

Note

Of TEAs and Takings: Compensation Guarantees for Confiscated Tradeable Environmental Allowances

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Over the last twenty years, the prospect of using market mechanisms and property-rights concepts to manage environmental resources has drawn increasing attention within the environmental literature¹ and from policymakers.² One predominant method of using the power of market

1. See, e.g., J.H. DALES, *POLLUTION, PROPERTY AND PRICES* (1968); Bruce A. Ackerman & Richard B. Stewart, *Reforming Environmental Law: The Democratic Case for Market Incentives*, 13 *COLUM. J. ENVTL. L.* 171 (1988); Daniel C. Esty, *Toward Optimal Environmental Governance*, 74 *N.Y.U. L. REV.* 1495 (1999); Robert W. Hahn & Robert N. Stavins, *Incentive-Based Environmental Regulation: A New Era from an Old Idea?*, 18 *ECOLOGY L.Q.* 1 (1991); Colloquy, *Providing Economic Incentives in Environmental Regulation*, 8 *YALE J. ON REG.* 463 (1991) [hereinafter *Providing Economic Incentives*]; Carol M. Rose, *The Several Futures of Property: Of Cyberspace and Folk Tales, Emission Trades and Ecosystems*, 83 *MINN. L. REV.* 129 (1998) [hereinafter Rose, *The Several Futures of Property*]; Norman W. Spaulding III, Note, *Commodification and Its Discontents: Environmentalism and the Promise of Market Incentives*, 16 *STAN. ENVTL. L.J.* 293 (1997). Writing nearly a decade ago, Carol Rose observed that the "pollution rights approach has now become quite *à la mode*, and it plays an increasing role in our environmental law." Carol M. Rose, *Rethinking Environmental Controls: Management Strategies for Common Resources*, 1991 *DUKE L.J.* 1, 27. A quick review of the literature and of current legislation shows that, if anything, this is even more true today.

2. See, e.g., Clean Air Act (CAA) Amendments of 1990, tit. IV, 42 U.S.C. § 7651 (1994) (creating the sulfur dioxide (SO₂) emissions trading program, which utilizes tradeable annual allowances, each of which permits the discharge of one ton of sulfur dioxide); 50 C.F.R. § 652.20 (1994) (creating an individual transferable quota (ITQ) scheme for the management of the Atlantic surf clam and ocean quahog fisheries); Emissions Trading Policy Statement; General Principles for Creation, Banking and Use of Emission Reduction Credits, 47 Fed. Reg. 15,076 (1982) (describing the Emissions Trading Policy, which allows trading of the emission reduction credits (ERCs) granted to firms that reduce their emissions below specified levels); TAHOE REG'L PLANNING AGENCY, CODE OF ORDINANCES §§ 20.3C & 34 (1987) (granting property owners transferable development rights (TDRs) that may be sold to owners of parcels eligible for

forces to achieve environmental goals, such as limiting air and water pollution, involves the issuance of tradeable environmental allowances (TEAs).³ A TEA is a permit to perform a certain quantifiable activity over a period of time—for example, to emit a ton of sulfur dioxide over the course of a year. Since a TEA can be traded, it will flow to its most efficient user, and environmental goals will be achieved at substantial cost savings. The issue that this Note examines is whether the government should constitutionally guarantee TEA-holders compensation when, because of changed conditions or changed policy goals, the government decides to confiscate or otherwise limit the rights conferred by TEAs. It is the thesis of this Note that while there are some policy reasons for guaranteeing compensation, public choice theory suggests that guarantees will lead to overprotection of TEA-holder interests more often than they will prevent underprotection. This is because in most TEA settings, the regulatees will enjoy organizational advantages that enable them to protect themselves politically from unexpected regulatory jolts such as confiscation without compensation.

The actions authorized by TEAs usually can be categorized as (1) putting something into the commons (emissions) or (2) taking something out of the commons (extractions). Examples of the former include air⁴ and water⁵ pollution, while commercial fishing⁶ is the predominant example of

construction). For an analysis of four tradeable-environmental-allowance programs, see Robert W. Hahn & Gordon L. Hester, *Marketable Permits: Lessons for Theory and Practice*, 16 *ECOLOGICAL L.Q.* 361 (1989).

3. See, e.g., Jonathan Baert Wiener, *Global Environmental Regulation: Instrument Choice in Legal Context*, 108 *YALE L.J.* 677, 791 (1999) (using the phrase “tradeable environmental allowances”).

4. The literature on TEA programs is vast, especially in the areas of air pollution and fishing. The following is only a small sampling from the TEA air-pollution literature. Besides the works cited *supra* note 1, see David M. Driesen, *Free Lunch or Cheap Fix? The Emissions Trading Idea and the Climate Change Convention*, 26 *B.C. ENVTL. AFF. L. REV.* 1 (1998); Robert W. Hahn & Roger G. Noll, *Barriers to Implementing Tradable Air Pollution Permits: Problems of Regulatory Interactions*, 1 *YALE J. ON REG.* 63 (1983); Clare Langley-Hawthorne, *An International Market for Transferable Gas Emission Permits To Promote Climate Change*, 9 *FORDHAM ENVTL. L.J.* 261 (1998); and Carlos A. Gavilondo, Comment, *Trading Clean Air—The 1990 Acid Rain Rules: How They Will Work and Initial Responses to the Market System*, 67 *TUL. L. REV.* 749 (1993).

5. See, e.g., Ann Powers, *Reducing Nitrogen Pollution on Long Island Sound: Is There a Place for Pollutant Trading?*, 23 *COLUM. J. ENVTL. L.* 137 (1998); Kurt Stephenson et al., *Toward an Effective Watershed-Based Effluent Allowance Trading System: Identifying the Statutory and Regulatory Barriers to Implementation*, 5 *ENVTL. LAW.* 775 (1999); William E. Taylor & Mark Gerath, *The Watershed Protection Approach: Is the Promise About To Be Realized?*, *NAT. RESOURCES & ENV'T*, Fall 1996, at 16, 20 (describing several water-pollution trading schemes).

6. See, e.g., *RIGHTS BASED FISHING* (Philip A. Neher et al. eds., 1989); Alison Rieser, *Prescriptions for the Commons: Environmental Scholarship and the Fishing Quotas Debate*, 23 *HARV. ENVTL. L. REV.* 393 (1999) [hereinafter Rieser, *Prescriptions*]; Alison Rieser, *Property Rights and Ecosystem Management in U.S. Fisheries: Contracting for the Commons?*, 24 *ECOLOGICAL L.Q.* 813 (1997) [hereinafter Rieser, *Property Rights*]; Franz Thomas Litz, Comment, *Harnessing Market Forces in Natural Resources Management: Lessons from the Surf Clam Fishery*, 21 *B.C. ENVTL. AFF. L. REV.* 335 (1994); Carrie A. Tipton, Note, *Protecting*

the latter. A third, less easily characterized category includes TEA programs designed to regulate land development for historic preservation,⁷ protection of wetlands,⁸ protection of habitats,⁹ or general local land-use management.¹⁰ Without the requisite allowances, one is prohibited from emitting, extracting, or developing.

The rationale behind the implementation of TEA programs is to place the incentives created by property rights and markets at the disposal of environmental conservation. While any permit- or license-based system can place limits on activity levels simply by capping the total number of permits that will be issued, TEA programs promote the efficient use of permits by making them tradeable. Those for whom the TEAs are more valuable will purchase them from those who value them less.¹¹ For example, those who can most efficiently cut their pollution levels will sell their excess allowances to those for whom emissions reduction is more costly, while those who can most profitably fish will buy allowances from less profitable operations. The overall target is met, whether it be a certain amount of sulfur dioxide emitted or sea clams harvested, at a substantial cost savings. In the emissions context, TEA programs also create incentives to develop pollution-abatement technologies because the less pollution one emits, the fewer allowances one has to buy (and, conversely, the more allowances one can sell).¹²

An important issue that has been raised by the proliferation of TEA programs is the property status of TEAs. One question in particular that has received attention is whether or not the government is constitutionally required to provide compensation under the Takings Clause of the Fifth

Tomorrow's Harvest: Developing a National System of Individual Transferable Quotas To Conserve Ocean Resources, 14 VA. ENVTL. L.J. 381 (1995).

7. See Penn Cent. Transp. Co. v. New York City, 438 U.S. 104 (1978) (upholding a historic preservation program utilizing transferable development rights (TDRs)).

8. See, e.g., Kathrin Ellen Yates, Comment, *Wetlands Mitigation and Mitigation Banking in Louisiana*, 59 LA. L. REV. 591 (1999).

9. See, e.g., Todd G. Olson et al., *The Habitat Transaction Method: A Proposal for Creating Tradable Credits in Endangered Species Habitat*, in BUILDING ECONOMIC INCENTIVES INTO THE ENDANGERED SPECIES ACT 27 (Wendy E. Hudson ed., 1994); John F. Turner & Jason C. Rylander, *Conserving Endangered Species on Private Lands*, 32 LAND & WATER L. REV. 571 (1997); David Sohn & Madeline Cohen, Note, *From Smokestacks to Species: Extending the Tradable Permit Approach from Air Pollution to Habitat Conservation*, 15 STAN. ENVTL. L.J. 405 (1996).

10. See, e.g., Robert Innes, *Takings, Compensation, and Equal Treatment for Owners of Developed and Undeveloped Property*, 40 I.L. & ECON. 403 (1997); Andrew J. Miller, *Transferable Development Rights in the Constitutional Landscape: Has Penn Central Failed To Weather the Storm?*, 39 NAT. RESOURCES J. 459 (1999).

11. See Ackerman & Stewart, *supra* note 1, at 179; Rose, *The Several Futures of Property*, *supra* note 1, at 165.

12. See Justin Savage, Note, *Confiscation of Emission Reduction Credits: The Case for Compensation Under the Takings Clause*, 16 VA. ENVTL. L.J. 227, 238 (1997).

Amendment¹³ if it confiscates or in other ways adversely alters the rights granted by TEAs. The approach typically taken to the compensation question is to decide first whether TEAs count as property for the purposes of the Takings Clause, and then, if they do, to apply takings doctrine in an effort to determine whether their confiscation or alteration counts as a mandatorily compensable "taking."¹⁴

This doctrinal focus is misguided. Even ardent proponents of compensation admit that whether TEAs count as property for purposes of the Takings Clause depends on the language the government uses when it creates TEA programs.¹⁵ If this is true, then the important question is not whether the government is constitutionally bound to provide compensation, but whether the government *should* constitutionally bind itself to provide compensation.¹⁶ This is a policy issue that depends on considerations of efficiency, fairness, and political pragmatism.

The primary issue regarding constitutionally guaranteeing compensation is whether so doing optimally structures the incentives faced by private and public decisionmakers. Ultimately, this Note concludes that the government can achieve substantially the same efficiency results through assurances and consistent regulatory practice, and that in most TEA contexts, *ex ante* constitutional guarantees are unlikely to improve government decisionmaking. This is because, as mentioned earlier, TEA-holders are likely to enjoy considerable organizational advantages that make it unlikely that alterations in programs that are substantially adverse to their interests will occur without compensation, particularly if the overall benefits of granting compensation outweigh the overall costs. This is especially likely to be the case in the context of TEA programs that regulate emissions and extractions. TEA-holders in those programs are generally industrial polluters and commercial fishers, precisely the sort of business groups that public choice theory suggests will have a disproportionate voice in regulatory decisionmaking.¹⁷

An exception to the general organizational advantage of TEA-holders might exist, however, in the context of the third type of TEA program,

13. U.S. CONST. amend. V ("[N]or shall private property be taken for public use, without just compensation.").

14. Three examples that fit this doctrinal model are Susan A. Austin, Comment, *Tradable Emissions Programs: Implications Under the Takings Clause*, 26 ENVTL. L. 323 (1996); Yvonne F. Lindgren, Note, *The Emissions Trading Policy: Smoke on the Horizon for Takings Clause Claimants*, 18 HASTINGS CONST. L.Q. 667 (1991); and Savage, *supra* note 12.

