reforms resulting in gains, the analysis would apply to grandfathering and windfall taxation.

loss to the government that offsets the effect.[185]

Aside from the timing of the government's revenue costs, there are two notable differences between grandfathering and compensation. The major one arises in situations where the reform alters not merely the future payoff to a preexisting investment but directly changes the uses to which a prior investment may be put. The simplest example would be the product ban. While a grandfather provision would leave the investor as well off as would compensation, the former does not leave society as well off because the harmful effects of production of the product are permitted to continue.[186] When there is a desire not merely to alter future investment, but to affect activity employing past investment, it would be preferable to make the reform immediately effective and pay compensation instead. And if one accepts the undesirability of compensation, as argued in Part II, it would be better still to simply enact the reform with no transition provisions. If one did

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185. Given the current tax treatment of investment income, there may be some difference when the future forgone revenue is converted into a present value because investors earn at the after-tax rate. This raises issues concerning the appropriate government discount rate which will not be explored further here. See generally Kaplow, supra note 50; Lind, A Primer on the Major Issues Relating to the Discount Rate for Evaluating National Energy Options, in R. Lind, et al, Discounting for Time and Risk In Energy Policy 21-94 (1982).

186. Graetz recognizes this possibility but fails to see how its applicability is limited to a well-defined subset of cases. In particular, he does not recognize the circumstances in which grandfathering is really equivalent to compensation. His statement that "efficiency gains resulting from the elimination of investment distortions might be deferred" ignores that in the case of repeal of a tax preference or subsidy (which is the focus of his entire analysis) grandfathering only applies to investment before the effective date. Graetz, supra note 4, at 71. Since such investment is already in place and new investment is subject to new rules, there is no such distortion. The distortion that does arise is attributable to the effect of anticipated grandfathering on ex ante incentives, as I describe in Part II.

favor transitional relief, however, grandfathering provisions do offer the benefit that they are probably administratively less costly than compensation since valuation is unnecessary, although admustment for the issue raised next would qualify this conclusion.[187]

Another complication arises because it is not generally true that grandfathering simply preserves the value of an investment. More commonly, grandfathering will actually increase value when preferential treatment is repealed. The reason is that the favored investments, as in the case of municipal bonds, become more scarce as time passes, and thus increase in value. For example, assume that before repeal many investors, ranging from the 30% to the 50% tax brackets, hold long term municipal bonds. After repeal, when the supply is scarcer, 50% bracket taxpayers are no longer able to replace their matured municipal bonds with new issues. Thus, they will bid bonds away from 30% taxpayers, for whom they are less valuable, thereby causing a rise in the price.[188] In theory, one could attempt to use partial grandfathering or a phased-out grandfathering provision to reduce the benefits sufficiently to balance this effect, although such provisions could be complicated since pre-reform assets will have different remaining lives

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187. This benefit does not obviously result because it is necessary to clearly separate old and new investment to implement a grandfathering approach. Where additional investment is made to modify, expand, or repair existing capacity, as is often the case, the separation becomes quite problematic. Moreover, in some instances it may become necessary to trace output to the source of manufacture, which could be very difficult. The latter problem helps explain why newly enacted endangered species protection often prohibits the sale of products regardless of whether they derive from pre-enactment activity. _See_ Rose-Ackerman, _Inalienability and the Theory of Property Rights_, Columbia University Law and Economics Working Paper No. 3 (revised, September 1984).

188. _See_ Graetz, _supra_ note 4, at 61-62.

and the future demand patterns may be difficult to predict.[189] This complication has little effect on the above analysis.[190]

3. Direct Mitigation: Partial Implementation, Delayed Implementation, and Phase-Ins

Along with grandfathering, the most common transition policies involve delayed or phased-in effective dates or simply implementing less of a change than originally contemplated, which I refer to here as partial implementation. Although the latter alternative may seem different from the others, in fact, delays in implementation are largely an indirect way to accomplish partial implementation.

These alternatives differ from compensation or grandfathering in that they directly diminish the reform itself. Therefore, partial implementation does reduce the magnitude of losses imposed by a reform, but it reduces the

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189. See id. at 63 n.53. In this context, holder-only grandfather provisions are sometimes recommended. See id. at 62. A holder-only provision continues the pre-reform treatment only if the owner on the effective date continues to own the investment; if it is sold, the new provisions apply. While this does offer one way to deal with this complication, it has substantial arbitrary effects in that it locks pre-reform owners into long-term investments. Thus, investors seeking to change their portfolios due to changed circumstances, or less well-to-do investors who must sell their bonds for emergencies or to fund retirement are not protected.

190. If simple grandfathering results in overcompensation, then problems of compensation in terms of incentives would be all the worse, and risk spreading would actually be less effective since the degree of overshooting would be a residual risk. Cf. infra subsection IV-B-3-a.

benefits as well.[191] A priori, there is no obvious reason why direct mitigation would not be generally undesirable, for if benefits exceed costs (which is a reasonable assumption if the reform is desirable in the first place), losing a proportional share of each would seem to be a net loss.[192]

It is not the case, however, that scaling down a reform decreases the full range of costs and benefits in similar proportions. First, small reductions in the scale of a project will often cause less than proportionate reductions in net benefits, conventionally defined. This is because the cost-benefit optimum is where marginal benefits and costs are equated. Therefore, as one moves away from the optimum in the downward direction it will typically be the case that marginal benefits will exceed marginal costs by an increasing amount, which produces the disproportionately small reductions in net benefits for small reductions in the level of implementation.[193]

This alone is insufficient, for so long as mitigation reduces net benefits at all, it is undesirable. A second factor to consider in combination with the first is that the risk imposed by a project also is not proportional to the magnitude of the losses; risk-bearing costs rise

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191. This point sometimes has been noted, although no consideration is given to the qualifications that follow in text. <u>See</u> Blueprints, <u>supra</u> note 119, at 168; Graetz, <u>supra</u> note 4, at 68 n.69.

192. Hochman recognizes that mitigation entails a loss of benefits, but simply asserts that mitigation still will be desirable. <u>See</u> Hochman, <u>supra</u> note 119, at 331.

193. This relationship would hold in the common case where there are diminishing returns (marginal benefits are falling) and increasing costs (marginal costs are rising), although it would also hold in a wider range of circumstances.

disproportionately with that magnitude. As a result, a small scaling down of the reform will typically cause more than a proportionate reduction in costs attributable to risk. Thus, when the more conventional cost-benefit analysis is combined with considerations of risk, at least some mitigation would appear to be desirable.[194]

It should be apparent, however, that this argument for direct mitigation is negated by the analysis offered in Part II. Essentially, the argument repeats in another context the reason that partial insurance rather than full insurance is optimal in the face of moral hazard. From the point of view of pre-reform investors, the prospect of only partial implementation has the

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194. This is true because, if by assumption marginal costs (ignoring risk) equal marginal benefits at what is defined to be "full implementation," an infinitesimal reduction yields no loss in net benefits but a strictly positive gain from reducing risk-bearing costs. How much mitigation would be appropriate in practice in any given instance would require far more information to determine at what point the lost net benefits exceeded at the margin the reduction in risk-bearing costs.

This combination of cost-benefit analysis and risk considerations may seem odd because one thinks of a cost-benefit analysis as already including all costs. Yet it is conventional to measure costs and benefits in terms of aggregrate gains and losses, measured in dollar values, regardless of the distribution of those gains and losses. It is well-known that conventional distributional effects are thus ignored -- e.g., if the gainers are the rich and the losers are poor, one may oppose a reform even if the gains measured in dollars exceed the losses. What is less often noted is that similar analysis applies to the concentration of losses. Risk analysis, based on the decreasing marginal utility of income, <u>see</u> <u>supra</u> note 48, suggests that concentrated losses result in a greater reduction in welfare than dispersed losses, and concentrated gains result in a lesser increase in welfare than dispersed gains. Thus, if the cost-benefit analysis is based on conventional measures, this risk component would not already be incorporated. Both of these issues are related to the Kaldor-Hicks test of efficiency gains and the issue of whether hypothetical compensation must in fact be paid. <u>See, e.g.</u>, **E.J. Mishan, Cost-Benefit Analysis** 382-415 (1976); Baker, <u>The Ideology of the Economic Analysis of Law</u>, 5 **Phil. & Pub. Aff.** 3 (1975); Bebchuk, <u>The Pursuit of a Bigger Pie: Can Everyone Expect a Bigger Slice?</u>, 9 **Hofstra L. Rev.** 775 (1981).

same effect as partial grandfathering or partial compensation in that all attempt to provide mitigation beyond the level embodied in the market's optimized trade-off, with the result that ex ante incentives are distorted.[195] In addition, partial implementation loses part of the benefits from reform because of its treatment of investments made after the effective

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195. The analysis for partial compensation appears supra, at pages 54, 100.

