

University of Pennsylvania Carey Law School

Penn Law: Legal Scholarship Repository

Faculty Scholarship at Penn Law

2017

Partial Takings

Abraham Bell
University of San Diego

Gideon Parchomovsky
University of Pennsylvania Carey Law School

Follow this and additional works at: https://scholarship.law.upenn.edu/faculty_scholarship



Part of the [Constitutional Law Commons](#), [Land Use Law Commons](#), [Law and Economics Commons](#), [Law and Society Commons](#), [Legal Remedies Commons](#), [Policy Design, Analysis, and Evaluation Commons](#), [Property Law and Real Estate Commons](#), [Public Economics Commons](#), [Public Policy Commons](#), [Real Estate Commons](#), [State and Local Government Law Commons](#), and the [Urban Studies Commons](#)

Repository Citation

Bell, Abraham and Parchomovsky, Gideon, "Partial Takings" (2017). *Faculty Scholarship at Penn Law*. 1736.

https://scholarship.law.upenn.edu/faculty_scholarship/1736

This Article is brought to you for free and open access by Penn Law: Legal Scholarship Repository. It has been accepted for inclusion in Faculty Scholarship at Penn Law by an authorized administrator of Penn Law: Legal Scholarship Repository. For more information, please contact PennlawIR@law.upenn.edu.

ARTICLES

PARTIAL TAKINGS

Abraham Bell & Gideon Parchomovsky***

Partial takings allow the government to expropriate the parts of an asset it needs, leaving the owner the remainder. Both vital and common, partial takings present unique challenges to the standard rules of eminent domain. Partial takings may result in the creation of suboptimal, and even unusable, parcels. Additionally, partial takings create assessment problems that do not arise when parcels are taken as a whole. Finally, partial takings engender opportunities for inefficient strategic behavior on the part of the government after the partial taking has been carried out. Current jurisprudence fails to resolve these problems and can even exacerbate them.

This Article offers an innovative mechanism that remediates the shortcomings of extant partial takings doctrines. It proposes that the government give owners whose property is partially taken the power to force the government to purchase the remainder of the lot at fair market value. Exercise of this power by the private owner would lead to the reunification of the land in its pretaking form while transferring title to the entire parcel to a new single owner—namely the government.

* Professor, Bar-Ilan University Faculty of Law and University of San Diego School of Law.

** Robert G. Fuller Jr. Professor of Law, University of Pennsylvania School of Law, and Professor, Bar-Ilan University Faculty of Law. This Article greatly benefited from comments and criticisms by participants in the faculty workshop of the College of Law and Business (Ramat Gan) and sessions of the 2016 Private Law Consortium Seminar at the University of Oslo, the 2016 Annual Conference of the American Law and Economics Association at Harvard University, and the 2016 Property Works in Progress Conference at Boston University; from comments and criticisms from Michael Abramowicz, Tally Amir, Shyamkrishna Balganesh, Uri Benoliel, Bill Bratton, Yun-Chien Chang, Lee Anne Fennell, Sylvia Ferreri, Evan Fox-Decent, Jonah Gelbach, Yehonathan Givati, Andrew Gold, John Goldberg, Michele Graziadei, Dave Hoffman, Daniel Kelly, Jon Klick, Michael Knoll, Shelly Kreiczer Levy, Daphna Lewinsohn-Zamir, Adi Libson, Thomas Miceli, Jonathan Nash, Wendell Pritchett, Erik Røsæg, Chris Sanchirico, Reed Shuldiner, Ram Singh, Lionel Smith, Stephen Smith, Dov Solomon, Endre Stavang, Geir Stenseth, Gila Stopler, Andrew Verstein, Katrina Wyman, Eyal Zamir, and participants at the 2016 Annual Conference of the American Law and Economics Association at Harvard University, the University of Pennsylvania Faculty Retreat, and the annual gathering of the Private Law Consortium at McGill University. For excellent research assistance we thank Ben Meltzer, Ananth Padmanabhan, and Amal Sethi.

Implementation of our proposal would yield important benefits, including allowing for the preservation of current parcel configuration, lowering the cost of the adjudication process as a whole, and reducing the ability of the government to behave strategically. Additionally, our proposal would create opportunities for more efficient planning and land use by the government as the government would be free to reparcel, develop, and resell the parcels sold to it.