15. See Savage, *supra* note 12, at 246 (accepting that explicit statutory disclaimers prevent TEAs from constituting property under the Fifth Amendment).

16. This would entail placing binding language in legislation creating TEAs; courts reading such language would then require the government to provide compensation when it confiscated TEAs.

17. For the now-classic explication of this phenomenon, see MANCUR OLSON, *THE LOGIC OF COLLECTIVE ACTION: PUBLIC GOODS AND THE THEORY OF GROUPS* 141-48 (1971).

namely, those that regulate land development. Insofar as owners of undeveloped land generally do not share the organizational advantages enjoyed by industrial polluters and commercial fishers, it might be appropriate to offer those governed by transferable developmental rights (TDR) programs constitutional protection from uncompensated TEA confiscations in certain contexts.

Part I provides background on the general nature and structure of TEA programs and describes the ways in which governments might decide to curtail TEAs, as well as their reasons for doing so. Part II discusses the various policy considerations that are relevant to the decision whether or not to guarantee compensation constitutionally. Part III focuses on the impact of guaranteed compensation on public decisionmaking, ultimately concluding that constitutionally guaranteed compensation is unnecessary in most TEA contexts.

I. BACKGROUND

A. *The Mechanics of TEA Programs*

TEA programs operate by first setting an overall regulatory limit on use of a resource and then allocating individual allowances to persons or entities, who are free to buy, sell, lease, bank, or trade them.¹⁸ Each TEA can represent either an absolute quantity (for example, one ton of pollution) or a percentage of a total (for example, five percent of the annual total allowable catch (TAC) of a given fish stock).¹⁹ As the examples suggest, the former method is usually utilized in emissions-control programs,²⁰ while the percentage method is usually utilized in extraction-control programs.²¹

18. See Hahn & Stavins, *supra* note 1, at 8-10.

19. See, for example, the Sustainable Fisheries Act of 1996, which defines an "individual fishing quota" as "a Federal permit . . . to harvest a quantity of fish, expressed by a unit or units representing a percentage of the total allowable catch of a fishery." 16 U.S.C. § 1802(21) (Supp. IV 1998).

20. See, e.g., Clean Air Act Amendments of 1990 § 402(3), 42 U.S.C. § 7651a(3).

21. See, e.g., 16 U.S.C. § 1802(21); 50 C.F.R. §§ 652.20(b), 652.21 (1994). In the fishing context, the allowances are generally referred to as individual transferable quotas (ITQs), although different statutes use different terminology. See Rieser, *Prescriptions*, *supra* note 6, at 395 & n.7 (using the term "individual transferable quotas" and stating in the footnote that "[w]hen these [fishing] permits are tradeable or transferable . . . the literature uses the term 'ITQ'").

Experience with the use of TEA programs has generally been good, although there have been some disappointing results. They generally seem to have performed better with respect to emissions than with respect to extractions. Among the former, the TEA programs designed to reduce the amount of lead emitted in automobile exhaust, see Powers, *supra* note 5, at 162-63, and sulfur dioxide emitted from factories, see Paul L. Joskow et al., *The Market for Sulfur Dioxide Emissions*, 88 AM. ECON. REV. 669 (1998), have been very successful, although the program designed to reduce smog in the Los Angeles basin has disappointed some, see Richard Toshiyuki Drury et al., *Pollution Trading and Environmental Injustice: Los Angeles' Failed Experiment in Air Quality Policy*, 9 DUKE ENVTL. L. & POL'Y F. 231, 268-83 (1999).

Similar in structure to programs that regulate emissions, transferable development rights (TDR) programs set a limit on overall land development in the region governed by the program and then allocate TDRs, defined as absolute quantities, to individual landowners on the basis of that limit.²² But unlike both emission and extraction programs, TDR programs usually create different development zones within the overall TDR region, each of which permits a different level of development regardless of the number of TDRs that one holds.²³ For example, particular parcels within the TDR region might be zoned residential or marked for historic preservation. As a result, fewer TDRs would be allowed to be applied to these parcels than to those with less restrictive zoning. More drastically, parcels might be designated as wetlands or as habitats for endangered species and all development on them barred. In that case, although the owners of such designated parcels would be granted the same number of TDRs per acre as everyone else in the TDR program, they would not be able to apply them to their own land. Their only recourse would be to sell their excess TDRs to those who owned parcels in less restricted zones and who, without the additional TDRs, could not develop their land to the maximum extent allowed by law.²⁴ The idea is that receipts from the sale of TDRs will compensate those who own restricted land, thereby avoiding the need to

The results in the extraction context have been more mixed. Compare Litz, *supra* note 6 (describing the positive results of an ITQ program regulating surf clam fishery), with Rieser, *Property Rights*, *supra* note 6 (providing a general critique of the use of ITQ programs to regulate commercial fishing). TEA systems work only if it is possible to set a sensible overall total and then to monitor individual TEA-holders in order to make sure that they stay within their allocated limits. In the fishing context, for example, the goal generally is to set the TAC in accordance with the sustainable maximum yield or the sustainable economic yield, but recent studies suggest that this quantity might fluctuate unpredictably. Unpredictable environmental factors, such as the success of the targeted species' natural predators and prey, might alter how many fish optimally can be caught. To the extent that this is true, regulators will not be able to set a sensible TAC that can then be divided among fishers. See, e.g., Ralph Townsend & James A. Wilson, *An Economic View of the Tragedy of the Commons*, in THE QUESTION OF THE COMMONS: THE CULTURE AND ECOLOGY OF COMMUNAL RESOURCES 311 (Bonnie J. McCay & James M. Acheson eds., 1987); William K. Stevens, *Biologists Fear Sustainable Yield Is Unsustainable Idea*, N.Y. TIMES, Apr. 20, 1993, at C4.

22. See, e.g., TAHOE REG'L PLANNING AGENCY, CODE OF ORDINANCES §§ 20.3.C, 34 (1987).

23. See Miller, *supra* note 10, at 467. I am using the term "transferable development rights" broadly, to include all TEA-type programs that regulate land development, not just those with the send-receive structure described in the text. So, for example, I am including the "habitat protection method," described by Todd Olson, as a TDR program even though Olson contrasts it with TDR programs. Olson et al., *supra* note 9, at 34.

24. Whereas those in sending zones are given more TDRs than they are allowed to use on their own land, those in receiving zones are granted fewer TDRs than are usable on their own land. Hence, those in receiving zones need to purchase TDRs from those in sending zones in order to develop their land to the maximum legal extent. See generally John J. Costonis, *Development Rights Transfer: An Exploratory Essay*, 83 YALE L.J. 75 (1973) (describing and defending the theory and practice of TDR programs). As Costonis explains, "Development rights transfer breaks the linkage between particular land and its development potential by permitting the transfer of that potential . . . to land where greater density will not be objectionable." *Id.* at 85-86.

deplete the public treasury.²⁵ Zones in which landowners are not able to use all of their TDRs on their own land are generally referred to as “sending” zones, while those in zones in which landowners need to purchase additional TDRs to develop their land to the fullest extent are generally referred to as “receiving” zones.²⁶

The initial allocation of TEAs can be performed either by giving them away, usually on the basis of past use of the resource in question, or by auctioning them to the highest bidder. The former method seems much more prevalent,²⁷ perhaps reflecting the political strength of those groups regulated by TEA programs. Another possibility, one utilized by the emissions reduction credit (ERC) programs permitted by the Clean Air Act,²⁸ is to assign each source a baseline connected to past activity levels, with TEAs (in this case, ERCs) being granted when the entity makes permanent reductions in emissions below that baseline.²⁹ In other words, if a factory is assigned a baseline of twenty tons of sulfur dioxide emissions per year, and it makes permanent changes in its production process that reduce its emissions to fifteen tons per year, it can then sell the right to emit five tons of sulfur dioxide to another factory governed by the ERC program.

It should be noted that although TEA programs can constitute the sole regulation of a given resource, they need not. Such programs can also be implemented in conjunction with command-and-control regulations, such as those that mandate the use of specified pollution-abatement technology, limit fishing to specified time periods, or restrict the permissible uses of land.³⁰

B. *How and Why Governments Might Curtail TEAs*

Governments can curtail TEAs in numerous ways, but a few are most significant for the purposes of this Note. Confiscation is the most obvious. The government might decide that there is too much sulfur dioxide being

25. See *Suitum v. Tahoe Reg'l Planning Agency*, 520 U.S. 725, 748 (1997) (Scalia, J., concurring in part and concurring in the judgment) (“The cleverness of the scheme . . . is that it causes the payment to come, not from the government *but from third parties*—whom the government reimburses for their outlay by granting them (as the TDRs promise) a variance from otherwise applicable land-use restrictions.”). If the owners of restricted land own less restricted parcels in the TDR region, they can also use their excess TDRs on those parcels.

26. See Miller, *supra* note 10, at 467.

27. See, e.g., Clean Air Act Amendments of 1990 § 403(a), 42 U.S.C. § 7651b(a) (1994).

28. See Emissions Trading Policy Statement; General Principles for Creation, Banking and Use of Emission Reduction Credits, 47 Fed. Reg. 15,076 (1982).

29. See Lindgren, *supra* note 14, at 667-68, 677 (describing the ERC program); Savage, *supra* note 12, at 231-37 (same).

30. See generally Hahn & Noll, *supra* note 4 (describing the problems associated with simultaneous use of TEA programs and traditional command-and-control approaches).

emitted, for instance, and so decide to confiscate a certain number of TEAs. For programs in which TEAs are defined as a percentage of a total, cuts are likely to take the form of a lowering of the total, with a consequent reduction in the quantity represented by each TEA. Situations might arise, however, in which one's percentage of the total allowable catch (TAC) is lowered in order to include others who had previously been excluded from the program without forcing them to buy in. For example, indigenous tribes might decide to press hunting and fishing rights that had been neglected previously.³¹ As a result, everyone's percentage of the TAC might be reduced by thirty percent so that the indigenous tribe might be granted thirty percent of the TAC.

Other possible regulatory changes that could be interpreted as curtailing TEAs include imposing additional regulations that make the TEAs less valuable and terminating the program altogether. Regulations that could lower the value of TEAs include mandating new abatement technology, shortening the fishing season, and imposing new land-use restrictions. Each of these regulations might decrease the value of TEAs by lowering their usefulness. At the extreme, ending the TEA program obviously makes the TEAs that one has banked or bought valueless, although it might not actually change the amount one is allowed to pollute, fish, or develop.

This Note is primarily concerned with those changes in TEA programs that do not simply decrease the market value of individual TEAs, but that decrease the legal rights embodied in a TEA, such as the amount of fish that one can catch or pollution that one can emit. In short, my central focus is the confiscation of TEAs and the lowering of TACs.³²

Among the three categories of TEA programs, governments have more reasons to confiscate TEAs in the context of extractions, particularly when what is being extracted is wildlife such as fish, than in the context of emissions or land development. Although new knowledge about environmental conditions could cause the curtailment of TEAs with respect to all three,³³ changed conditions are most likely to force the government's hand with respect to extractions.³⁴ For instance, since the point of regulating

31. *Cf.* *Marshall v. The Queen* [1999] 177 D.L.R. 513 (Can.) (granting the Mi'kmaq Tribe fishing rights based on an 18th-century treaty). Another possibility is that one's percentage of the TAC could be confiscated and given to others already in the program, thereby augmenting their share.

32. *See* Lindgren, *supra* note 14, at 669 (describing the various ways that the legal rights conveyed by TEAs can be confiscated in the context of the ERC program, such as "a discount to reduce the value of all ERCs, an adjustment to increase the use ratio of ERCs, a confiscation of banked ERCs, or a moratorium restricting the use of ERCs for a limited time") (footnotes omitted).

33. For example, it might be discovered that the current fish stock is smaller than previously thought or that the effects of sulfur dioxide are worse than previously thought.