The argument in text may not appear to be wholly correct. The counterargument would make an analogy to an investment subject to conventional market risk. The market will not fully diversify or insure the risk to the extent incentives would be diminished, so the investor is left bearing some risk, and perhaps a nontrivial amount. Since this risk is a real cost, the investor can gain by scaling down the project at least somewhat for the reasons offered previously. In the context of government reforms, the investment decision is split in the sense that the government provides part of the framework and private investors react to the incentives. Scaling down the government reform would be claimed desirable for the same reason the investor gains by scaling down its project.

This analogy, however, is misleading. The reason is that the relevant scaling down applies to investments themselves, and absent any mitigation policy, the market will already produce such action to an efficient degree, which follows directly from the argument developed in Part II that the market will optimally deal with the risk/incentive trade-off. To elaborate briefly in this context, when less than full insurance or diversification is provided, private investors will scale down their projects in reaction to government risk just as they do in reaction to private risks. As with the insurance analogy developed previously, any further mitigation by the government can only make things worse, by assumption. Consider, for example, a government project that would decrease the value of some investments from $1000 to $500, but if the project is scaled down, the effect will only be a reduction from $1000 to $750. From the perspective of investors, ex ante, they will react to the latter project precisely as they would to former if accompanied by partial compensation of $250. But the partial compensation will distort incentives and thus result in a net loss just as would full compensation, only to a lesser degree. The following argument in text is also applicable.

A Caveat to this analysis is in order in the case of reforms that do not equate marginal costs and benefits, but rather have marginal costs in excess of marginal benefits because the set of available options does not permit continuous variation of the magnitude of the reform, and in some other instances as well. This rather complex, but possibly significant, qualification is explained further in Kaplow, supra note 50.

date.[196] Thus direct mitigation appears to be strictly inferior to these other approaches.[197] Of course, as with grandfathering, various forms of direct mitigation would probably be administratively less costly than compensation since valuation problems are avoided.

Delayed implementation is quite similar to immediate partial implementation because it alsoamounts to a scaling down of the reform. Postponing implementation of a reform obviously defers the costs and benefits, and thus reduces them both, because they typically accrue for a briefer period of time (i.e., net benefits are lost in the interim) -- or, if the effects are one-shot, because they do not accrue until the future, and thus must be discounted to present value. From the perspective of investors' actions prior to enactment of the reform, knowledge that a reform will be delayed distorts incentives for the same reasons. For example, with the prospect that the municipal bond interest exemption will be repealed, the decline in value will be less if the interest continues to be exempt for a few years. For bonds thus losing, for example, only 75% of the present value of tax benefit, the effect would be the same if there were immediate implementation of a repeal of 75% of the exemption -- i.e., 25% of interest

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196. Thus, if such mitigation were to be used, it would seem better to limit it to investments made prior to implementation of the reform -- i.e., a grandfathering approach. The mechanisms analyzed in this subsection in essence can be converted into various forms of partial grandfathering, and all the arguments developed in subsection IV-A-2 will be applicable.

197. This makes Graetz's conclusion, which favors phase-ins and delayed effective dates over grandfathering, see Graetz, supra note 4, at 87, discussed supra in note 181, even more difficult to understand.

payments would remain exempt.[198] For a one-shot reform, the present value of the reduction in losses resulting from delayed implementation could be determined from the appropriate discount rate, and whatever that reduction happened to be, partial immediate implementation making the same proportionate reduction in scale would have the same effect.[199]

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198. Because delayed effective dates would have different effects on bonds with different remaining lives, the analogous immediate implementation scheme would have to differentiate bonds according to their remaining lives. My claim is not that the two procedures are administratively equivalent, but each could in principle be translated into the other, so the analysis arguing categorically against one approach in any form applies to the other as well.

199. It is sometimes thought that some forms of direct mitigation -- particularly phase-ins or delays in implementation -- are desirable because they permit time for activity to adjust to the new set of rules. See, e.g., Hobbet, supra note 133, at 838-39; Note, supra note 13, at 446. There is some truth to this notion since a limited time preiod may be necessary to become informed of and comply with a new rule. But if viewed, as is usually the case, as contemplating any significant delay, this intuitively appealing position is misleading, and largely incorrect, for a number of reasons. First, it in no way responds to the argument of Part II, which alone is sufficient to indicate that it is a less desirable alternative in terms of protecting old investment. Second, just as in the context of partial immediate implementation, as to new investment it is preferable to have the new, presumably more desirable, governing structure in place as soon as possible. One way to consider these issues is to recognize that during the delay, all new investment (which is assumed to be long-lived for any of these issues to arise) must take into account that part of the time the old rules will apply and part of the time it will be the new. Only when the new rules are fully in force will the desired result be achieved in totality. Graetz, who is a strong advocate of using phase-ins or delayed effective dates as the primary mechanisms for transitional relief, see, e.g., Graetz, supra note 4, at 87 (conclusions); Graetz, supra note 15, at 540, argues in his most recent article on the subject that "[p]hased-in effective dates should be selected, however, in a way that does not create 'perverse incentives for taxpayers to make non-economic, tax-motivated investments during the transition period.'" Id. at 540-41 (quoting Staff of the Joint Comm. on Taxation, 97th Cong., 2d Sess., Pamphlet Analyzing Flat-Rate Tax Proposals Considered at Senate Finance Hearings on Sept. 28, 1982 (1982)). The preceding argument demonstrates that all phase-ins have precisely this effect since all investments during that period will be governed in part by the old tax rules which have been changed in the reform because they have come to be thought undesirable.

There are, however, some differences between these procedures. If one can make the often plausible assumption noted before that there are diminishing net benefits to scale for many reforms, immediate partial implementation is superior to delayed full implementation. Although both have the same effect on investors in terms of ex ante incentives and risk, they have different effects in terms of net benefits resulting from the reform. Delay generally does not directly scale down the reform itself, it only achieves the same effects for a shorter period or discounts its effects, both of which would tend to be proportionate reductions in net benefits, defined in the cost-benefit manner described previously. By contrast, immediate partial implementation is a direct scaling down, losing the portion of the reform where the net benefits were less than the average benefits.[200] As a result, partial immediate implementation is to be prefered as between the two options.[201] (It will be recalled that partial implementation was itself inferior to other mechanisms, which in turn are inferior to a policy that does not mitigate the effects of reforms.)

Phase-ins are simply a combination of partial implementation and delayed implementation, and thus can be analyzed using the arguments presented here.[202] Since phase-ins are a compromise between the two, their

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200. This is again due to the assumptions concerning the relative slopes or marginal cost and marginal benefit that produced the original tentative argument for direct mitigation.

201. See generally Kaplow, supra note 50 (presenting the same argument with additional reference to prior work on the question); Zodrow, Implementing Tax Reform, 34 Nat'l Tax J. 401 (1981) (exploring the preference for immediate partial implementation).

202. Graetz has noted the general similarity between phased-in effective dates and delayed implementation, see Graetz, supra note 4, at 58-59 & n.44,

desirability would fall between the two, so long as the comparison was between immediate partial implementation with the scaling down matching the effects of the particular phase-in being considered, on the one hand, and delayed full implementation at a date at the completion of the considered phase-in, on the other hand. Given the rather direct connection among these mechanisms, and their general inferiority to partial grandfathering and partial compensation, it is rather difficult to justify the existing widespread use of all such approaches in various contexts, even if one rejected major portions of the analysis of Part II.[203]

B. Applications

The purpose of this Section is to make more concrete the analysis

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although he does not consider partial immediate implementation, the alternative typically superior to both.