INTRODUCTION	2045
I. THE LANDSCAPE OF PARTIAL TAKINGS.....	2048
A. Partial and Other Takings.....	2048
B. Special Doctrines of Partial Takings.....	2054
1. Offsets	2055
2. Severance	2060
C. The Problem with Partial Takings	2062
1. The Artificial Incentive for Partial Takings	2062
2. Compensation Problems.....	2063
3. Problematic Asset Configurations.....	2065
4. Strategic Misbehavior	2066
II. ADDING OPTIONS TO PARTIAL TAKINGS.....	2067
A. The Use of Options in Property Law.....	2068
B. An Option-Based Mechanism for Addressing Partial Takings ...	2072
C. The Advantages of the Proposed Model.....	2074
1. Improved Asset Configuration.....	2074
2. More Accurate Compensation	2074
3. Incentivizing Improved Government Decisionmaking.....	2075
4. Reduced Administrative Costs	2076
III. POTENTIAL OBJECTIONS	2078
A. De Minimis Takings.....	2080
B. Government Land Holdings.....	2081
IV. EXTENSIONS.....	2083
A. Self-Assessment.....	2083
B. Partial Chattel Takings.....	2086
C. Partial Regulatory Takings.....	2088
CONCLUSION	2092

INTRODUCTION

Partial or incomplete takings allow the government to expropriate those particular parts of an asset that it needs, leaving the owner to retain the remainder.¹ The evidence shows that partial takings are ubiquitous. At least in some jurisdictions, partial takings are more common than total takings.² In fact, in some cases, the law of the jurisdiction pushes authorities to engage in partial takings rather than complete takings.³ Partial takings are routinely used when the government engages in public construction projects, particularly in the area of transportation.⁴ They are also common in cases in which the government needs to erect protective barriers against flooding on beachfront properties and riparian lots.⁵

At first blush, one might assume that partial takings are more efficient and fairer than total takings, as they take no more property than necessary. This first impression is incorrect, however. Partial takings impose two substantial costs. The first cost is administrative. Because in many cases there is no market for the particular slice of the asset seized by the government, determining the value of the partial taking (and, therefore, the compensation to be paid) is quite difficult and expensive.⁶ The second cost relates to the value of the parcel itself. While the partial taking is motivated by a government need for the particular slice seized, there may be little private use for what remains of the parcel. A partial taking may render the remainder practically or legally unfit for ordinary use. The remaining land may fail to comply with size or setback restrictions or otherwise be no longer fit for use. Likewise, the remainder may simply depreciate in value in light of changes effected by the government project. Consequently, the partial taking might prove to be less efficient than keeping the asset together, even if the government were to underutilize some parts of the total asset.⁷

1. See generally Julius L. Sackman, 4A Nichols on Eminent Domain § 14.01 (3d ed. 2017) [hereinafter 4A Nichols on Eminent Domain].

2. Ronit Levine-Schnur & Gideon Parchomovsky, *Is the Government Fiscally Blind? An Empirical Examination of the Effect of the Compensation Requirement on Eminent-Domain Exercises*, 45 J. Legal Stud. 437, 450 (2016) (highlighting a study of takings in which only 42% of the observed cases were total takings).

3. See, e.g., *Preseault v. United States*, 100 F.3d 1525, 1534–37 (Fed. Cir. 1996) (holding that Vermont, as a matter of state law, was required to proceed with a partial taking to acquire “only that which it needed” to achieve the state’s goals).

4. See Xiaoxia Xiong & Kara Kockelman, *Cost of Right-of-Way Acquisition: Recognizing the Impact of Condemnation via a Switching Regression Model*, 20 J. Infrastructure Sys. 04014021-1, 0414021-2 (2014) (summarizing a study showing that in excess of 90% of Texas Department of Transportation takings were partial takings).

5. See *infra* notes 19–24 and accompanying text.

6. See *infra* Part I.

7. See *infra* notes 36–43 and accompanying text.

This Article proposes a new approach to partial takings that addresses both aforementioned costs at once. Whenever the government elects to engage in a partial taking, the private property owner should be given a put option⁸ that will entitle her to sell the remainder of the lot to the government. The exercise price of the put option should be a percentage of the fair market value of the asset as a whole, with both the percentage and the market value of the whole determined at the time of the partial taking. As a consequence of the exercise of the option, the title to the parcel would be unified in the hands of the government. And, as the new owner of the title to the entire parcel, the government would have full discretion as to how to use or dispose of the parcel in the future.

Under present law, the power of eminent domain grants the government what is functionally a call option⁹ over all private property. The government's call option is exercisable at fair market value and is subject to the largely toothless public use requirement in the Constitution.¹⁰ Extant law recognizes no such option in private parties to buy or sell land. The introduction of our mechanism would give private property owners a limited put option, exercisable at fair market value in a small set of cases: those in which the government decided to use its call option to take only *part* of the land of an individual owner.