34. *See* William K. Stevens, *New Eye on Nature: The Real Constant Is Eternal Turmoil*, N.Y. TIMES, July 31, 1990, at C1 (noting critiques of traditional equilibrium-based ecology and the

commercial fishing is to ensure that the fish population exists in the future, TACs are usually dictated by the size of the current stock and environmental factors expected to affect the future size of the stock. With emissions and land development, human preferences usually play a larger role in setting the total cap.³⁵ If conditions change in a way that makes the effect of pollution worse, the government has more flexibility to decide whether to tolerate the negative effect than in the fishing context. Once the fish are gone, they are gone. Of course, it is possible, if unlikely, for conditions to change so much that a health emergency is created that forces a cut in the total amount of pollution allowed by the TEAs currently in existence.³⁶

Governments have perhaps the least reason of all to confiscate TEAs in the context of land development. With TDR programs, although conditions may change or new information come to light about the effect of development on a particular land parcel, it is unlikely that conditions will change in a way that would dictate lowering the amount of development in the entire region governed by the TDR program.³⁷ If an endangered species were found on someone's plot of land, that would be no reason to confiscate the landowner's TDRs, although it might be reason to make them inapplicable to the plot where the endangered species was found. The burdened landowner could still sell her TDRs to someone else who owned less environmentally sensitive land. In fact, it might be decided to give the burdened landowner additional TDRs to compensate for their more limited applicability. A case could be made for confiscating TDRs if

complicated factors, including near-constant environmental disturbances, that determine fish populations).

35. See, e.g., *Providing Economic Incentives*, *supra* note 1, at 480 (statement of roundtable participant David Hawkins, Attorney, Natural Resources Defense Council) (noting that "the history of environmental protection is an increasing realization that what we thought was an adequate or tolerable level of pollution 20 years ago is no longer a tolerable level of pollution today").

36. Of course, it is also possible for the government to allow the fish stock to be fished out of existence, but this is unlikely to be in the best interest of those who hold a percentage of the TAC. In contrast, it generally is in the best interest of polluters to be allowed to pollute more rather than less. This is related to a point that Carol Rose has made: Because overfishing is more of a pure commons problem while pollution is more of a pure externalities problem, fishers have a greater interest in wise public management of the resource in question than do polluters. Conversation with Carol M. Rose, Professor of Law, Yale Law School, in New Haven, Conn. (Nov. 10, 1999).

37. This is because unlike the other two species of TEA programs, extractions and emissions, TDR programs are usually more concerned with protecting certain sensitive areas within the TDR area and not with the overall total of development within the area. See *supra* notes 23-26 and accompanying text. To the extent that this is not true, TDR programs aimed at protecting wildlife become more like the individual transferable quota (ITQ) programs that govern fisheries. Even if the TDR program is just a tool of general land-use management, governments could still conceivably decide to confiscate TDRs. This might happen because a radical change in takings doctrine leads them to believe that they no longer need to provide TDRs in order to avoid takings claims. Alternatively, a municipality might simply have a newfound preference for less development. These latter scenarios could hardly be characterized as ones in which changed conditions "dictated" less development, however.

the endangered species were found to pervade the TDR area, so that appropriate "receiving" areas do not exist. An alternative to this scenario, however, would be to extend the area governed by the TDR program in order to create new receiving areas outside the range of the endangered species's critical habitat. Depending on the geographic scope of the regulating authority's jurisdiction, this latter alternative might require intergovernmental cooperation.

C. *The Nature and Measurement of Constitutionally Guaranteed Compensation*

The measure of compensation for confiscated TEAs likely would be their market value,³⁸ minus, perhaps, any rise in the value of the remaining TEAs owing to their increased scarcity.³⁹ Any rise in the market value of the good eventually sold to the public because of its increased scarcity would probably be reflected in the increased value of the remaining TEAs and could be subtracted from compensation awards. Note that the difficulties in making these calculations increase the transaction, or "settlement," costs associated with providing compensation. In general, settlement costs include the administrative costs of running compensation programs and the economic distortions caused by raising taxes to pay for the compensation.⁴⁰ These costs can be quite substantial and provide a reason not to guarantee compensation.⁴¹

Not at issue in this Note is whether capital investments or land purchases made in reliance on TEAs should be compensated when the confiscation of TEAs makes them less valuable.⁴² Generally, statutes that authorize TEA programs should address only the issue of compensation for the TEAs themselves. Takings Clause doctrine and general compensation statutes already govern the effect of TEA confiscation on other property owned by the TEA-holder. For example, if all the TDRs necessary for developing a plot of land are confiscated, the effect might be a "taking" of

38. This is in line with general Takings Clause doctrine that compensation is usually set at the market value of the object taken and does not include consequential damages. *See United States v. General Motors Corp.*, 323 U.S. 373, 378-80 (1945). Even if one wanted to tailor individuated awards, determining the use value of confiscated TEAs to their holder is likely not to be an easy matter. *See Lindgren, supra* note 14, at 693.

39. *Cf. WILLIAM A. FISCHER, REGULATORY TAKINGS: LAW, ECONOMICS, AND POLITICS* 80-83 (1995) (discussing the offsetting of compensation by the value added to one's remaining property by a confiscatory state action, such as the value added to one's remaining property by a new railroad line).

40. *See Frank I. Michelman, Property, Utility, and Fairness: Comments on the Ethical Foundations of "Just Compensation" Law*, 80 HARV. L. REV. 1165, 1178-79, 1214 (1967).

41. *See FISCHER, supra* note 39, at 96 (suggesting that settlement costs with respect to eminent domain typically amount to as much as a quarter of the amount of compensation paid).

42. *See supra* note 38.

that land, triggering constitutionally mandatory compensation under the Takings Clause.⁴³ This would be the case whether or not the statute creating the TDR program promised compensation for the confiscated TDRs. That the taking of the land was effected through the confiscation of TDRs is incidental; the same effect could have been achieved through a direct prohibition on development.⁴⁴

The limited nature of the compensation at issue in this Note—compensation based on the market value of the confiscated TEAs—affects the relevant rationales for guaranteeing such compensation. In brief, to the extent that the stakes are lower than they would be if capital and land investments were at issue, political pragmatism and equity are less important rationales for guaranteeing compensation for confiscated TEAs. More importantly, as is discussed below, only in rare cases will the guarantee of such confiscation have any impact on investment decisions, since the compensation at issue is not linked to one's investments.⁴⁵ One would receive compensation for one's confiscated TEAs whether or not one had made any investment based on them. Furthermore, the amount of capital investment one made would not affect the amount of compensation one received since compensation would be based solely on the market value of the TEAs, not on the value of one's investments.⁴⁶

II. POLICY RATIONALES FOR AND AGAINST GUARANTEEING COMPENSATION

The factors that are relevant to the government's decision to bind itself constitutionally to provide compensation can be grouped under three main headings: political pragmatism, equity, and efficiency.⁴⁷ The promise of

43. See *Lucas v. South Carolina Coastal Council*, 505 U.S. 1003, 1015, 1029-30 (1992) (holding that instances in which "all economically beneficial or productive use of land" is denied constitute compensable takings, unless such uses constitute legally cognizable nuisances).

44. This is not to say that reliance on a TDR could not have some effect on takings analysis. One factor in takings analysis is the extent to which a regulation interferes with reasonable investment-backed expectations. See, e.g., *Eastern Enters. v. Apfel*, 524 U.S. 498, 500 (1998). The possession of TEAs at least arguably supports the reasonableness of investment made in reliance upon them. To some degree this will depend on the terms of the authorizing statute.

45. See *infra* Subsection II.C.1.

46. The market value of TEAs will reflect to some extent the amount of capital investment made in the industry as a whole. Hence, depending on the share of the industry that the TEA-holder controls, her investment decisions might have some impact on the overall market value of TEAs.

47. The trend is for the government to avoid binding itself by placing explicit anti-compensation disclaimers in the statutes creating TEA programs. See, e.g., Sustainable Fisheries Act of 1996, 16 U.S.C. § 1853(d)(3) (Supp. IV 1998) (defining an "individual fishing quota" as a permit that does not create any right, title, or interest in any fish before the fish is harvested, and that may be revoked or limited at any time without compensation from the government); Clean Air Act Amendments of 1990 § 403, 42 U.S.C. § 7651b(f) (1994) ("[A TEA is] a limited authorization to emit sulfur dioxide Such allowance does not constitute a property right.

compensation affects the efficiency of TEA programs by structuring the incentives faced by both private and public decisionmakers.⁴⁸ Because public decisionmakers can take into account the effects of their actions on private decisionmaking in the course of managing a TEA program, it is ultimately the impact on public decisionmaking that is decisive for the issue of constitutional protection. Specifically, if binding the government *ex ante* to provide compensation is unlikely to improve subsequent government decisions to confiscate TEAs or to provide compensation when it does confiscate, then there is no reason to bind it in this way.

It should be kept in mind throughout the following discussion that the government is free to provide compensation at the time that it confiscates TEAs even if it did not promise to do so at the time that it created the program. This dramatically affects the degree to which political pragmatism and equity have to be considered when deciding whether or not to promise compensation, especially since both values are primarily concerned with the payment of compensation and not the promise of it.

The importance of *ex post* compensation and *ex ante* promises is reversed in the case of efficiency. Efficiency is primarily a question of structuring incentives by controlling expectations. Because guarantees can affect expectations, they can have a profound impact on efficiency. The actual payment of compensation is relevant in this regard only insofar as it creates expectations of future compensation.⁴⁹

A. *Political Pragmatism*

Political pragmatism can affect the issue of compensation at two points: the time when the original statute or regulation creating the TEA program is being formulated (T_1), and the time when TEA cuts are contemplated and implemented (T_2). Considerations of political pragmatism affect the guarantee of compensation at T_1 in an obvious manner—such a guarantee might be necessary to achieve passage and implementation of the TEA program in the face of possible industry opposition. It is likely that at the program-creation stage, the formula for the initial allocation of TEAs, especially the question of whether or not the initial allocation should be free, will generate more political jockeying than will the question of what to

Nothing in this subchapter . . . shall be construed to limit the authority of the United States to terminate or limit such authorization.”).

48. The settlement costs involved in providing compensation can also be considered under the heading of efficiency.

49. Of course, if one makes a practice of not keeping one's promises, then they will cease to structure the incentives of others effectively. The ability of such promises to structure incentives also will depend on the degree to which the judiciary can and will force the government to keep its own promises by making them constitutionally binding.

do in case of future adverse alterations in the program.⁵⁰ Compensation, after all, can be lobbied for at the time those future alterations are making their way through the legislative or administrative process.

The potential regulatees are not the only potential source of opposition to elements of a TEA program. Taxpayers and environmentalists might object to the guarantee of future compensation in case of cuts; the former because it could be money out of their pockets, the latter because they fear that guarantees of compensation might obstruct future environmentally beneficial changes in the program. Given the questionable morality of some of the behavior regulated by TEA programs (for example, the emission of sulfur dioxide that causes acid rain), some might feel that compensation is unwarranted and perhaps downright inequitable. Because beliefs regarding fairness motivate political action, it is not uncommon for considerations of equity to affect considerations of political pragmatism.⁵¹

In less obvious ways, considerations of political pragmatism at T_2 (when cuts are contemplated) might argue against guaranteeing compensation at T_1 . For example, taxpayer resistance at T_2 might make it impossible to raise the revenue to pay compensation.⁵² As a result, a beneficial TEA cut might have to be forgone because compensation is politically infeasible. As argued in Part III, it is admittedly more likely that industry groups will have disproportionate political influence, making cuts possible only if compensation accompanies them. But unless there is a constitutional amendment *banning* compensation, the government is always free to provide compensation at T_2 if political pragmatism so requires, whether or not it has promised to do so at T_1 .⁵³

50. This suggests that it might be more difficult politically to sell the TEAs and use the proceeds to compensate future TEA takings than it would be simply not to promise compensation. A smaller fee to create a compensation fund might be possible, however. I address this possibility further *infra* note 120.

51. For an example of a public-choice explanation of the existence and evolution of property rights that recognizes the impact of moral values on political action, see GARY D. LIBECAP, *CONTRACTING FOR PROPERTY RIGHTS* 12-19 (1989).