203. A rather typical example is offered by Munzer in his analysis of retroactive legislation. In suggesting that mortgage interest and proporty tax deductions should be abolished, he advocates a rather complex scheme of partial immediate implementation. See Munzer, supra note 2, at 454-56. Although he offers more discussion than most in support of his transition scheme, his reasoning is totally ad hoc: he does not offer any in-depth argument why any mitigation is desirable; why, if desirable, total relief is undesirable; or why, if partial relief is desirable, direct mitigation should be preferred to partial compensation or grandfathering, or to a delayed or phased-in effective date. The analysis in this subsection suggests that he at least got the right result on the last choice, although he does not even consider the question. Moreover, there is no suggestion of how the degree of relief he chooses is derived. I have in mind not merely a picky line-drawing objection, but the failure even to identify precisely what effects are being traded off, which in turn would suggest what information or assumptions would be necessary to pose a well-formulated line-drawing question in the first place.

Another illustrative example is the ad hoc position taken by the Joint Committee on Taxation in analyzing transitional issues. See Jount Committee on Taxation, supra note 119, at 177. The recent Treasury tax reform proposal fares no better. See **U.S. Department of Treasury, Tax Reform for Fairness, Simplicity, and Economic Growth**, vol. 1, app. A (1984).

presented thus far. Subsection 1 considers whether and how numerous recurring factors, many of them previously noted by some commentators, affect the conclusions presented thus far. Subsection 2 is even more specific; it examines particular rules and distinctions that have been the subject of prior discussion. Finally, subsection 3 addresses some additional complications that arise in establishing an appropriate transition policy.

1. Recurring Factors

The analysis presented in Part II is far too general to be of uniform applicability. In practice, it will often be difficult to determine the degree to which various assumptions hold and whether a different conclusion is warranted even if the circumstances vary substantially from those previously discussed. It is nonetheless useful to consider various factors that might be suspected to have a systematic effect on the applicability of the general argument in a particular context.

a. Probability of Reform

It might be thought that if the probability of a reform is particularly low, as in the case of a taking of one's home, the incentive argument presented above would be weaker since the adverse incentive effect of compensation would be minimal. This argument overlooks that the expected risk-bearing cost is also far less. For example, it is not obvious that the effect of being committed ex ante to providing compensation in the event of 25 similar potential reforms, each with a 1% probability of enactment,[204] would be significantly different from an ex ante commitment to provide compensation in the event of a single similar reform with a 25% probability. Of course, the greater the probability, the greater the extent to which prospective gains and losses (assuming no compensation or windfall taxation) will be capitalized into the value of the property,[205] but after taking that into account in assessing the magnitude of the potential losses at stake, the two situations seem virtually identical.

On the other hand, as the probability decreases, the transaction costs of providing optimal risk spreading -- e.g., through insurance -- ex ante will tend to be more significant relative to the amount at stake, and thus more likely to inhibit the market from reaching an efficient result.[206]

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204. Assume that they are not independent -- e.g., there is a 75% change of no reform, and a 1% chance of each of 25 reforms, having similar effects, but on different individuals.

205. Even this reservation amounts to less than might appear to be the case. Consider the extreme case where action is 99% likely, so the ex ante market price will almost totally reflect the value assuming the reform is implemented. In this case, however, it is the 1% chance of inaction that assumes the analogous role of the 1% probability of action in the earlier example in text. Gains and losses are symmetric in terms of risk analysis. See supra subsection II-D-1. The only difference is when the probability of reform affects the overall value, which in turn is a component of wealth. And since risk effects are greater when wealth is lower, there may be some effect due to this factor. See infra subsection IV-B-1-c. This is not to say that the 99%-1% case and the 50%-50% case are completely identical, since the dispersion from the mean is different in each instance. See infra subsection IV-B-1-b. Both of these effects are less significant than one might have supposed from an initial consideration of this factor.

206. An alternative statement of the argument is that, regardless of the relative importance of risk and incentives, as the probability decreases, both factors become less significant while the transaction costs of ex ante provision remain relatively constant. (The argument only requires that they

Compensation need only be determined in the event the reform is actually implemented, so the administrative cost considerations noted earlier may suggest that compensation is more appropriate for events of very low probability, such as many takings. This conclusion is hardly obvious, for the reasons noted earlier.[207]

Finally, even if market provision fails and compensation is far cheaper to administer, it is not necessarily the case that compensation is superior to leaving the risk unmitigated. Compensation achieves full risk spreading but eliminates all incentives to avoid overinvestment whereas the absence of any provision preserves incentives, although no protection for risk is offered. As described at the outset of this subsection, the magnitude of the probability of reform only moderately affects the relative size of these magnitudes, so no simple conclusions are possible.

b. Concentration and Magnitude of Gains and Losses

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decrease more gradually, which certainly seems plausible.) Therefore, if the probability is sufficiently low, transaction costs will inhibit ex ante provision. How low a probability is required is a difficult, context-specific empirical question.

In some ways the argument in this subsection runs counter to the commonly stated intuition that the market performs worst in handling particularly large risks, for in such instances transaction costs will be a very small fraction of the stakes and less likely to inhibit appropriate risk-spreading schemes. There are other, contrary effects that will not be pursued here.

207. See supra note 73 and page 57.

Quite obviously, more concentrated gains and losses make the risk issues examined here more significant. But greater concentration of a given amount of losses means that, for individuals as a group, although the magnitude of the loss is greater, the probability will be smaller. The effect, however, is still to make the risk-spreading issue more significant relative to the incentive issue because the actual costs of risk-bearing rise more than proportionately with the magnitude of the loss. Similarly, reforms having effects of generally greater magnitude will tend to increase the relative significance of the risk issue.[208] Of course, the fact that the risk component is relatively more important in one instance and relatively less in another has no obvious effect on the conclusion concerning the ability of investors to make efficient trade-offs of risk and incentives through market mechanisms.[209] It does follow, however, that if one believes that imperfections inhibit the market's ability to handle particular instances of risk -- for example, as with the case of a low probability of reform discussed in the previous subsection -- the argument for corrective action would be stronger the more concentrated the gains and losses.[210]

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208. It has previously been argued that more substantial changes are more in need of attention, although the link to risk is rarely made and the nature of the impact on the appropriate solution, described in the text to follow, is never considered. See, e.g., Graetz, supra note 4, at 78 n.92 (simply noting that reliance interests are generally thought greater the greater is the magnitude of the change).

209. Determining the actual trade-off is made complex by the fact that risk-aversion affects incentives, cf. Polinsky & Shavell, The Optimal Tradeoff Between the Probability and Magnitude of Fines, 69 **Am. Econ. Rev.** 880 (1979), but the argument that the most efficient sharing arrangement can be achieved through market transactions is unaffected.

210. When gains and losses are more dispersed, the administrative cost of both private insurance and government remedies will typically be a larger fraction of the amount at stake, making both alternatives less attractive.

c. Varying Levels of Wealth and Risk Aversion

Risk spreading is more important for more risk-averse individuals. Similarly, it is typically more important for less wealthy individuals if one accepts the common view that absolute risk aversion declines as wealth increases.[211] As with the argument concerning concentration of gains and losses, the effect of both of these factors is to increase the importance of risk relative to incentives, but it has no direct bearing on whether the market will be able to respond appropriately or whether the government will be able to do any better.[212]

On the other hand, delayed effective dates, partial implementation, and phase-ins do reduce all such impacts, often at no additional administrative cost. This may not be a major issue precisely because risk spreading is less important the more dispersed are the effects of a reform.