As an illustration of how our proposed system would work, consider the following example. Assume that the government wants to expand the street adjacent to Abby's land. The government does not need all of Abby's land to widen the street; it therefore takes 68% of Abby's parcel by eminent domain. Assume, further, that the fair market value of Abby's parcel is \$100,000 and that, *prima facie*, all parts of the land are of equal value. Under current law, the baseline for compensating Abby will be the amount of \$68,000 for the part taken.¹¹ In addition, Abby can demand additional compensation for the "severance harm" she suffered and for

8. A put option empowers the option holder to sell a good, entitlement, or future commodity to a certain counterparty at a preset price or a price to be decided in the future. See Ian Ayres, *Protecting Property with Puts*, 32 Val. U. L. Rev., 793, 796 (1998) [hereinafter Ayres, *Protecting Property*]; Put Option, Investopedia, <http://www.investopedia.com/terms/p/putoption.asp> [<http://perma.cc/5ZQA-XZSD>] (last visited Sept. 19, 2017); see also *infra* section II.A.

9. A call option allows the option holder to purchase an asset, entitlement, or future commodity from a certain counterparty at a preagreed price or at a price to be determined in the future. See Ayres, *Protecting Property*, *supra* note 8, at 796; Call Option, Investopedia, <http://www.investopedia.com/terms/c/calloption.asp> [<http://perma.cc/SPY3-UZD7>] (last visited Sept. 28, 2017); see also *infra* section II.A.

10. See Abraham Bell & Gideon Parchomovsky, *The Uselessness of Public Use*, 106 Colum. L. Rev. 1412, 1423 (2006) [hereinafter Bell & Parchomovsky, *The Uselessness of Public Use*] (describing the libertarian criticism that *Kelo v. City of New London*, 545 U.S. 469 (2005), failed to narrow the Supreme Court's public use doctrine).

11. In our example, we presumed that the taken land was not only 68% of the whole in size but also 68% of the whole in value. This presumption is unlikely to bear true in reality.

the diminution in value of the remainder.¹² The government may seek to offset compensation with the value of certain benefits the taking bestows upon Abby's remaining property.¹³ Note, however, that the severance and diminution harms are very difficult to substantiate and that proving them imposes considerable costs on Abby—in both money and time. Under our proposal, Abby would have the option of sidestepping the procedure of proving severance and diminution harms by simply forcing the government to take her lot in its entirety and pay the market value of her entire lot (i.e., \$100,000).¹⁴

It bears emphasis that we do not propose forcing the government to retain title to the remainder it would receive via exercise of put or call options. On the contrary, the government would acquire the prerogatives of the owner and thus retain complete liberty in deciding what to do with the land it receives. The government could either retain the entire parcel, if it preferred, or reparcel the land in any way it wanted and sell parts on the open market.

Our proposal presents four advantages over the current legal regime. First, it prevents the creation of parcels that are suboptimally configured for use. Under our proposed regime, were a partial taking to threaten to leave the remainder unfit for use, the owner (or the government) would exercise her put (or its call) option to stop this result from occurring. Second, and relatedly, our proposal creates a readily available mechanism for reuniting the title to the lot as a whole in the hands of a single owner, thereby preempting the creation of negative externalities that tend to arise in cases of split ownership. Concretely, our mechanism

12. See *infra* section I.B.2.

13. See *infra* section I.B.1.

14. An integral component of our proposal is the determination of the ratio of the value of the part of the land taken to the value of the land as a whole. Knowing the value ratio is essential to setting the strike price of the call and put options (i.e., the amount the government would have to pay Abby in the event the option were exercised). Indeed, in many senses, the value ratio is the strike price. In our example, if the ratio were 68%, the strike price would be 32% of the value of the lot as a whole—\$32,000. If the option were exercised at a later time, the strike price would have to be adjusted by the relevant measure of inflation, which would be the price index for realty.

We suggest two alternative ways of establishing the strike price. The easiest way would be to carry forward current doctrines for establishing the value of partial assets. Courts would use these doctrines to determine the value of the taken land, which, when compared with the value of the asset as a whole, would yield the value ratio. An alternative means for establishing the ratio would be to allow either the government or the aggrieved owner to set the ratio or even to set the ratio arbitrarily at the percentage in size, rather than value, of the land taken as compared to the plot as a whole. Size is easier to measure, and, of course, self-assessment may lead to the revelation of private information. This alternative would obviously create some interesting strategic pressures to overstate or understate value (in the case of self-assessment) or otherwise to take advantage of the gap between size and actual value. However, availability of the put and call options would correct any misincentives created by the gap between stated and actual value ratios. See *infra* sections II.A–B.

ensures that over time the government does not increase or change the nature of its use of the parts taken in a way that harms the remainder. Third, our mechanism creates an incentive for the government to engage in more efficient planning and land-development policies. In many eminent domain projects, the government takes title to multiple parcels and can, therefore, unlock synergies across parcels that owners of individual lots cannot possibly unlock or even envision. Fourth, and finally, at least in some variants, our proposal creates significant cost savings, relative to the existing rule, by obviating the need to appraise the value of the part that remains in the hands of the private owner after the taking. Indeed, our proposal can sometimes suffice with appraising the value of the parcel as a whole, which should be a much easier task.