52. See, e.g., Marilyn F. Drees, *Do State Legislatures Have a Role in Resolving the "Just Compensation" Dilemma? Some Lessons from Public Choice and Positive Political Theory*, 66 *FORDHAM L. REV.* 787, 806-07 (1997) (describing how initiative opponents mobilized taxpayers to defeat Washington's property-rights initiative, which would have expanded dramatically the compensation requirement, despite the array of well-organized special-interest groups in its favor).

53. The possibility that constitutionally requiring compensation will impede meritorious legislation is the basis of Daniel Farber and Phillip Frickey's public-choice argument against applying takings law to situations in which legislation benefits diffuse groups at the expense of more compact ones. See DANIEL A. FARBER & PHILIP P. FRICKEY, *LAW AND PUBLIC CHOICE: A CRITICAL INTRODUCTION* 72 (1991) ("We can assume that requiring compensation will make such legislation harder to pass (otherwise, the legislature would have provided the compensation voluntarily). Given the fact that diffuse beneficiary/concentrated cost legislation is already excessively hard to pass, applying taking law would only create an additional barrier to much-needed legislation."). Part III argues that beneficiaries of TEA cuts generally constitute a more diffuse group than those hurt by them, namely, TEA-holders.

B. *Equity*

Equity is primarily related to the issue of whether compensation should be *paid*, not whether it should be *promised*.⁵⁴ Of course, whether or not compensation has been promised at T_1 affects the equity of providing it at T_2 . In other words, *ex ante* expectations affect *ex post* fairness. If one has been warned at T_1 that no compensation will be forthcoming in case of X , then when X occurs one has a correspondingly weaker equity claim for compensation. For example, it might be thought that auctioning TEAs rather than giving them away creates stronger claims for compensation if the TEAs are later confiscated. But if it was made clear at the time of the auction that the TEAs were subject to confiscation without compensation, then this risk should have been factored into their auction prices.

There are factors, however, that might make it unfair not to provide compensation even if it has not been promised, and even if it has been positively disavowed. Expectations can arise from sources other than explicit promises. For example, a consistent practice of regulatory behavior, including the practice of compensation, can give rise to reasonable expectations even in the absence of promises. There might also be language in the legislative history of a program that is designed to induce reliance without rising to the level of an enforceable promise.⁵⁵ Furthermore, expectations might exist that predate the imposition of the TEA program. For example, one might expect to be allowed to build a house on one's own land given the state of current zoning regulations and the residential use of neighboring lots. In other words, expectations might have arisen from what is considered the "normal" use of property in an area.⁵⁶ In that case, the imposition of a TDR program in which TDRs were allocated but then later confiscated would violate expectations regarding development that predate the program.

54. The exception to this would be if it were thought to be unfair to leave parties in a state of uncertainty about whether compensation would be forthcoming in the event of confiscation.

55. See, e.g., H.R. CONF. REP. NO. 101-952 (1990), reprinted in ENVIRONMENT & NATURAL RESOURCES POLICY DIV., LIBRARY OF CONGRESS, A LEGISLATIVE HISTORY OF THE CLEAN AIR ACT AMENDMENTS OF 1990, at 10,726, 10,765-66 (1993) [hereinafter LEGISLATIVE HISTORY] (statement of Representative Michael G. Oxley) (emphasizing that although compensation will not be paid, "we in the Congress will be extremely reluctant to [revoke allowances]," and that TEA-holders have "every reason to rely upon the continued existence and value of those allowances as they design and undertake their compliance efforts").

56. Robert C. Ellickson and William A. Fischel both build general theories of the Takings Clause on the basis of the distinction between regulations that prevent "normal" uses and those that prevent "subnormal" uses, defined by reference to the uses prevalent in the surrounding community. See FISCHEL, *supra* note 39, at 11-12, 351-64; Robert C. Ellickson, *Suburban Growth Controls: An Economic and Legal Analysis*, 86 YALE L.J. 385, 419-21 (1977) [hereinafter Ellickson, *Suburban Growth Controls*]; Robert C. Ellickson, *Takings Legislation: A Comment*, 20 HARV. J.L. & PUB. POL'Y 75, 82-83 (1996) [hereinafter Ellickson, *Takings Legislation*].

Furthermore, there are aspects of equity that are not reducible to expectations. These include the moral status of the activity being regulated, the distribution of the burdens and benefits of the regulation, and the characteristics of those being regulated. First, the nature of the phenomena being regulated affects the equity of providing or withholding compensation. For example, the more nuisance-like the activity, the less equity favors compensation when the confiscation of TEAs prevents its continuance. The opposite is true the more regulation simply looks like bad luck, as, for example, when one is not allowed to farm or build a home because an endangered rodent has been found on one's land.⁵⁷ This mirrors the longstanding distinction between regulations that prevent harms, and hence do not require compensation, and those that press private property into public service.⁵⁸ It should be noted that the distinction between preventing harms and forcing benefits is not a sharp analytic one. What is placed in each category can change over time, perhaps between the time a TEA program is passed and the time cuts are made. This variability might itself be a consideration that militates against binding oneself *ex ante* to provide compensation.

A second factor is the extent to which the burden of the regulation is concentrated on a few persons, as well as the degree to which the benefits of the regulation flow to those burdened by it. The latter is referred to in the takings literature as "reciprocity of advantage."⁵⁹ Cuts in a TAC will work almost complete reciprocity of advantage among the fishers affected as long as their permits are perpetual and each fisher has a similar discount rate. Each makes a temporary sacrifice in order that the fish stock can rebound, allowing the TAC, of which each has a percentage, to increase in the future. If the stock continues to decline, this is likely to be because the cuts in the TAC were not deep enough. In either case, fairness would not seem to

57. Cf. William A. Fischel, *The Political Economy of Just Compensation: Lessons from the Military Draft for the Takings Issue*, 20 HARV. J.L. & PUB. POL'Y 23, 63 (1996) (distinguishing between the Clean Air Act, whose burdens should not require compensation, and the Endangered Species Act, whose burdens should be compensated); Carol LaGrasse, *Anti-Environmental?*, PERC REP. (Pacific Env't & Resources Ctr., Bozeman, Mont.), June 1999, at 5 (making an equity-based case for compensation).

58. Compare *Pennsylvania Coal Co. v. Mahon*, 260 U.S. 393, 413-14 (1922) (holding that regulation aimed at preventing subsidence does not prevent a public nuisance and hence constitutes a taking), with *Keystone Bituminous Coal Ass'n v. DeBenedictis*, 480 U.S. 470, 485 (1987) (holding that regulation aimed at preventing subsidence does prevent a "significant threat to the common welfare" and hence does not work a taking). For a skeptical view of the harm-benefit distinction, see *Lucas v. South Carolina Coastal Council*, 505 U.S. 1003, 1024-25 (1992), which notes that "the distinction between 'harm-preventing' and 'benefit-conferring' regulation is often in the eye of the beholder." Similarly, see Michelman, *supra* note 40, at 1196-201.

59. See, e.g., *Penn Cent. Transp. Co. v. New York City*, 438 U.S. 104, 147 (1978) (Rehnquist, J., dissenting) (arguing that New York's historic preservation ordinance does not provide a reciprocity of advantage); *Pennsylvania Coal Co.*, 260 U.S. at 415; see also Michelman, *supra* note 40, at 1218, 1223 (discussing the relevance of reciprocity of burdens and benefits to both utilitarian and fairness approaches to the Takings Clause).

require compensation for cuts in the TAC.⁶⁰ However, fishers might have legitimate fairness claims if their percentages of the TAC were reduced without compensation.

Third, the nature of the regulatee might also affect the question of equity. For example, whether the regulatee is a natural or an artificial person (a corporation) might be seen as relevant, and given the distributive aspect of the notion of equity, so might the wealth or poverty of the regulatee.⁶¹ In short, there are equity considerations that are independent of expectations created by promises or disavowals in the legislation creating the TEA program. As a very general matter, these considerations might favor compensation to a greater degree in the land-development context than in the commercial-fishing and polluting contexts.⁶²

However, even though fairness considerations might dictate compensation in particular instances of confiscation, compensation should be guaranteed only if one believes that the government cannot be trusted to treat TEA-holders fairly when these situations arise. To the contrary, as Part III argues, with the possible exception of some TDR programs, the government is likely to give the interests of TEA-holders disproportionate weight in their decisionmaking processes because TEA-holders will

60. In the case of permanent stock depletion, fairness might call for compensation if one felt that the fishers were more victims of bad luck than victims of their own shortsightedness. Also, one might have some sympathy for those small fishers who were driven out of business by a temporary cut in the TAC and who might have a difficult time finding buyers for their permits.

61. See, e.g., Victor B. Flatt, *Saving the Lost Sheep: Bringing Environmental Values Back into the Fold with a New EPA Decisionmaking Paradigm*, 74 WASH. L. REV. 1, 29 (1999) (noting that while "controlling pollution by reducing [emission] allowances for older automobiles without compensation might be very cost effective," it would be "unpalatable for its distributive effects on society").

62. It should be noted that most of the equity considerations mentioned above have little specifically to do with TEAs and their confiscation. It does not much matter with regard to them whether the regulatory effect at issue is caused by a change in a TEA program or through other sorts of regulation. What generally matters for purposes of fairness is the effect on the TEA-holders' underlying property—for example, their developable land, emitting factory, or fishing vessel. So if these effects are highly inequitable, compensation can be required by general takings doctrine or by general compensation statutes that emphasize equity considerations, such as those advocated by Robert Ellickson or William Treanor. See Ellickson, *Takings Legislation*, *supra* note 56; William Michael Treanor, *The Armstrong Principle, the Narratives of Takings, and Compensation Statutes*, 38 WM. & MARY L. REV. 1151, 1174-76 (1997) (arguing for compensation statutes that require case-by-case resolution on the basis of the equities involved, especially the harm done by the regulation to the property owner in light of her total assets). If confiscating TEAs constitutes a taking of the underlying property under takings doctrine or statutory law, disclaimers in TEA statutes regarding compensation for the taking of TEAs are irrelevant. It is not the taking of the TEAs that requires compensation in that case, but the taking of the land, regardless of whether it was taken through the confiscation of TEAs or through command-and-control regulation. For an equity-based argument in favor of compensation for those indirectly affected by the imposition of environmental regulation, particularly workers who lose jobs and the communities in which they live, see Dallas Burtraw, *Compensating Losers When Cost-Effective Environmental Policies Are Adopted*, RESOURCES (Resources for the Future, Washington, D.C.), Summer 1991, at 1.

generally enjoy substantial organizational advantages in the political and administrative arenas.

C. *Efficiency: Structuring the Incentives Faced by Private Decisionmakers*

A TEA program should encourage TEA trading and provide incentives that encourage TEA-holders to make the optimal level of investment in productive capacity and abatement technology.⁶³ One possible fear is that the risk of uncompensated TEA confiscation will obstruct both of these goals.⁶⁴ Two additional worries include the potentially negative effect of such risk on the premature use of TEAs and on the resource stewardship that is supposed to accompany property ownership.⁶⁵ The four following subsections analyze these issues: the effect of guaranteed compensation on investment decisions, the timing of TEA usage, the amount of TEA trading, and resource stewardship. My conclusions with regard to them are that (1) the effect of guaranteed compensation on investment decisions and on resource stewardship generally will be minimal; (2) guaranteed compensation's primary positive effect on preventing the premature use of TEAs will be in the area of land development; and (3) guaranteed compensation should have an across-the-board positive effect on the incidence of TEA trading.