211. These two effects are noted by Blume and Rubinfeld, supra note 9, at 601, 608.

212. Shachar, in his analysis of transition issues in moving from an income tax to a consumption tax, proposes as a test that losses should fall on the "more efficient risk bearer." See Shachar, supra note 57, at 1592-94. His analysis seems to totally confuse the issue because he sees the problem as choosing which of two groups will bear risks: those who benefit (losers from the reform) and whose who lose (gainers from a reform) from transitional relief on the one hand, and those who benefit and lose from not having the transition rule on the other. Of course, these are the same people! One only gets two groups by assuming that gainers and losers from a reform are in different groups, which may well be the case. But his analysis overlooks first, that some transition rules can address one group and not the other, and second, that if there is to be mitigation for both groups in the event of reform -- as with compensation plus windfall taxation, or complete grandfathering -- neither group is subject to risk ex ante. (He does mention compensation, see id. at 1597 n.64, apparently not realizing how it disposes of his issue.) Essentially, he is using "risk" very loosely, referring to, among other things, the "risk" that one who might not have received transitional relief does. But if a transition policy is considered from an ex ante perspective, the risk of loss coupled with this "risk" of relief

In addition, adopting different treatment depending upon the wealth and likely risk aversion of affected individuals raises not only an administrative problem of making such assessments but also an incentive problem since patterns of ownership might be distorted if compensability or other mitigation is made a function of ownership.[213] More risky assets may be shifted to the more risk averse to the extent such shifts increase their expected value due to the entitlement to transitional relief. If, however, one does not contemplate differential treatment of individuals subject to a given reform, but rather different transition policies for different types of reforms, categorized according to the average expected incidence of gains and losses, this problem would be insignificant.[214]

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simply cancels. In addition to misstating the problem, he ignores the ex ante incentive issue as well as the question of why it is that the market would not appropriately deal with the entire problem. Where he does briefly note the insurance notion, he misstates the factors involved in the decision. See id. at 1596 (suggesting that the cost of insurance and the economic benefit of the investment are balanced, rather than the cost of incremental coverage against the incremental benefit from further risk spreading, taking into account any effects on incentives).

213. In arguing for more sympathetic treatment of some individuals, this possibility is generally ignored. See, e.g., Blume & Rubinfeld, supra note 9, at 601 n.94, 606, 608-09, 611, 612. Blume and Rubinfeld do note the possibility of wealth-masking responses, see id. at 609, which is part of the administrative problem.

Blume and Rubinfeld also suggest that homeowners may pose less of a problem on the incentive side because they are consumers rather than investors. See id. at 618 n.145. It is totally unclear why this distinction has any relevance to the overinvestment issue. For example, the general demand for housing may be affected, as well as investments in improvements in the quality and size of one's housing.

214. There probably would not be any difficulty arising from the fact that such determinations were based on existing ownership patterns, because only aggregrates would be relevant in determining treatment, and, due to the free rider problem, individuals would have little incentive to change patterns of ownership in the hope of changing the rule.

d. Differences in Ability to Diversify or Insure

The assumption that insurance and other financial markets operate efficiently has been assumed to be equally applicable to all individuals in all circumstances. It might be more reasonable to assume that many individuals (typically, but not necessarily, the nonwealthy) will not be completely sophisticated in using such markets to diversify optimally various risks. One contributing factor is that those who do not typically use such markets for general investment purposes will be unfamiliar with how they can be used to mitigate various risks. Also, when smaller amounts are at stake, as described previously in discussing low probability events, transaction costs may well inhibit efficient arrangements. It is not my purpose here to explore how significant these issues might be in practice, or in what contexts they are most important, yet it is important to note the extent to which the general conclusions presented in Part II are dependent on this assumption.[215] Of course, a substantial range of government reforms have

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The analysis of this subsection also applies to the preceding subsection on concentration of gains and losses since the concentration is a function of ownership patterns as well. For example, if houses were generally owned by housing corporations (landlords), with diversified ownership, the taking of individuals' homes would not cause concentrated direct losses in terms of the value of the property, as is now often the case. This analysis, as elsewhere, ignores interests other than the wealth effect on the owner; in this case, the most obviously omitted effect would be that on displaces tenants. See Judson, Defining Property Rights: The Constitutionality of Protecting Tenants from Condominium Conversion, 18 **Harv. C.R.-C.L. L. Rev.** 179 (1983); Radin, Property and Personhood, 34 **Stan. L. Rev.** 957 (1982).

215. In addition, if in some contexts the government were in a unique position to mitigate the moral hazard problem, or could overcome an adverse

their primary economic impact -- in terms of transition losses -- on corporations and regular investors, actors presumably best able to take advantage of market arrangements.

e. Ex Ante Probability Perceptions

The incentive issue arises because investors are assumed ex ante to take account of future events in making their decisions. The argument that compensation and other mitigation distorts incentives assumes that, in the absence of such mitigation, investors would perceive various risks with reasonable accuracy.[216] If, for example, as is often assumed in some contexts,[217] individuals were to ingore low probability events in making decisions, compensation would have no distorting effect on incentives

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selection problem, there would be a stronger case for compensatory action.

216. As stressed in subsection II-C-2, arguments such as that offered here are equally applicable to market risks. Compensating private parties not fully anticipating market risks is, ceteris paribus, just as desirable -- no more, no less -- than compensating those not anticipating the prospects of government reform.

217. One familiar example concerns natural disasters. It is believed that many individuals do not purchase disaster insurance (e.g., against floods and earthquakes) or take other precautionary behavior because they underestimate risks or psychologically do not take full account of the dangers. See H. Kunreuther, supra note 78, at 235-43. See also R. Nisbett & L. Ross, supra note 153 (cognitive biases in human inferences); Tversky & Kahneman, Judgment under Uncertainty: Heuristics and Biases, 185 Science 1124 (1974) (same). On the other hand, if the government provides full disaster relief after-the-fact, there is the problem that individuals, even if they perceived the dangers, would have far less incentive to make appropriate investments on their own. This illustrates both the complex trade-offs that are discussed in the text and notes to follow, and also how the analysis of a nongovernment risk parallels that of government risk. See also G. Calabresi, supra note 80, at 55-58 (discussing generally how inability to value risk may affect insurance decisions).

because, absent compensation, the overinvestment would result in any event.[218] It is far beyond the scope of this article to determine which groups can be expected to make which particular mistakes in perceiving probabilities -- in terms of magnitude and direction[219] -- in which contexts. As a rough approximation, it might be expected, as in the previous subsection, that more sophisticated investors and corporations are in a rather good position to make such probability estimates (and in fact, defense of the market economy strongly relies on this assumption). In contrast, less sophisticated individual investors lack the time and relevant information to make good estimates and thus are more subject to systematic cognitive biases.

2. Frequent Examples

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218. The ideal solution -- if administrably feasible, which would usually be unlikely -- would be to implement the full compensation/windfall taxation scheme with ex ante adjustments, as described in subsection A-1. As suggested there, to the extent the government has some assessment of the probabilities, levying taxes and subsidies ex ante would serve as insurance premiums pegged to the level of investment, and thus help provide appropriate incentives. This suggests that the alternative of compulsory insurance, an analytically similar approach, see supra note 172, will in principle be superior to direct compensation.

219. If investors overestimate the probability of loss, the remedy is not obvious because compensation causes them to overinvest rather than underinvest. Which is worse, taking into account the risk issue, depends on the degree of underassessment. Similarly, it is not the case that any underassessment calls for compensation because if the underassessment is not complete, it may be that the inefficiency resulting is less than that deriving from providing compensation, which would further distort incentives.

a. New Tax Versus Changing an Existing Tax

It is commonly said that there is no retroactivity problem with changing the rate of an existing tax while there is one with the institution of a new tax.[220] The implicit theory behind this argument is that once a tax has been implemented, change is to be expected, but new taxes are a complete surprise.[221] Of course, this only goes to a difference in the probability of reform, analysed earlier. In addition, the factual assumption is quite questionable in many contexts, and there is the obvious conceptual difficulty of distinguishing a new from an existing tax. Alternatively, the claim could be that the probability of a new tax will be underestimated, another questionable assumption that, if true, would be subject to the previous discussion of that issue.

b. Notice of Change

Also in the tax retroactivity context, courts have said that notice

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220. See, e.g., United States v. Darusmont, 449 U.S. 292, 298, 300 (1981), quoting Cohan v. Commissioner, 39 F.2d 540, 545 (2d Cir. 1930) (Hand, J.); Novick & Petersberger, supra note 2, at 416, 427-29.

221. This distinction seems to represent an appeal to the reliance and expectation arguments discussed in Section II-A.

alleviates the retroactivity problem.[222] Notice is relevant to the analytical framework presented here because it affects ex ante perceptions of the probability of change. Since appropriate incentives result from investors acting on the actual probabilities of change, it is more desirable for investors to be as aware as possible of events before the fact (subject to the retroactive effective date issue discussed below in subsection 2-c). On the other hand, notice may be undesirable for reasons parallel to this qualification, since without notice investors may be less able to take actions circumventing the purposes of the proposed reform.[223]

c. Retroactive Effective Dates

Nominally retroactive effective dates are common, and in general raise different issues than those addressed here. Quite often, a change, for example, in the tax code, will be made effective as of the date on which the reform was first seriously considered. The reason is that -- particularly if

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222. See, e.g., United States v. Darusmont, 449 U.S. 292, 299 (1981); see also Novick & Petersberger, supra note 2, at 410 (emphasizing centrality of knowledge of existing law to due process notions); id. at 422-29 (discussing role of notice in tax retroactivity cases); Novick & Petersberger, supra note 29, at 500 ("For the moment we can roughly call 'notice' the 'neutralizer' of reliance.").

223. The common assertion that individuals should be able to take actions with full knowledge of legal consequences, see, e.g., Greenblatt, supra note 2, at 566-67, is thus oversimplistic and naive, although it is not surprising that affected parties attempting to circumvent public policy would have a contrary view. For example, all of the incentive distortions attributable to taxation arise precisely because parties' actions do take into account tax consequences; if such reactions could be avoided, a more efficient tax system would be possible. Another argument for rejecting an entitlement to full knowledge of legal consequences is explored in subsection 2-d.

there are going to be grandfather provisions, as is often the case -- the absence of such a modestly retroactive provision might induce a flood of activity immediately prior to implementation -- precisely the sort of activity the reform was designed to discourage.[224] Similarly, in the takings context, compensation is usually denied to investment made after the prospect of a taking has become imminent.

The well-accepted desirability of such a provision illustrates the basic argument of Part II that is so often ignored in considering the more fundamental transition problem. Essentially, such provisions attempt to prevent excessive pre-effective date investment activity. But if such activity were not going to receive grandfathered treatment, there would be no need to worry.[225] The difference between investment immediately prior to a reform, where the probability of the reform is very high, and a longer period before a reform, where the probability is more modest, is only one of

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224. Setting the appropriate date is rather difficult, because a formal initial vote, recommendation, or announcement may have been preceded by a sufficient flow of information to have already done the damage. <u>See</u> Blume & Rubinfeld, <u>supra</u> note 9, at 619.

The analysis offered by the New York State Bar to the contrary seems rather naive. For example, they argue that the distinction between behavior with and without knowledge of the impending change is dubious because the reliance interest "is equally valid during a period of proposed change as when none is in the offing." New York State Bar, <u>supra</u> note 2, at 26. This position is totally nonresponsive to the problem of a flood of undesired activity that occurs after announcement, but before enactment, precisely <u>because</u> change has been announced. It is also interesting, in light of the discussion in Section II-D, that they see no reason not to take such retroactive action should it involve a grant of benefits rather than imposition of less favorable tax rules. <u>See</u> <u>id</u>. at 27.

225. The situation is slightly different when dealing with short-lived activities or subsidies that are provided in one shot, <u>see</u> <u>supra</u> page 109. Then the problem arises independently of whether there will be grandfathering for pre-reform investment.

degree.[226] The argument for denying grandfathered treatment or other relief to all pre-enactment investment activity is the same.[227]

d. Correcting Unintended Effects

Past discussions have often noted that there is a stronger case for retroactivity when a change is designed to correct an unintended effect of a previous enactment.[228] The argument is that since the initial version was never intended to govern, and since parties relying on such a provision may

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226. That the underlying problem arises from the existence of a continuum of possibilities relates to the difficulty of determining the announcement date, discussed _supra_ in note 224.

227. Related problems can exist for subsidies, where the fear (probably of much less significance than with taxes) is that activity may be delayed until after the enactment. Some aspects of this issue have been addressed (without making any connection to the more general problem) by O'Hare & Mundel, _When to Pay for Sunk Benefits_, _in_ **What Role for Government?** 225 (R. Zeckhauser & R. Leebaert, eds., 1983).

228. _See, e.g._, McIntyre, _supre_ note 29, at 13; Slawson, _supra_ note 3, at 238-42; Note, _supra_ note 13, at 439-40; _see also_ Novick & Petersberger, _supra_ note 29, at 509-30.

As a close analogy, consider McIntyre's opposition to excluding existing foreign trusts used to evade the tax laws from reform designed to close the loophole. _See_ McIntyre, _supra_, at 8. The idea is that such escapes from domestic taxation were never intended to be permitted, and that to permit the continued exemption from tax to continue indefinitely for all who established trusts before the reform was devised is undesirable. Similarly, one could argue that the ex ante effects on tax planning of a policy of retroactive correction would be desirable, since there would no longer be a huge premium (and large expenditures of resources) on finding gaps in legislation -- gaps that surely will be discovered and eventually corrected -- that permit one to circumvent the purpose of the original enactment. Of course, the overall effects on tax planning could be to make life more or less complex, depending upon how much gap-finding activity was discouraged in the first place. Cf. Battaglia v. General Motors, 169 F.2d 254 (2d Cir. 1948) (upholding Portal-to-Portal Act).

well have been aware of that fact, there is no unfairness of making the correction apply to pre-enactment behavior.[229] This argument -- although never presented as going beyond simple appeals to reliance and expectation interests, as discussed in Section II-A -- can be seen as a simple illustration of the more general analysis offered here. This situation, like that just discussed in subsection 2-c concerning effective dates retroactive to the time the change was announced (prior to its enactment), offers an instance where the probability of change is very high, in which case the argument that behavior pre-enactment should be subject to the new, more socially desirable regime is the easiest to comprehend.

Of course, in all such instances, change is by no means absolutely certain.[230] The argument of Part II can be seen in part as a generalization of this intuition concerning highly probable future government action to reforms of any ex ante probability. Moreover, the frequent criticism of the position that mistakes should be corrected retroactively -- which emphasizes the conceptual and practical difficulty of distinguishing between noticing a

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229. Courts do this all the time in interpreting statutes, regulations, and past decisions. The issue in that context is much the same.

230. One example of the issue discussed here would be when a state changes its three-year statute of limitations when it is learned that there exist long latency periods for diseases caused in the past. Alternatively, without legislative action, one could imagine that a court would change the tolling rules in interpreting the existing statute of limitations. If either action is likely, firms would be unable to take advantage of the former statute of limitations in making its decisions before the new problem has become generally known. These examples are very much like the product ban illustration considered earlier and the general reference to evolution of the common law to cover new contingencies as they arise.

mistake and changing one's policy views[231] -- is wholly consistent with the position advanced here that all such changes are in fact the same. The difference is that opponents of retroactive correction see traditional retroactive action as the norm of what should be avoided at all costs whereas the analysis here argues that the intuition behind retroactive correction is both ultimately correct and generally applicable to the broader range of circumstances.

e. Accounting Change or Intended Incentive Effects: Carryover Problems Versus Price Changes

Discussions of major tax reform, particularly in recent work addressing the transition from an income tax to a consumption tax, devote substantial attention to the appropriate transition treatment of carryover problems and price changes.[232] Carryover problems refer to effects caused by what might best be seen as changes in accounting rules. For example, the income tax applies to savings, so when an asset is sold (the proceeds to be consumed), a

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231. See, e.g., New York State Bar, supra note 2, at 23; Note, supra note 13, at 440. It is also interesting to note in this context, as in many others, see Section II-D, that those opposing retroactive correction of mistakes where correction would be adverse to the investor generally think it not merely acceptable but desirable to retroactively spread gains on those made less well off, rather than better off, due to mistakes. See, e.g., New York State Bar, supra, at 23 (limiting argument to "where taxpayers are adversely affected" by retroactivity).