1. *The Limited Effect of Guaranteed Compensation on Investment Decisions*

Traditional economic arguments can be marshaled both for and against guaranteed compensation with respect to its effect on investment. On the anti-compensation side, the argument is that if investors are rational and

63. See *supra* text accompanying notes 11-12.

64. See, e.g., Michael D. Young & Bonnie J. McCay, *Building Equity, Stewardship, and Resilience into Market-Based Property Rights Systems*, in *PROPERTY RIGHTS AND THE ENVIRONMENT: SOCIAL AND ECOLOGICAL ISSUES* 87, 98 (Susan Hanna & Mohan Munasinghe eds., 1995) (asserting that "to encourage efficient investment . . . unused entitlements should not be taken from a rights holder without compensation"); Savage, *supra* note 12, at 228-29 ("Confiscation would probably deter sources from creating ERCs, and thus society would lose the benefits of ERC programs." (footnote omitted)). On the issue of trading, see, for example, Hahn & Hester, *supra* note 2, at 379 ("To the extent that future confiscation is probable, the value of rights is reduced and fewer advantageous trades can be made.").

65. On the stewardship issue, see Young & McCay, *supra* note 64, at 90, which asserts that the practice of defining TEAs as revocable privileges "works against . . . giving the holder a stake in the long-term." Others, however, worry that with compensation guaranteed for confiscations, "the government could potentially be forced to pay huge sums of money." Austin, *supra* note 14, at 326; see also *Testimony of the Environmental Defense Fund Concerning Individual Transferable Quotas for Fish Harvest Privileges: Hearings Before the Subcomm. on Fisheries Management of the House Comm. on Merchant Marine and Fisheries*, 103d Cong. 5 (1994) (statement of Rodney M. Fujita & D. Douglas Hopkins, Env'tl. Defense Fund); Tipton, *supra* note 6, at 410-12.

risk-neutral, then guaranteed compensation will lead to overinvestment. On the pro-compensation side, the argument is that if investors are risk-averse, then lack of guaranteed compensation will lead to underinvestment. The main argument of this Subsection is that except for ERC-type TEA programs,⁶⁶ guaranteed compensation for the confiscation of TEAs should have little or no effect—positive or negative—on private investment. This is because such compensation does not protect capital investments, but rather, only the TEAs themselves. This argument applies to all three TEA contexts: emissions, extractions, and land development.

The general argument against compensation is that it causes moral hazard.⁶⁷ To the extent that investors are insured against losses, they have less incentive to avoid them. Put another way, the promise of compensation allows investors to ignore those risks for which they know they will be compensated. As a result, they will overinvest.⁶⁸ Consider three scenarios. In the first, one is deciding whether to build a new factory whose market value upon completion will be \$100,000, and no risk of confiscation exists. Given that scenario, one would decide to build the factory if it cost less than \$100,000 to do so.⁶⁹ In the second scenario, there is a fifty-percent chance that the government will confiscate one's land without compensation and tear down the factory in order to build a post office. In that case, it would be economically rational, if one were risk-neutral, to build the factory only if it cost less than \$50,000 to do so. In the third scenario, there still is a fifty-percent risk of confiscation, but the government guarantees compensation for the market value of the factory should the confiscation occur. In this last scenario, one would once again build the factory as long as it cost less than \$100,000 to do so. The promise of compensation puts the investor in effectively the same position as if there were no risk of confiscation. It does not put society at large in the same position, however. In this last scenario, there is now a fifty-percent chance that every dollar invested in building the factory will be wasted because it will be torn down for the post office. That money could have been invested elsewhere. From an *ex ante* perspective, given a fifty-percent risk of

66. Recall that "ERC" refers to emission reduction credits. For a definition of ERC-type programs, see *supra* text accompanying notes 28-29. For the explanation of why they are exceptional, see *infra* text accompanying notes 78-83.

67. For a brief discussion of the moral-hazard problem in the context of an argument for the superiority of private insurance over public compensation, see Louis Kaplow, *An Economic Analysis of Legal Transitions*, 99 HARV. L. REV. 509, 536-41 (1986).

68. See Lawrence Blume & Daniel L. Rubinfeld, *Compensation for Takings: An Economic Analysis*, 72 CAL. L. REV. 569, 618-20 (1984); Lawrence Blume et al., *The Taking of Land: When Should Compensation Be Paid?*, 99 Q.J. ECON. 71 (1984).

69. For simplicity's sake, I am putting aside the question of opportunity costs and interest rates. I am also ignoring the possibility that the factory might be worth more than its market value to its builder-owner.

confiscation and demolition, every dollar that is spent above \$50,000 on building the \$100,000 factory represents a deadweight loss.

The basic point is that efficiency requires that *all* risks be taken into account when making investment decisions, and the promise of compensation allows investors to ignore those risks for which they will be compensated. Given risk neutrality and accurate information, noncompensation does not cause underinvestment, but compensation does cause overinvestment.

The general argument for compensation is that many investors are in fact risk-averse and will underinvest in the face of uncertainty.⁷⁰ The task then becomes separating the risk-averse from the risk-neutral and controlling for overinvestment.⁷¹

Except for a particular type of program that will be discussed later,⁷² however, neither of these arguments is relevant to the issue that is the subject of this Note, namely, whether market value compensation should be guaranteed for confiscated TEAs. For as long as one is not compensated for one's sunk investments, there is no danger of moral hazard—that is, of overinvestment. As has already been discussed,⁷³ under the proposals that are the subject of this Note, TEA-holders receive compensation for their confiscated TEAs regardless of whether they have invested a dime in producing pollution or catching fish. Investors should definitely take into consideration the possibility that TEAs will be confiscated when they make their investment decisions. But whether or not they will be compensated for confiscated TEAs should have no impact on such decisions. In either case, their investment might be stranded.⁷⁴

For example, suppose that a fisher is trying to decide whether to buy a new fishing boat. With the individual transferable quota (ITQ) she currently holds, the purchase is a good investment. But she knows for a certainty that a fifty-percent cut in the TAC is about to take place, and that this cut will make the purchase a bad investment. In this situation, she will not buy the boat whether or not she is guaranteed compensation for her diminished ITQ, for in either case, she will lose money on the boat if the cut occurs. Whether or not she purchases the boat does not affect the compensation she

70. See Blume & Rubinfeld, *supra* note 68, at 590-92; Susan Rose-Ackerman, *Against Ad Hocery: A Comment on Michelman*, 88 COLUM. L. REV. 1697, 1704-05 (1988).

71. For attempts along these lines, see the sources cited *supra* notes 68 and 70.

72. See *infra* text accompanying notes 78-83.

73. See *supra* Section I.C.

74. It should be noted that the confiscation of some TEAs, as long as others are left in existence, does not itself make investments unusable in the way that a direct command might. Even if some of one's TEAs are confiscated, one can make up the shortfall by buying TEAs from other TEA-holders. However, since the confiscation is presumed to be across-the-board, TEAs will be more scarce and hence more expensive. This increased cost might make it unprofitable to operate one's factory, boat, and other capital assets, hence stranding them indirectly.

will receive for her diminished ITQ.⁷⁵ Similar examples could be formulated when the object of investment is a polluting factory, pollution-abatement technology, or a house.

It is important to note that the above is an argument that the guarantee of compensation for TEAs is irrelevant to investment decisions generally and not just that such guarantees do not cause moral-hazard problems. As long as the confiscation of TEAs and their level of compensation are not linked to investment in capital, the guarantee of compensation will neither induce overinvestment nor prevent underinvestment. Hence, the desire for optimal investment neither supports nor argues against guaranteed compensation for confiscated TEAs. Risk aversion will result in underinvestment, but the only way to prevent this is to compensate for the stranded investment, *not* for the TEAs that are confiscated. So if the optimal structuring of investment incentives was the only factor in favor of guaranteeing compensation, then the ubiquity of settlement costs would be enough to rule against such guarantees. As argued below, however, the guarantee of compensation might have some positive effects, such as preventing inefficient races to develop⁷⁶ and promoting TEA trading.⁷⁷

This argument assumes that one's investments do not affect the number of TEAs that one will have confiscated. However, this will not be the case if instead of being allocated at the start, as is primarily the case with the sulfur dioxide program,⁷⁸ TEAs are created by investment decisions. For example, as briefly described earlier,⁷⁹ in emission reduction credit (ERC) programs, each source is granted a pollution baseline and is awarded ERCs when it makes permanent cuts below this baseline.⁸⁰ With ERC-type programs, the risk of confiscation without compensation will decrease the

75. If compensation is based not on the market value of the TEAs, but rather on their use value to their holder, then capital investment will affect the amount of compensation paid. However, since factors other than capital investment affect the use value of TEAs, one will likely receive much less than a dollar-for-dollar return in compensation for the amount invested. Hence, the moral-hazard problem, as well as the general insurance benefits of compensation, should be relatively minor. For factors affecting the use value of TEAs in the context of emission programs, see Lindgren, *supra* note 14, at 693.

76. *See infra* Subsection II.C.2.

77. *See infra* Subsection II.C.3.

78. *See, e.g.*, Clean Air Act Amendments of 1990 §§ 402(3), 403, 42 U.S.C. §§ 7651a(3), 7651b (1994) (allotting to regulatees a certain number of annual allowances, each of which allows them to emit one ton of sulfur dioxide). Given the structure of the sulfur dioxide program created by the 1990 Clean Air Act Amendments, Congress's concern that there is little reason to undergo the costs of "overcontrol . . . [i]f [TEAs] could be easily revoked or even altered" is largely misplaced. LEGISLATIVE HISTORY, *supra* note 55, at 10,766. As long as they are uniform, everyone is affected by cuts, whether or not they previously overcontrolled.

79. *See supra* text accompanying notes 28-29.

80. *See* Emissions Trading Policy Statement; General Principles for Creation, Banking and Use of Emission Reduction Credits, 47 Fed. Reg. 15,076, 15,077 (1982).

incentive to create ERCs through overcontrol.⁸¹ Why bother to make the investment in abatement technology or otherwise decrease one's level of pollution if the government can just step in and confiscate without compensation the fruit of one's labor, the ERCs? Guaranteed compensation for one's ERCs eliminates this disincentive to creating them.⁸²

Note, however, that the disincentive arises because confiscation of ERCs disfavors regulatees who create ERCs through overcontrol, relative to those who operate to the full extent of their baseline, and therefore have no ERCs to confiscate. To borrow a fable, the frugal and industrious ants are not allowed to retain the products of their labor, while the frivolous grasshopper is unaffected. But instead of confiscating the ants' ERCs, the government can achieve its cuts by lowering everyone's baseline—ant and grasshopper alike. Lowering the baseline will actually make the ants' ERCs more valuable by raising demand for them. If the grasshopper has already exceeded the new lowered baseline, he will have to make up the difference by buying ERCs from the ants. If there are not enough ERCs to go around, the difference can be made up through decreases in the grasshopper's future baselines. In short, in an ERC-type program, there is rarely a good reason for the government to confiscate banked ERCs rather than simply to lower everyone's baselines.⁸³

2. *Preventing the Race To Beat Anticipated Confiscations*

A problem analogous to the one described in the ERC context will occur if, instead of confiscating on the basis of the total number of permits issued for a certain period, the government confiscates on the basis of the number of permits in existence at the time of the confiscation. For in that case, the risk of confiscation without compensation will give TEA-holders an incentive to use their TEAs sooner than they would otherwise. This might cause higher-than-optimal activity levels at the beginning of the TEA period—a race to fish or to pollute or to develop⁸⁴—since doing so would

81. It is in this narrow circumstance that Congress's recognition that the risk of revocation or alteration decreases incentives for overcontrol is justified. See LEGISLATIVE HISTORY, *supra* note 55, at 10,766.

82. Just as the moral-hazard argument can be made any time the guarantee of compensation affects investment decisions, it can be made in this case. Namely, one could argue that it is efficient for investors to take into account the risk of confiscation when deciding whether to overcontrol, otherwise they will either underinvest in productive capacity or overinvest in abatement technology. However, since the rationale behind the confiscation in ERCs would presumably be that too much pollution exists, overcontrol in the previous period is obviously part of the solution and not part of the problem. In other words, in the face of possible cuts at T_1 , it is efficient to retain incentives to overcontrol at T_1 .

83. This obviously will not be the case when the government has committed itself to a certain baseline and therefore cannot lower it due to political or legal considerations.