232. See, e.g., Blueprints, supra note 119, at 159-66, 180-87; Graetz, supra note 4, at 50-52; Graetz, supra note 31, at 1649-58; Shachar, supra note 57, at 1599-608.

deduction for basis is allowed when computing gain to prevent double taxation. Under a consumption tax, there is no initial taxation of savings, so when an asset is sold for consumption, the entire proceeds are subject to tax. For an asset purchased under an income tax regime and sold under a consumption tax regime, double taxation would result if no basis adjustment were permitted as part of the transition rules. Possibilities of double taxation and complete evasion of taxation also arise due to differing treatment of loan principal, unless similar transitional adjustments were made. Price change effects, in contrast, refer to the class of problems like that presented by repeal of the municipal bond interest exemption. Shifting from an income tax to a consumption tax would generate many price change effects, because a consumption tax would favor some investments and disfavor others relative to their treatment under an income tax.[233]

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233. There is some controversy as to whether all price effects should be viewed similarly, regardless of their source. A common distinction is made between effects caused by changes in interest rates and those resulting from changes in income stream. See, e.g., Shachar, supra note 57, at 1599-600 (discussing **N. Kaldor, An Expenditure Tax** (1955)). For example, the value of a bond can decrease if the market interest rate increases or if the annual payments decrease, as would be the case if the municipal bond interest exemption were repealed without grandfathering (the nominal payments would be the same, but the after-tax payments would be less). As Shachar recognizes, for taxpayers who intend to sell the bond immediately there is no important difference, whereas for those who will hold the bond until maturity, those suffering from a decrease in payments will be worse off than if the decline in value had been attributable to a higher interest rate. See id. at 1600-01, 1604-05. Of course, the notion of making a transition rule dependent upon whether an asset is held or sold is problematic because, for example, if there is compensation for losses only if an asset is sold, that will induce taxpayers to sell the asset, collect compensation, and then purchase a similar asset reestablishing the previous position. (Wash sale restrictions similar to those currently in effect are hopelessly inadequate to deal with this issue since, for example, bonds from different municipalities of similar remaining duration and rating are effectively fungible.)

The complication arising here is a price index problem, see Arrow, The

Graetz, who was the first to consider the question in some detail, argued that carryover and price change problems were essentially equivalent because both were simply different sources of the same effect.[234] The idea is that, from the perspective of the taxpayer, it matters not what caused a substantial transition loss, but only how significant the loss would be and whether relief would be forthcoming. Recently, Shachar has disagreed with

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Measurement of Price Changes in **Joint Economic Committee, The Relationship of Prices to Economic Stability** (1958), although it has not been recognized as such. When the price (interest rate, in the case of a bond) of an asset one owns increases, there are two effects. First, wealth increases. Second, the price of the services of that asset increases. If the asset were, for example, gold, held only as an investment, the price effect would be unimportant, but if it were the price of one's home, since one would still need to live somewhere, there may be little net gain. Of course, if the price of one homes increased substantially, one might move to a smaller residence and spend the huge leftover sum on all sorts of other sources of satisfaction and comfort, leaving one much better off than before the price increase. With inflation, which is simply a general (proportional) increase in all prices, standard indexing solves the problem. The difficulty with price increases of specific assets is that the change in the appropriate general price index is difficult to determine. Typically, as in the price of homes example, there would be some increase in the overall index, so part of the increase in the value of residential property would be ignored under indexing whereas the rest would be treated as a true increase in value. For particular investors, this adjustment may over- or understate their true ex post wealth position depending upon their initial housing investment and whether they were more or less likely to decrease the portion of their consumption channeled through housing. Changes in interest rates, unlike changes in after-tax income stream, thus in essence cause two effects simulataneously: a change in wealth and perhaps a change in the cost of one channel of consumption. With interest rate increases, deferred consumption has become cheaper, which would wholly offset the decline in wealth if one continued to devote all the affected future income flow to future consumption (as in the housing example). In general, some substitution would be expected, which would indicate that there is some wealth effect (which, oddly enough, is best analogized to the "spending power" terminology of Kaldor and Shachur).

234. See Graetz, supra note 4, at 51-52; Graetz, supra note 31, at 1650. Beyond noting the similarity of effects, Greatz never does carefully consider each of the two problems to determine whether his arguments concerning transitional relief are equally applicable to both.

this position, relying upon his framework for analyzing price effects,[235] but never indicating what equity or efficiency arguments might call for different treatment given that the effects are the same.[236] Other proposals for dealing with these issues have been offered as well.[237]

The framework offered in this article suggests a rather simple ground for distinguishing price changes and carryover problems in a manner that is in accord with commonly expressed intuitions on the issue. Price changes are a large and important subset of the situations that have been discussed throughout this article, and thus for the reasons already offered should not generally be accompanied by transitional relief. Carryover problems, however, are quite different. The difference in issues presented is suggested by the fact that carryover problems can be understood as the

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235. The argument here does not depend upon any of the critique of his framework given supra in note 114.

236. For example, he claims that "[u]nlike price changes, carryover problems are not endemic to all tax transitions," see Shachar, supra note 57, at 1605, but the logic as to why endemic effects call for one approach and merely frequent ones call for another is mysterious. He characterizes carryover problems as "oversights," see id., which is a conclusory label for which he offers no analysis or argument beyond that just cited. He also notes correctly that "Graetz's conclusion is based on quantitative rather than qualitative grounds," see id. at 1605 n.86, but without indicating the qualitative grounds upon which a distinction should be based. The remainder of his analysis of carryover problems is devoted to describing what they are and how they might be dealt with by transition rules, offering no further motivation for the distinction. See id. at 1606-08.

237. The Treasury Departments recent study of tax reform proposals is perhaps the most notable example. See Blueprints, supra note 119, at 159-87. First, their ground for distinguishing the two issues is not at all clear. Second, their ultimate conclusion that, in light of competing arguments, transition rules should be designed to moderate, although not necessarily eliminate, unanticipated effects, see id. at 165-66, as well as their final transition proposal for transition to a consumption tax, see id. at 184-85, is simply an ad hoc compromise in that competing arguments are not resolved and no reason is given to justify even approximately the degree of relief advocated.

effects of changes in accounting conventions, and can lead either to double taxation or to a complete escape from taxation.

Consider the simple example of a mandated accounting change from calendar year accounting to fiscal year accounting (e.g., July 1 to June 30). Absent transition rules, six months of net income would either be taxed twice or exempted, depending upon how the change was made. The obvious solution is to construct a "short year" to deal with the six-month transition period, as is generally done in the current income tax system when taxpayers change their accounting period. Transition adjustment is appropriate[238] in this instance because it is necessary to properly measure the desired tax base. Various considerations determine how much tax to collect from a given taxpayer under either an income tax or a consumption tax, and accounting rules are designed to implement whatever choices have been made. Failing to make basis and other transition adjustments in the event of a change from an income tax to a consumption tax would not serve the purposes of the consumption tax because none of the principles that define its tax base call for lifetime tax burdens to be affected in the manner that would result from avoiding transitional relief.

Contrast such accounting issues with the causes of price changes. The latter arise, for example, when it is decided that a subsidy (implemented, for example, through tax relief) for a certain activity is no longer desirable. Failing to provide transitional relief discourages ex ante

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238. Since here the issue concerns changes in accounting imposed by the government, rather than selected by the taxpayer, the issue of evasion through accounting manipulation is not central.

investment which, as argued in Part II, is precisely what is desired. By contrast, in my simple example of an imposed change of accounting period to a fiscal year system, it surely is not the case that it would have been desirable for economic activity to have been altered ex ante to either concentrate income in the relevant six-month period (if it were going to be untaxed) or to move income out of that period (if it were going to be double taxed). The same argument applies with the consumption tax. The tax clearly is not designed to discourage the ownership of assets (and encourage the holding of liabilities).[239]

Although in some instances the distinction between the carryover problem and price changes may be quite difficult to ascertain,[240] the general argument that they should be treated differently arises quite naturally from the analysis offered here. In contrast, past analysis of transition issues has had difficulty distinguishing these two effects which intuition strongly suggested should be readily distinguishable.[241] The distinction between

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239. Although not necessary for this argument, it is worth noting in this particular example that in fact the opposite is the case, according to most consumption tax advocates.

240. For example, one discussion characterizes the effects on asset values resulting from repealing favorable treatment of capital gains as a carryover problem, _see_ **Blueprints**, _supra_ note 119, at 163-64, whereas many of the conventional justifications for that provision suggest that it is designed as an incentive, which would make its repeal subject to the analysis of price effects in that it is very similar to the example of repeal of the favorable treatment for municipal bond interest.

241. It is not clear why Graetz so strongly argues that transition rules to deal with carryover problems would be so difficult to implement. _See_ Graetz, _supra_ note 31, at 1649-59. For example, those noted in text dealing with assets and loans, which are the most significant problems, could be dealt with using rather simple basis rules very similar to those now used in the income tax system. _See, e.g._, Aaron & Galper, _Transition Rules for a Cash-Flow Income Tax_ (prepared for National Bureau of Economic Research

carryover problems and price changes is just one notable example of the more general distinction between changes where ex ante incentive effects are desirable -- as in virtually all the examples considered in this article -- and those where incentive effects are undesirable -- as when accounting rules are changed.[242]

f. Grandfathering Implicit in Program Design

An implicit grandfathering approach is even more common than suggested by the numerous instances in which it is usually observed. For example, any up-front subsidy (e.g., the investment tax credit) or tax (sometimes license fees have this property) presents a form of grandfathering. The reason is that reforms cause gains or losses by changing the expected future flow of net benefits. But if the original tax or subsidy had its complete effect up front, rather than gradually over time, the later repeal of the provision will not affect assets previously subject to different treatment. (Of course, one option here would be to tax back the previously-offered benefits.) In the municipal bond example offered below, the analogy would be that instead of having an interest exemption, original bondholders would be given a payment providing a benefit equivalent to the tax benefit that otherwise would have accrued over the life of the bond. Then repeal would not affect prior owners because they would already have received their full

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Taxation Workshop, August 1984); Shachar, supra note 57, at 1608.

242. There may be other instances of the latter besides changes in accounting rules. The argument here is simply that the applicability of the conclusions depends directly upon the applicability of the analysis that produced them.

benefit. Of course, reforms could tax back (or, in the event of a tax, give back) a portion of such transfers.

That up-front taxes and subsidies are equivalent to grandfathering provisions implies that the earlier analysis of grandfather provisions should be applied to decisions concerning the appropriate timing of taxes and subsidies. As a result, the argument of this article applies not merely to transition policy, but to original program design as well. Additional examination of the issue, particularly including administrative cost considerations, would be necessary before categorical conclusions could be offered in this related context.

g. Fully Retroactive Application

Thus far, the general result has been in favor of a transition policy involving nominally prospective implementation with no mitigation -- i.e., the new rules should be immediately applicable to preexisting investments, but only as of the implementation date. In some instances, however, it clearly makes sense to make the new legal rules fully retroactive -- i.e., to apply them to time periods before the enactment date, even as to investments no longer in existence. In fact, this sort of result is hardly novel. For example, when new standards of common law liability are announced, they are usually applied not merely to investments that continue in existence after the announcement date, even if undertaken earlier, but also to effects resulting prior to the announcement date.[243]

The incentives analysis developed in Part II favors precisely this retroactive result in those instances where the justification for a reform suggests that prior activity was undesirable. For example, if a product ban is based on results of recently-completed studies indicating that the product was harmful all along, it would be appropriate to apply penalties to production prior to the date of such an announcement to provide appropriate incentives ex ante for manufacturers to take such risks into account. By contrast, if a new rule is provoked by a change in circumstances, the same reasoning would not support strictly retroactive application. The appropriate treatment turns upon whether the justification for the legal change indicates that it would have been better if less of the activity had occurred prior to the change.

One general set of circumstances where strict retroactivity would be inappropriate involves the direct effects of government projects -- including effects of takings as well as the effects of changes in government demand for goods and services or other changes in priorities. The simple reason is that even if the new information reveals, for example, that it would have been better had the highway been built a decade earlier, the interim forgone benefits are a lost opportunity. It simply is not the case that the investment on land along the route of the highway was undesirable in that interim period, since the projects were not in fact leveled. Thus, since the

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243. In this context, the statute of limitations obviously is a substantial restriction in some instances, although in others, liberal interpretations permit lawsuits to reach behavior long before the announcement of the legal rule.

highway was not in fact built, it is inefficient to discourage earlier investment by taxing away the real benefits the investment produces prior to the actual taking.

The conclusion that the appropriate transition policy is one of no mitigation is thus incomplete, and in some instances appropriate (retroactive) provision must be made if the proper incentives are to be produced. This elaboration follows from the earlier incentives analysis for precisely the same reason as the results concerning retroactive effective dates, discussed in subsection c. This refinement helps clarify and rationalize some of the existing disparity of treatment in different transition contexts, although it suggests that even more far-reaching action than that suggested by the general anti-mitigation conclusion is justified in other settings where the tendency thus far has been in the opposite direction (i.e., no strictly retroactive application plus mitigation of future adverse effects on past investment).

3. Additional Complications in Designing Transition Policy

a. Case-by-Case Transition Policy

In light of the myriad qualifications and factors presented thus far, it might appear that a case-by-case approach to transition issues as each reform prospect arises is desirable, and perhaps unavoidable.[244] But this is not the case because the analysis that lies at the core of the framework in Part II refers explicitly to ex ante effects -- i.e., the incentives and risk spreading that will be produced taking into account the transition policy that reasonably can be anticipated.

Consider the effects of choosing a transition policy after-the-fact that varies from that anticipated. If compensation is not provided when it was assumed to be available, valuable risk spreading will be sacrificed. Moreover, there will not even be a partial offset from incentive effects because the distortion in ex ante investments will occur in any event since, at the time those decisions were made, compensation was anticipated. On the other hand, if compensation is provided when not anticipated, overcompensation (and thus imposition of risk) will be the result.[245]

Of course, the analysis of Part II could be applied to this uncertainty as well: private arrangements could take into account not only the uncertainty in future government action, but also uncertainty concerning which transition policies will be adopted. Nevertheless, the central point

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244. This is a commonly expressed view. See, e.g., Joint Committee on Taxation, supra note 119, at 178 ("transition problems should be considered one-by-one as decisions of comprehensive tax reform progress").

245. "Losers" will in a sense be compensated twice (once by their market arrangements and once by the government), which makes them gainers overall. And "gainers" will in a sense be taxed twice (once by their market arrangements and once by the government), making them losers. The result is that government mitigation might create far more dispersion of effects than otherwise would have resulted. (The qualification is in order because it will be recalled that market risk spreading is often only partial for incentive reasons.) Moreover, all the incentive lost due to the private arrangements which sacrifice some incentive for the risk spreading will not be recovered in any way.

here is that any transition policy will ex ante have less than the intended effects to the extent it is not fully anticipated. Moreover, since transitional relief may often be motivated in instances where markets are not thought to function effectively, determining the ex ante impact of relief is further complicated and the purposes may be defeated if there is little certainty.[246] One way of illustrating the difference between a generally established transition policy and case-by-case determinations is that there is a difference between providing full transitional relief in half of a group of the cases -- where it is known in advance which half will receive relief -- and providing a 50% probability of full relief in all the cases -- which will lead to market adjustments ex ante and results different than one might have intended ex post.

Uncertainty in future government policy is generally unavoidable to the extent society wishes to obtain the benefits of having its policies react to real changes in the world. By contrast, failure to specify transition policy in advance creates a needless additional risk, which is generally undesirable. To the extent, however, that the analysis necessary to determine the desirability of transitional relief in various contexts is difficult and costly, and that it is difficult to specify in advance which contexts of reform are most likely and most significant, this poses a dilemma that requires a further set of complex trade-offs to be made. One would assume, however, that at least in some important and recurring contexts, much

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246. For example, if mitigation is premised on the lower transaction costs of government risk spreading in some instances, the purpose is largely defeated to the extent there is insufficient certainty ex ante concerning government relief, resulting in costs being incurred twice -- in making market provisions ex ante and in disbursing government relief ex post.

could be decided in advance. The importance of advance decision and the effect of uncertainty in ex post transitional relief raises the issue of the credibility of an announced transition policy, which is explored in the following subsection.

b. Transition to a Transition Policy

The preceding subsection highlighted the importance of whether a transition policy is merely chosen after a reform is to be made or is established well in advance. More generally, the entire analysis of this article, except for the preceding subsection, has proceeded on the assumption that the chosen transition policy is known by all in advance and is credible. But if the optimal transition policy that emerges from one's analysis departs from the status quo transition policy -- as the approach discussed here surely does -- one must then confront the problem of how to undertake the reform that consists of changing to the new transition program.[247]

The most immediate and important implication is that it does <u>not</u> necessarily follow from the analysis presented here that the transition policy deemed to be optimal should be applied to currently pending reforms or those in the immediate future -- even aside from all the other qualifications noted thus far. The reason is simply that the argument presented here

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247. One aspect of this problem is that this reform itself imposes gains and losses, and arguably calls for transitional relief, which would lead one in a circle back to the original question at one higher level.

derives from the ex ante effects of the anticipated transition policy. The question of what to do ex post is not directly determined by that analysis.[248] Therefore, the question of the optimal transition to the optimal transition policy presents a significant additional problem.