84. See David A. Dana, *Natural Preservation and the Race To Develop*, 143 U. PA. L. REV. 655, 656 (1995) (describing how "[t]he absence of a compensation requirement encourages

decrease one's exposure to confiscation. In this circumstance, the guarantee of compensation for confiscated TEAs would have a positive effect because it would erase the incentive to beat the anticipated cuts.⁸⁵

Whereas in the case of ERC confiscation the problem was favoring the grasshopper over the frugal and industrious ant, here the problem is favoring the wasteful hare, who inefficiently races to use her TEAs, over the tortoise. Consequently, the solution to the problem is similar: Instead of favoring the hare over the tortoise, treat both alike by basing cuts on the total amount of allowances granted between renewal periods, and not just those remaining. There will be a problem, however, when regulatees no longer hold as many TEAs as the government wants to cut. For example, imagine a situation in which a TEA-holder who was originally granted one hundred TEAs has used eighty-five of them. In that case, an across-the-board cut of twenty percent of all TEAs is not strictly possible. One can approximate a twenty-percent cut by confiscating the TEA-holders' remaining fifteen TEAs and an additional five from the next allocation. This eliminates the incentive to race to use one's allowances, but it will not result in an immediate twenty-percent cut. Of course, government decisionmakers can take this into account when they are deciding on the size of the cuts to be made.⁸⁶

But while the above solution might work with TEA programs that regulate emissions and extractions that occur on a continuous basis, it will not work in the development context. For unlike other TEAs, TDRs are generally not allocated over periods. Once one has used one's TDRs and developed one's land, that is the end of the matter. There is little that the government can do besides destroying the structure one has built, which likely would constitute a taking since it was built with valid TDRs. There are no future allocations from which the government can deduct the TDRs one has used.

property owners to accelerate development in order to avoid regulatory losses from future preservation regulation"); cf. Innes, *supra* note 10, at 406 (describing how a TDR system can avoid premature development by promising compensation to owners of undeveloped property in the form of TDRs that can be applied to other parcels).

85. This is true whether TEAs are defined as absolute quantities or as percentages of a total. In either case, if one expects a decrease in the future, then without a guarantee of compensation, one has an incentive to use one's current quota before the cut takes effect. For example, if one has TEAs that allow one to catch 10% of the total set for the fishery, and if one suspects that the total is about to be decreased, one has an incentive to catch one's share before the decrease in the TAC takes place. This might have some incidental effect on the fish stock and hence on future increases in the TAC, but since the quick fisher captures all of the benefits of beating the cut and shares the cost to the TAC with all the fishery's fishers, he has an incentive to do so.

86. An alternative is to wait until the renewal period to make the cuts. However, a crisis, such as a crash in the fish population, might make this impossible. A compromise with respect to compensation would be to promise not to make any cuts without compensation between renewal periods, the length of which would depend on the nature of the resource, but to reserve the right to make cuts without compensation at the end of the period. See Young & McCay, *supra* note 64, at 98.

In conclusion, the race-prevention rationale for guaranteed compensation is stronger in the development context than in the extraction and emission contexts. The key difference is that in the latter situations there are future renewal periods during which cuts can be made to penalize those who used their TEAs prior to previous cuts.

3. *The Positive Effect of Guaranteed Compensation on TEA Trading*

It is unclear, *prima facie*, why the risk of confiscation without compensation would discourage trading. The proposition that because the risk of confiscation lowers the value of TEAs, there will be less trading, is a non sequitur.⁸⁷ If the risk of such confiscation is twenty percent, then potential buyers and sellers should simply deduct twenty percent from their asking and offering prices and proceed as before.

The real problem is not that the risk of uncompensated confiscation lowers the value of TEAs, but that it adds to uncertainty as to their value. Buyers and sellers frequently do not know the probability of alterations in government programs, at least not too far in advance, and hence cannot simply discount their asking and offering prices. Unlike hurricanes and other natural phenomena, political action is volitional and hence less easy to predict.⁸⁸ One result of this additional uncertainty about pricing is that fewer trades are likely to be made.⁸⁹ Efforts to discern the value of a good to oneself and to potential trading partners is a transaction cost, and anything that makes that effort more difficult raises transaction costs. And the higher the cost of making transactions, the fewer of them will be made. Hence, when uncertainty over the value of TEAs is caused by the possibility of confiscation or other adverse alterations, promising to provide compensation removes this obstruction to trading.

With respect to cuts in a TAC, however, the uncertainty involved is more like that caused by a hurricane, insofar as TACs are tied to the size of

87. See, e.g., Hahn & Hester, *supra* note 2, at 379.

88. Fischel argues that economists who model the takings issue on an insurance paradigm misconstrue the true nature of the problem because, unlike natural phenomena, government takings are intentional and hence can be demoralizing to their victims in a way that natural occurrences cannot be (this is the distinction between being robbed and losing one's wallet). Furthermore, because of their intentional character, the incidence of government takings can be altered by a requirement of compensation, unlike the incidence of natural phenomena. See FISCHEL, *supra* note 39, at 191; William A. Fischel, *Introduction: Utilitarian Balancing and Formalism in Takings*, 88 COLUM. L. REV. 1581 (1988); William A. Fischel & Perry Shapiro, *Takings, Insurance, and Michelman: Comments on Economic Interpretations of "Just Compensation" Law*, 17 J. LEGAL STUD. 269 (1988).

89. Various authors have made this observation in the context of TEA programs. See, e.g., Robert W. Hahn & Gordon L. Hester, *Where Did All the Markets Go? An Analysis of EPA's Emissions Trading Program*, 6 YALE J. ON REG. 109, 130-31, 140 (1989); Langley-Hawthorne, *supra* note 4, at 301 (stating that TEA programs have typically generated a low number of trades due to restrictions and "uncertainty over the value" of TEAs).

the fish stock. If, as discussed earlier,⁹⁰ there is radical uncertainty as to the optimal size of the TAC, this militates against using TEA systems to regulate the taking of wildlife in the first place. It is not an argument in favor of guaranteeing compensation in case the TAC has to be cut.

4. *The Limited Effect of Guaranteed Compensation on the Stewardship of Resources*

The argument of this Subsection is that the lack of a constitutional right to compensation does not inhibit the ability of a TEA program to create stewardship incentives for TEA-holders. This is because TEA programs are inherently unable to create such incentives whether or not compensation is guaranteed. This is true whether it is emissions, extractions, or land development that are being regulated.

The general idea behind privatizing the commons is that owners have an incentive to husband the resources that they own.⁹¹ As long as the resources cannot be taken away from the owner without just compensation, the owner has an incentive to maximize their value. It might be concluded that TEAs fail to provide proper stewardship incentives⁹² because they are generally short-term and revocable without compensation. But the problem is not that TEAs are insufficiently secure; rather, the problem is that possession of them does not constitute ownership of a discrete resource. TEAs are merely "hybrid property" defined in relation "to a larger resource whose total use has been consciously limited through regulation."⁹³ One has an incentive to husband one's own share but only a very limited incentive to husband the larger resource, even if one's share is defined as a percentage of the larger resource.⁹⁴ That "stewardship incentives" are never mentioned in connection with emission allowances or development rights, but only in connection with fishing quotas,⁹⁵ is evidence of this. While no one expects emission allowances to create stewardship incentives with respect to the atmosphere, commentators are misled by the more limited nature of a fishery into believing that a fishing allowance can create such incentives. But even though there is a closer connection between one's fishing activity and one's future fishing rights

90. See *supra* note 21.

91. See Young & McCay, *supra* note 64, at 94.

92. See Rieser, *Prescriptions*, *supra* note 6, at 416; Rieser, *Property Rights*, *supra* note 6, at 822 (arguing that without a right of compensation, ITQs provide insufficient certainty "to invest in the long-term value of the resource," that is, they create no "stewardship incentives"); Young & McCay, *supra* note 64, at 90, 98.

93. Rose, *The Several Futures of Property*, *supra* note 1, at 164. The phrase "hybrid property" is Richard Stewart's. See Richard B. Stewart, *Privprop, Regprop, and Beyond*, 13 HARV. J.L. & PUB. POL'Y 91, 93 (1990).

94. One's stewardship incentive is in direct proportion to the size of one's share.

95. See sources cited *supra* note 92.

than between one's polluting and one's future polluting rights, even in the fishing context, the costs of one's own actions only partly redound to oneself, while all of the benefits do.⁹⁶ In short, limited stewardship incentives are an inherent part of TEA systems and are not affected by guarantees of compensation.

D. *Alternatives to Guaranteeing Compensation To Achieve Certainty*

The analysis in the previous Section suggests that there are some efficiency advantages to granting compensation, primarily in preventing races to develop and in bolstering TEA trading. The guarantee of compensation is not costless, however. In addition to the settlement costs involved in determining the appropriate level of compensation and in finding the funds necessary to provide the compensation,⁹⁷ there is the possible loss in government flexibility, the possible inequity of compensation, and the possibility that necessary cuts will not be made because the compensation cannot be financed. Hence, if there are ways of lowering uncertainty aside from constitutionally guaranteeing compensation, they should be pursued.

One alternative is assurances made in a form that is not constitutionally enforceable. For example, while admitting that no compensation would be forthcoming, Representative Michael Oxley's remarks regarding the Clean Air Act's sulfur dioxide program assured TEA-holders that "we in the Congress will be extremely reluctant" to "limit or to revoke allowances."⁹⁸ Representative Oxley also mentioned a second way to decrease uncertainty with respect to confiscation: making it procedurally difficult, specifically by requiring that confiscation be authorized by an act of Congress and ratified by the President.⁹⁹ Of course, if lack of flexibility is a concern, procedural hurdles might be a worse alternative than guaranteed compensation.

A third alternative is simply to act in a predictable manner over time. For example, Franz Thomas Litz emphasizes the importance of regulatory predictability to the success of the TEA program created in order to manage the harvesting of surf clams.¹⁰⁰ Litz's discussion is notable for what it leaves out: any mention of mandatory compensation for regulatory changes.

96. This is exactly the dynamic that creates the "tragedy of the commons." See Garret Hardin, *The Tragedy of the Commons*, 162 *SCIENCE* 1243 (1968).

97. See *supra* notes 40-41 and accompanying text. If there is little trading activity, it might be difficult to determine fair market value. Risk of confiscation is not the only factor creating transaction costs in the trading of TEAs. In the alternative, discerning the use value of the TEA to its holder might be very difficult and speculative. See Lindgren, *supra* note 14, at 693.

98. LEGISLATIVE HISTORY, *supra* note 55, at 10,766.

99. See *id.* at 10,765-66; cf. Young & McCay, *supra* note 64, at 98 (arguing that processes reviewing potential changes in TEA programs should be designed so that their "likely outcomes are as predictable as possible").

100. See Litz, *supra* note 6, at 354-56.

Instead, “a great degree of certainty in the property interest conveyed in the surf clam ITQ” was simply a result of fishery managers’ acting predictably over time.¹⁰¹ Specifically, managers did not change the TAC and did not impose additional reporting costs.¹⁰² In combination with assurances, such consistent regulatory management can not only create greater certainty regarding the value of TEAs, thereby facilitating trading, but also can provide the predictability necessary to make optimal investment decisions, something that guaranteed compensation for the market value of TEAs cannot do.¹⁰³

Of course, unforeseen events may eventually force government decisionmakers to make changes in the TAC, but the point of the surf clam example is that government decisionmakers can take into account the costs of creating uncertainty when deciding how to act. In other words, when deciding whether to alter a TEA program and whether to provide compensation, government decisionmakers can factor into their decisions the importance of maintaining certainty.¹⁰⁴ Sometimes the importance of maintaining certainty will dictate not changing the program or will allow change but dictate compensation. At other times, however, it will dictate neither, or it will dictate only that changes be moderated.