Of course, in the long run, if a government does not adhere to its announced transition policy, it can hardly expect its policy to be credible, and thus to have the desired ex ante effects. Moreover, part of the transition process to a new transition policy involves announcing the new policy and attempting to make that policy credible. One approach might be to announce immediately that the new transition policy will be applicable to all future reforms, while providing compensation (and taxing gains) for some of the losses (and gains) imposed by the new transition policy itself. Making the new policy applicable to the immediately pending reforms would certainly contribute to the long-run objective of developing credibility for the new system, and exempting currently pending reforms would no doubt make it that much harder for the announced change in future policy to be believed. But immediate application is hardly without cost, and mitigating the effects of the new transition policy in any substantial way would be quite complex, so

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248. For example, it is generally desirable ex post to depart from an announced refusal to mitigate because, after-the-fact, there are, by definition, no further ex ante incentive effects, so compensation to spread that portion of risk that the market (efficiently) left to individual parties would be desirable. This sort of reaction would interfere with long run credibility, as discussed further in text.

One notable example concerns the government's provision of disaster assistance, which is thought by some to distort locational incentives. As hard as a government may try, it simply may not be politically possible to convince individuals ex ante that no relief will be forthcoming ex post in the event of a disaster. On the other hand, one could imagine that refusal in a few consecutive instances would do much to change future perceptions.

the ultimate resolution of this question requires further analysis which lies beyond the scope of this article.

CONCLUSION

Changes in government policy often result in gains and losses to investors that made investments prior to the reform. This characterization applies regardless of whether the legal or policy changes are implemented, modified, or clarified by courts, regulatory agencies, or legislatures, and even to changes in the mere likelihood that such actions will be taken. The common element in all these contexts is the uncertainty that exists concerning future government action at the time investment decisions must be made. This article has addressed whether and how transition policy should mitigate the gains and losses that result in this wide variety of settings.

Despite the diversity of such actions and their respective institutional contexts, many of the issues raised are similar, if not identical. This investigation has focused upon, defined, and analyzed these recurring issues that, until now, have not generally been recognized as presenting a single, unified set of questions. The conclusions reached are consistent with approaches prevalent in some areas but strikingly at odds with those taken in others. Although the argument intentionally ignored unique features of each setting, and examined only briefly some important elements of more general application, the results are significant because they resolve many of the central problems that have been at the core of discourse in most of these contexts.

The economic approach taken here focused on two issues: mitigation of risk and maintenance of incentives for efficient behavior. The values associated with risk mitigation provide motivation for compensating those who lose as a result of government reforms, just as it provides a justification for compensation or insurance in the more familiar accident context. It was suggested that more familiar notions of fairness have much in common with this component of the analysis, and some may even be convinced that the two issues are largely the same. The incentive issue concerns the effect of expectations concerning future government action on present investment decisions. To the extent that a given transition policy mitigates the impact of future reforms on preexisting investment, those making investments will not have the proper incentive to take into account the prospects of future reforms in making current decisions. The examples of firms making potentially dangerous products and of firms or individuals making large investments on land that is likely to be taken in the near future for a highway project illustrate the intuition behind the often subtle and frequently overlooked point that it is generally desirable for all investors to take into account the prospects of future government action, however uncertain, in making current decisions. This argument demonstrates the flaw in the often-expressed notion that compensation or other mitigation should be offered to protect investors from the effects of uncertainty in the event of government policy changes.

The conclusion derived from the simultaneous consideration of risk and incentives is that government transitional relief is generally undesirable. Market mechanisms -- most notably, insurance and diversification -- permit private actors to make arrangements that provide an efficient trade-off between the benefits of risk spreading and the costs that result from lost incentives. Government compensation, or other transitional relief, to the extent it provides greater mitigation than market arrangements, is inefficient.[249] Most importantly, this conclusion holds despite many important market imperfections that inhibit private arrangements because, if one subscribes to the commonly-held views concerning the desirability of market by comparison to government decisionmaking, the most reasonable conclusion is that the same factors that inhibit market operations would cause even greater obstacles to government risk mitigation. Moreover, because of the close similarity between risk due to uncertainty concerning future government action and risk due to more familiar market and natural sources, objections and qualifications to this conclusion would directly question the traditional presumption against government displacement of market decisionmaking.[250]

An important corollary to this conclusion is that both gains and losses resulting from government policy change should for most purposes be treated symmetrically. Therefore, the argument against compensation or other relief

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249. To the extent it always provides less, with a resulting offset in private mitigation, it serves no purpose. See supra page 54.

250. The argument is not that markets are usually perfect or nearly perfect, nor that the government is generally inefficient. Rather, the argument assumes that, in the absence of externalities, the market arrangements will have make better use of actors' information concerning risk preferences and investment payoffs than could the government. This article offers no comments concerning the plausibility of this widely (but not unanimously) held view. It should be noted that if this view were rejected, the issue of how to protect private investors may not arise as typically presented because the alternative assumption concerning the desirability of government versus private decisionmaking calls into question the entire system that operates under the guidance of private investors in the first instance.

is also an argument against taxing the gains to those who benefit from reform.[251] Moreover, if one rejected the conclusions offered here either in general or in specific contexts, and thus deemed compensation or other relief to be in order, the implication would be that gains should be taxed as well -- an implication that has been overlooked in virtually all prior discussion of these issues.

As noted throughout the article, these conclusions are subject to numerous qualifications. From the most narrow perspective, even within the economic framework and all of the particular assumptions employed, it was seen that there could be important exceptions to the general results under some circumstances.[252] In addition, a wide range of assumptions concerning the hypothesized behavior of government ruled out a wide range of institutional issues that were explored briefly in Part III. Moreover, the analysis was limited to efficiency norms; only brief attention was given to their relationship to broader notions of fairness that have been addressed frequently in prior discussion of transition issues. Finally, unique features of specific contexts were intentionally ignored to facilitate a better understanding of the recurrent questions. Definitive conclusions in any context will usually require consideration of additional elements. As

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251. An important caveat concerning revenue costs is offered in subsection II-D-2.

252. Those noted here do not purport to be an exhaustive list, and no claim is advanced concerning how often exceptions will ultimitely prove justified. For further discussion, see Kaplow, _supra_ note 50. As with the rest of the qualifications, the purpose is to offer a framework that will facilitate coherent resolution of these issues in the wide range of circumstances in which they arise; it is simply not possible here even to begin specifying all the details of such applications.

just one example, this article explicitly ignored constraints imposed on particular decisionmakers by prevailing legal doctrine.

Despite these warnings, the analysis offered here is important for three reasons. First, since a large portion of existing argument in many contexts draws implicitly or explicitly on concerns relating to risk mitigation and incentives, the conclusions presented go a long way toward clarifying and resolving existing disputes by revealing fundamental weaknesses or confusion that underlies much previous analysis of legal transitions. Moreover, this study has clarified the sorts of assumptions and factors that must be incorporated before any progress on these issues is possible. Second, the results of the economic analysis are important in their own right, even if they are not dispositive of all transition issues. Third, the clarification of the economic analysis serves to redirect and focus analyses that address the other dimensions that have received less attention in this article. It may well be that progress on other fronts has been limited due to a complacency that has been possible only because sufficient justification for various positions was thought to have resided in traditional appeals to reliance, expectations,[253] and fairness[254] that may no longer appear sufficient in light of the argument presented here.

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253. _See supra_ Section II-A.

254. _See supra_ Section III-B.