The relevant question can be narrowed to whether a constitutionally enforceable promise to compensate would provide a more optimal level of certainty, given that such promises have their costs as well as their benefits, than would normal government decisionmaking. In other words, an ideal government will provide assurances and compensation in an optimal manner by taking into account all of their costs and benefits.¹⁰⁵ The idea behind a government’s constitutionally binding itself to provide compensation, and behind constitutional guarantees generally, is that the government does not trust itself to act in an ideal manner.¹⁰⁶ The question is whether the overprotection provided by a blanket guarantee of compensation comes closer to the ideal level of protection than does normal government decisionmaking. As will be argued in Part III, the answer

101. *Id.* at 356.

102. *See id.*

103. *See supra* text accompanying notes 75-77.

104. Part III argues that given the importance of certainty to TEA-holders, who form a significant political constituency, government officials are unlikely to underestimate its importance when making policy decisions.

105. That equity considerations may militate both for and against compensation in particular instances should also be kept in mind. *See supra* Section II.B.

106. This can be considered a particular application of process-based theories of constitutionalism, which posit that there needs to be a reason to distrust the normal political process in order to justify constitutionally protecting a right or interest. *See* JOHN HART ELY, *DEMOCRACY AND DISTRUST* 73-104 (1980). This is especially true when there is a danger that the right or interest in question will be overprotected. The possibility of overprotection arises in the compensation context because there will at least be some occasions when the costs of providing compensation will outweigh the benefits, broadly understood.

is that in at least two out of the three TEA categories—emissions and extractions—the answer is likely to be “no,” since the organizational advantages of industrial polluters and commercial fishers make it unlikely that they will be underprotected by the political process.¹⁰⁷ In the third TEA category—land development—the political strength of TEA-holders is more precarious and, in certain contexts, the political process may result in underprotection. Whether this underprotection undershoots the ideal level of protection by more than guaranteed compensation overshoots it is another question, but because the alternatives mentioned above probably will not provide certainty as effectively as would a constitutional guarantee, one might want to err on the side of caution in certain land-use contexts.

III. PUBLIC CHOICE THEORY: STRUCTURING THE INCENTIVES FACED BY PUBLIC DECISIONMAKERS

There are two basic ways in which a mandatory-compensation rule could affect governmental decisionmaking. First, it could result in the government’s paying compensation when it otherwise would not. Second, knowledge that it had to pay compensation for certain actions might dissuade the government from performing them.¹⁰⁸ But given the usual array of political forces in the typical TEA context, there will already be a pro-TEA-holder bias in government decisionmaking on both scores. As a result, it is unlikely that an *ex ante* requirement to provide compensation would often result in the government’s providing compensation when it otherwise would not have done so, but should have.¹⁰⁹ The one exception might arise in the context of a TDR program when owners of undeveloped land are uniquely burdened by TDR confiscations.

A. *The Generally Disproportionate Political Influence of TEA-Holders*

It is a near truism in economics that making people pay for the resources they acquire promotes efficiency. In the case of government, unless it is willing to compensate those harmed by one of its measures, there is no guarantee that the measure in question would result in a net gain.¹¹⁰ The assumption is that the government is just like any other

107. Since they are already likely to be overprotected by the political process, further protection by a constitutional guarantee of compensation is superfluous at best.

108. In other words, mandatory compensation could act as do liability rules generally in structuring the incentives faced by potential tortfeasors.

109. A mandatory requirement of monetary compensation could affect government decisionmaking, however, when, for budgetary or public-relations reasons, the government would prefer to provide in-kind compensation, such as regulatory benefits, rather than money.

110. Frank Michelman puts this point more strongly: “[I]t would appear that any measure which society . . . is unwilling to finance under conditions of full compensation, society cannot

economic actor, and that if it is not forced to internalize the costs of its activities, then it will just ignore them.¹¹¹ The government, however, is not like any other actor.

The government is not a simple or self-contained entity, and strictly speaking, it is both impossible and undesirable to force it to internalize either the costs or the benefits of its actions. The "government" does not pay compensation; taxpayers and holders of government debt do. Likewise, the benefits of government action do not redound to government actors, at least not completely. There is no more reason, a priori, to think that the government will ignore the costs of its activity than that it will ignore the benefits. In fact, some public choice theorists have argued that in the typical takings context the exact opposite is more likely: government underestimation of policy benefits rather than underestimation of policy costs.¹¹² This is simply because those harmed are likely to be better able to form an organized pressure group than are the beneficiaries, who usually will be a relatively diffuse group. This is especially likely to be the case in the context of TEA confiscation in that the very existence of TEA programs brings into existence a standing interest group composed of those subject to the regulation.

The interest-group model of politics posits that, given information costs, the intermittent nature of elections, and "the memory decay" of most voters, it is the competition among interest groups, such as TEA-holders, environmentalists, and taxpayers, that is the primary determinant of government policy.¹¹³ Even in purely electoral politics, organized interests that can deliver campaign contributions or votes in a bloc, and as a result can use them as a bargaining chip, have an advantage over interests that are not organized. This interest-group competition is not without its biases.

afford at all." Michelman, *supra* note 40, at 1181 (footnote omitted). In other words, if "society" is unwilling fully to compensate the losers, then total costs must outweigh total benefits. But this not only ignores settlement costs; it also begs all sorts of questions by eliding the distinction between society and government and then assuming a global view of societal rationality.

111. This is a standard argument in the takings literature and is referred to as "fiscal illusion." See Blume & Rubinfeld, *supra* note 68, at 620-22; Blume et al., *supra* note 68, at 88-90; see also RICHARD A. POSNER, *ECONOMIC ANALYSIS OF LAW* 51 (3d ed. 1986) (making the fiscal-illusion argument without using the term); Louis De Alessi, *Implications of Property Rights for Government Investment Choices*, 59 AM. ECON. REV. 13 (1969) (same); Michael A. Heller & James E. Krier, *Deterrence and Distribution in the Law of Takings*, 112 HARV. L. REV. 997, 999, 1006 (1999) (same).

112. See Daniel A. Farber, *Public Choice and Just Compensation*, 9 CONST. COMMENTARY 279 (1992); Glynn S. Lunney, Jr., *A Critical Reexamination of the Takings Jurisprudence*, 90 MICH. L. REV. 1892 (1992). By "typical takings context," I mean situations such as the confiscation of people's land for the building of a road or its functional confiscation for the protection of a wetland. In these cases, those harmed share an intense and easily recognizable interest and, at least in the first instance, are geographically contiguous.

113. See, e.g., 1 BRUCE A. ACKERMAN, *WE THE PEOPLE: FOUNDATIONS* 240-42, 245-48 (1991); JERRY L. MASHAW, *GREED, CHAOS, AND GOVERNANCE: USING PUBLIC CHOICE TO IMPROVE PUBLIC LAW* 15-16 (1997); KAY LEHMAN SCHLOZMAN & JOHN T. TIERNEY, *ORGANIZED INTERESTS AND AMERICAN DEMOCRACY* 3-4 (1986).

Perhaps the most important factor in interest-group effectiveness, and certainly the most explored in the public-choice literature, is the level of organization.¹¹⁴ Generally speaking, the smaller the group and the higher its stakes per member, the tighter its organization. Some shared interests, if sufficiently diffuse, will give rise to no organized advocacy on their behalf. This observation is seen as so important that Daniel Farber can accurately state that “[i]f public choice has any one key finding, it is that small groups with high stakes have a disproportionately great influence on the political process.”¹¹⁵

As Mancur Olson explains, the problem that interest groups face is how to get those who share the interest to share the costs of organizing and lobbying as well, and not to free-ride on the efforts of other members of the group.¹¹⁶ The larger the group, the less the contribution of any one individual matters and the more difficult it is to reach and enforce agreements to contribute.¹¹⁷ This is a particular instance of the public-goods problem that arises when people cannot be excluded from receiving benefits—in this case, those resulting from the interest group’s lobbying activity. If they cannot be excluded, then they have an incentive to free-ride since they will receive the benefits whether or not they bear the costs. In brief, smaller groups that are clearly defined and in which each member has a high stake in the outcome will have an easier time preventing free-riding on their political activity than will more diffuse groups.¹¹⁸

TEA-holders are likely to fit rather well the characterization of a group with low organizational costs, while their political opponents—general taxpayers, environmental groups, and those affected by the TEA-holders’ activities—are not. This is especially true when TEA-holders form a group united by occupation, as is likely to be the case in the emissions and extractions contexts. This distortion in political voice is problematic even if one does not accept a purely self-interested view of politics that reduces it to economic competition by other means. For even when government officials are trying to decide an issue purely on the merits, they often have to rely on the information and arguments provided by partisan groups. Advantages in the form of lower organizational costs lead to advantages in

114. Other factors include wealth, education, social prejudices, and predisposition to political activity. There is no reason to believe that TEA-holders will be disadvantaged with respect to any of these.

115. Farber, *supra* note 112, at 289 (footnote omitted); *see also* FARBER & FRICKEY, *supra* note 53, at 12-37; William N. Eskridge, Jr., *Politics Without Romance: Implications of Public Choice Theory for Statutory Interpretation*, 74 VA. L. REV. 275, 285-95 (1988).

116. *See* OLSON, *supra* note 17, at 9-16.

117. *See id.* at 9-16, 60-65.

118. *See id.* at 28-36, 53-57.

voice.¹¹⁹ And in democratic politics it is usually the squeaky wheel that gets the grease.

As a result, if there is a bias in government decisionmaking, it will be in favor of not cutting TEAs and providing compensation when it does cut them.¹²⁰ While taxpayers will barely notice the effect of any one instance of compensation on their tax bill, TEA-holders will certainly notice the absence of it. In turn, they will make sure that the relevant government decisionmakers are made painfully aware of the cost of the TEA cuts. The only occasions in which binding guarantees will result in compensation that the government would not have granted anyway are when the costs of compensating in terms of efficiency and equity are so great, even taking into account the benefits of increased TEA trading and lack of racing behavior, that they outweigh the TEA-holders' organizational advantages.¹²¹

B. *Industrial Polluters*

Because of monitoring limitations and other administrative obstacles, TEA programs regulating emissions are likely to target readily identifiable "point" sources of pollution such as the electric utilities regulated by the Clean Air Act's sulfur dioxide program.¹²² Furthermore, although there is perhaps less reason for it, TEA programs tend to target specific industries, such as electric utilities and automobile production.¹²³ To the extent that this is so, TEA-holders in the emissions context are a paradigm of the special-interest group with disproportionate influence.¹²⁴ They are a relatively small

119. See Lunney, *supra* note 112, at 1950-54. Also, to the extent that TEA-holders participate in and exercise influence over the decision to make TEA rescissions, uncertainty over TEA cuts is reduced.

120. Because TEA-holders will often either gain compensation or provide stiff resistance to TEA cuts, creating a compensation fund financed by TEA-holder contributions should be considered if it is politically feasible. In this way, TEA-holders could be forced to self-insure.

121. It might be objected that one of the natural political opponents of TEA-holders—environmental groups—does, in fact, wield significant political influence. Such groups, however, still face sizable organizational hurdles relative to industry groups and these hurdles significantly decrease their influence. The question is not whether a group is politically powerful, but whether it is politically powerful relative to the interests that it represents. Sometimes groups representing diffuse interests do manage to succeed in the political arena, but this does not negate the fact that they operate at a distinct organizational disadvantage. See *supra* note 52 and accompanying text.

122. See Clean Air Act Amendments of 1990 §§ 402(17), 403, 42 U.S.C. §§ 7651a(17), 7651b (1994).

123. See, e.g., 40 C.F.R. § 80.20(d) (1988) (implementing the lead phasedown program for automobile exhaust); Regulation of Fuels and Fuel Additives; Banking of Lead Rights, 50 Fed. Reg. 13,116 (1985) (same).

124. See, e.g., OLSON, *supra* note 17, at 141-48 (discussing the disproportionate political influence commonly attributed to business groups). As Olson notes, while other groups such as workers and consumers are organized only occasionally, "business interests are organized as a general rule." *Id.* at 143. Olson attributes this "high degree of organization" in large part "to the fact that the business community is divided into a series of . . . 'industries,' each of which contains

group with high stakes that is organized by industry, all characteristics conducive to low organization costs. They are also likely to have substantial resources at their command.

The threat of uncompensated TEA confiscations will often unite an industry in a way that other regulations aimed at lowering the amount of pollution might not. For example, it has long been observed that industrial regulations can advantage existing firms at the expense of potential market entrants and consumers by raising barriers to entry into the industry.¹²⁵ Furthermore, small firms may have more difficulty shouldering the burden imposed by regulations.¹²⁶ When this is the case, the large firms might offer only token resistance or perhaps even support the regulation. This is not likely to occur in the context of across-the-board TEA confiscations. Each firm loses the same percentage of its TEAs as every other. This might hurt some firms more than others, but it is unlikely to create a net benefit for any of them.¹²⁷ There is also no reason to believe that it will not hurt large firms as much as small firms in any systematic way.

This argument regarding the unifying effects of TEA confiscation will, of course, not hold true if confiscations or compensation for them are selective.¹²⁸ It is the fear of selective compensation with respect to land confiscations that forms the basis of Daniel Farber's argument in favor of constitutionally guaranteed compensation in the name of "horizontal equity."¹²⁹ I believe, however, that Farber had in mind selectivity among those affected by different projects and not selectivity among those affected by the same project. In other words, he was worried that those who lost their land as a result of one highway project, for instance, would not be compensated, while those whose land was taken for another highway would be, not that among those who had their land taken for the same highway project, some would be compensated and others would not. Compensating some of those who have their TEAs taken in order to lower overall

only a fairly small number of firms." *Id.* (emphasis omitted). Such industrial groupings wield "disproportionate power on questions of particular importance to themselves." *Id.* at 145. Across-the-board TEA confiscations would certainly qualify as a "question of particular importance" to the industry faced with them.

125. See, e.g., MILTON FRIEDMAN, *CAPITALISM AND FREEDOM* 129-31 (2d ed. 1982); George J. Stigler, *The Theory of Economic Regulation*, 2 *BELL J. ECON. & MGMT. SCI.* 3 (1971).

126. See Michael T. Maloney & Robert E. McCormick, *A Positive Theory of Environmental Quality Regulation*, in *FOUNDATIONS OF ENVIRONMENTAL LAW AND POLICY* 205, 207 (Richard L. Revesz ed., 1997) (arguing that because regulations do "not normally impose costs uniformly across firms," market price might increase more than costs for some firms, resulting in intra-industry transfers).

127. Firms in industries that produce a competing product—for example, solar energy panels—might benefit from TEA cuts, however, and hence are likely to support such cuts.

128. Keep in mind that the purpose of the TEA confiscations at issue here is general emission reduction and not punishment of particular industrial malfeasants.

129. Farber, *supra* note 112, at 280 ("Making the compensation requirement uniform . . . protects unusually vulnerable groups that might otherwise suffer from violations of the general custom of compensation.").

emissions levels but not others would be analogous to compensating some of those who have had their land taken to build a highway but not others. Such a situation would understandably raise substantive due process and equal protection concerns, and the government should be forced to explain the reasons for the selectivity in the provision of compensation. An absolute constitutional guarantee of compensation is too blunt an instrument to be justified by what is likely to be a very rare occurrence and one sure to raise eyebrows.

C. *Commercial Fishers*

Like their industrial-polluter counterparts, commercial fishers regulated by TEA programs constitute a “concentrated minority” with disproportionate political influence regarding matters that particularly affect them. As David Dana observes, “For any given fishery, the number of active commercial fishermen is likely to be relatively small, and each individual fishing enterprise is likely to perceive its stakes in . . . regulation as enormous.”¹³⁰ This provides them with low organization costs. Their small numbers and geographic concentration make communication cheap and allow for moral suasion to be brought to bear on free-riders. Since their livelihood is at stake, it should not be too difficult to get fishers to come to meetings. In addition, their geographic concentration is likely to make them an important constituency for some local and state officials.¹³¹ Their usual political adversaries, on the other hand, are likely to be a diffuse group composed of consumers and ecologically minded citizens. Commercial fishers might, however, occasionally come into conflict with recreational and sports fishers, another relatively concentrated minority.¹³²

That TEAs regulating commercial fishing are usually defined as percentages of an overall TAC makes selective confiscations an even more remote possibility than in the emissions context, thereby reinforcing industry unity.¹³³ This will not be the case, however, when portions of individual operations’ ITQs are confiscated and given to other operations, especially to those already in the program.¹³⁴ For example, one fisher’s ITQ may be reduced from ten to five percent of the TAC and another’s raised

130. David A. Dana, *Overcoming the Political Tragedy of the Commons: Lessons Learned from the Reauthorization of the Magnuson Act*, 24 *ECOLOGY L.Q.* 833, 835 (1997).

131. *See id.* at 836.

132. *See id.*

133. This is not to say that the burden of even proportionately apportioned cuts will fall exactly evenly. Marginal fishing operations will feel the pinch more than more profitable ones and might be forced to sell their ITQs and leave the industry.

134. If the confiscated portions are to go to those currently outside the program, such as indigenous tribes, those already inside it are likely to be evenly affected and united in their opposition. They would now be faced with another organized constituency, however.

from ten to fifteen percent as a result. As mentioned earlier in the context of fairness,¹³⁵ in this limited circumstance, constitutional guarantees of compensation might be appropriate.

D. *Land Development*

The one likely exception to the general political advantage held by TEA-holders takes place in the context of TDR programs. Because of the usually one-shot nature of TDR use, in contrast to the ongoing nature of other TEAs that regulate activities such as fishing or manufacturing, TDR-holders can become split into factions—those who have utilized their TDRs and those who have not—that can come into conflict under certain circumstances. Specifically, those who have already used their TDRs might support a program that freezes or drastically reduces overall development, which would be accomplished primarily by confiscating the TDRs of owners of undeveloped land.¹³⁶ Such owners of undeveloped land are unlikely to enjoy organizational advantages relative to owners of already developed land, particularly residential homeowners. Owners of developed land are likely to be at least as cohesive an interest group as owners of undeveloped land. The former are more likely to live near each other and to have frequent interaction, both of which lower organizational costs. As William Fischel describes it, the typical development scenario involves “a large and well-organized group” of current residents facing one or a few owners of undeveloped land, who represent the interests of nonresident nonvoters and are often nonresidents themselves.¹³⁷ Owners of undeveloped land are unlikely to receive beneficial treatment in this scenario. Even if a greater number of such owners probably would be affected by a general TDR cut than by typical zoning decisions and regulations, they are still likely to be outnumbered by residential homeowners. Where the TDR program governs mostly undeveloped rural land, rather than urban or suburban, it obviously becomes less likely that owners of undeveloped land will be outnumbered.

More generally, owners of undeveloped land are less likely to share the organizational advantages of their occupationally organized TEA counterparts. Owners of undeveloped land are much less likely to have formed an organized interest group prior to the imposition of the TEA

135. See *supra* text accompanying note 60.

136. For current residents, the costs of new development in terms of greater demand for public services, more crowding, less open space, and so forth, might outweigh the benefits. Simply by restricting the supply of new housing, homeowners can raise the value of their own homes. See FISCHEL, *supra* note 39, at 221-24.

137. *Id.* at 5. Fischel is particularly concerned with jurisdictions of about 100,000 people or fewer. See *id.* at 105.

program and probably will not form one even after the imposition of the program. Because they are not repeat players and are only a small part of the polity, they are less able to engage effectively in interest-group politics. Consequently, if they are singled out to bear losses, they are unlikely to be able to obtain redress either through immediate compensation or through logrolling. As Saul Levmore argues, “It is unlikely that such individuals can compete effectively in the political arena . . . [T]he transaction costs of individual involvement in politics [are,] after all, quite great.”¹³⁸

So even in the context of TDR programs that do not place them in direct opposition to owners of developed land—for example, habitat and wetland preservation programs—owners of undeveloped land might not enjoy disproportionate political influence. However, this will by no means always be the case. Although they do not enjoy the organizational advantages of industrial firms and commercial fishers, large landowners—especially if their parcels are geographically concentrated, which is likely given the localistic nature of TDR programs—will often be organizationally advantaged relative to those with only a diffuse ecological interest in the land.

Owners of undeveloped land also will often have powerful real-estate interests as allies in their fight against TDR confiscations, although perhaps not in their battle to receive compensation when the cuts appear inevitable. Construction firms, labor unions, real-estate brokers, financiers of real-estate development, and other pro-development forces all have a stake in fighting TDR confiscations. They also usually constitute standing, occupationally organized interest groups. As such, and unlike the owners of undeveloped land who actually hold the TDRs, they are organizationally advantaged relative to residential homeowners.¹³⁹ This provides owners of undeveloped land with a vicarious organizational advantage over anti-development landowners in larger, more diverse, urban settings in which interest-group politics are dominant. And as already mentioned, such landowners might have the numerical advantage in some rural settings.

This leaves the suburban setting. While pro-development real-estate interests also exist in suburbia, their organizational advantages are largely neutralized. In this smaller and less complex political setting, residential homeowners can more easily monitor land-use decisions that affect their

138. Saul Levmore, *Just Compensation and Just Politics*, 22 CONN. L. REV. 285, 307 (1990). Levmore is discussing those singled out to bear the brunt of regulation, in general, and owners who have their land confiscated, in particular. His reasoning applies to all small groups who do not constitute standing interest groups. The organizational start-up costs faced by political one-shotters, such as TDR-holders who have had their TDRs confiscated, are often formidable.

139. See ROBERT C. ELLICKSON & VICKI L. BEEN, *LAND USE CONTROLS* 345 (2d ed. 2000) (“[Pro-development forces] are likely to be better able to communicate their interests . . . to politicians than are existing homeowners, who are a larger, more diffuse group of people . . .” (citations omitted)).

interests and express their preferences to political decisionmakers who are dependent on their votes.¹⁴⁰ In other words, they face low organizational costs. So given that residential homeowners usually constitute a substantial majority of voters in suburban jurisdictions,¹⁴¹ if their preferences unite in favor of uncompensated TDR cuts, this will be the likely outcome, regardless of the interest groups aligned against them. In sum, the public-choice case in favor of constitutionally guaranteed compensation for TDR-holders is strongest in the context of suburban politics.

IV. CONCLUSION

Confiscations of TEAs with respect to programs that regulate emissions and extractions offer a paradigmatic example of a situation in which concentrated minorities with high stakes and correspondingly low organizational costs face-off against diffuse majorities with high organizational costs. The regulatees in this case, industrial polluters and commercial fishers, are already likely to enjoy disproportionate influence, thereby making constitutional guarantees in their favor excessive. In the land-development context, the situation is more complex. Although they might have some interest-group allies, landowners themselves do not share the organizational advantages of their TEA brethren. TDR confiscations can place the owners of undeveloped land in opposition to residential homeowners, who might have the political advantage, especially in suburban contexts. In this circumstance, and since there are fewer reasons to confiscate TDRs and stronger equity and efficiency considerations in the land-development context, a case can be made for guaranteed compensation in at least some TDR programs.

Constitutionally binding promises of compensation will not result in net benefits and should be avoided, except when TEA-holders do not enjoy considerable organizational advantages. Otherwise, given the bias likely already to exist against altering programs in a manner adverse to the interest of TEA-holders, guaranteed compensation is unlikely to improve on the normal government practice of weighing the costs and benefits of courses of action that affect the value of TEAs.

140. Suburban and small-town government fits William Fischel's "majoritarian," as opposed to interest-group, model of politics: (1) The government knows the preferences of the majority; (2) the voters are aware of the government's actions; and (3) the majority coalition is relatively stable. See William A. Fischel & Perry Shapiro, *A Constitutional Choice Model of Compensation for Takings*, 9 INT'L REV. L. & ECON. 115, 122 (1989); see also Ellickson, *Suburban Growth Controls*, *supra* note 56, at 405-07 (describing why small municipalities often conform to a majoritarian model of politics).

141. See ELLICKSON & BEEN, *supra* note 139, at 344.