While our proposal is self-contained, it has obvious implications for a number of other issues in the world of takings. Accordingly, after presenting our proposal, we briefly discuss several potential extensions. We demonstrate how a mechanism of self-assessment can be incorporated into our basic model and analyze how it would change the incentives of the parties. Next, we examine how our basic model for partial takings of land can be used in the contexts of partial takings of chattel. Finally, we look at whether our model can be used to address issues of partial regulatory takings and conclude that it cannot.

Structurally, the Article unfolds in four parts. In Part I, we position the phenomenon of partial takings within the larger framework of eminent domain and discuss the rationales that have been proffered to support the practice. Additionally, we enumerate the drawbacks that attend partial takings and the costs they impose on society. In Part II, we present our reform proposal. Drawing on the rich literature on the use of options within law, we detail the option mechanism with which we seek to replace the current legal regime. In Part III, we consider several potential objections to our model. Specifically, we look at whether the model should apply to very small takings, and we introduce a *de minimis* limitation into our basic model. Additionally, we consider the possible impact on state holdings of land and the potential constitutional limitations on our model. Finally, in Part IV, we contemplate and evaluate several extensions of our model by offering an alternative self-assessment valuation mechanism for determining the price of the options, extending our model to partial chattel takings, and assessing the applicability of our model to partial regulatory takings. A short conclusion ensues.

I. THE LANDSCAPE OF PARTIAL TAKINGS

A. *Partial and Other Takings*

The government typically takes property by eminent domain when it needs the property for a purpose other than that to which it is currently

put to use.¹⁵ It will not generally take farmland to establish a government farm but rather to build a road. The physical configuration that fits the old use of the property often does not match the new use of the property. A narrow strip of land suffices for a highway; the entire farm is rarely needed.¹⁶

For this reason, partial takings are ubiquitous. It is reasonable to estimate that there are at least as many partial takings as total takings in some jurisdictions.¹⁷ We suspect that most government projects do not require seizures of lots in their entirety and that the government has no need to take an entire parcel of land when a part will do. Construction or expansion of roads, trails, railroad tracks, or other forms of infrastructure almost always relies on partial takings. As an illustration, consider the case of *Loretto v. Teleprompter Manhattan CATV Corp.*, in which the Supreme Court ruled that the placement of cable on private buildings in New York City, together with a small box on the roof, amounted to a partial taking that required the payment of compensation to the building owners.¹⁸

Partial takings are common in yet another category of cases: beach replenishment.¹⁹ Consider the aftermath of Hurricane Sandy. The storm had destroyed coastal dunes, laying bare the littoral oceanfront properties.²⁰ To protect these properties, as well as the safety of the public at

15. See, e.g., *Kelo*, 545 U.S. at 472–75 (discussing the constitutionality of government use of eminent domain to transform condemned residential property into mixed-use development); *Haw. Hous. Auth. v. Midkiff*, 467 U.S. 229, 242 (1984) (holding that use of eminent domain to correct market failures in real property was a proper application of public use under the Fifth Amendment); *Berman v. Parker*, 348 U.S. 26, 35 (1954) (holding that the government interest of addressing urban blight was a proper application of public use under the Fifth Amendment); *United States v. Miller*, 317 U.S. 369, 370 (1943) (noting that condemnation of a strip of private land for public railroad use was necessary); Julius L. Sackman, 2A *Nichols on Eminent Domain* § 6.01 (3d ed. 2017) [hereinafter 2A *Nichols on Eminent Domain*].

16. See Julius L. Sackman, 1A *Nichols on Eminent Domain* § 3.02(2)(b) (3d ed. 2017) [hereinafter 1A *Nichols on Eminent Domain*] (detailing the government’s authority to condemn private property for various public uses, including highways); 2A *Nichols on Eminent Domain*, supra note 15, § 7.06 (highlighting the taking of private property for a public highway as the oldest of many valid public uses); see also Ellen Frankel Paul, *Property Rights and Eminent Domain* 7–14 (1987) (describing the concept of eminent domain); Thomas J. Miceli & Kathleen Segerson, *The Economics of Eminent Domain: Private Property, Public Use, and Just Domain*, 3 *Found. & Trends Microeconomics* 275, 280–82 (2007) (providing an overview of case law relating to eminent domain).

17. See, e.g., Levine-Schnur & Parchomovsky, supra note 2, at 450 (highlighting that 58% of the 3,140 takings in Tel Aviv, Israel, between 1990 and 2014 were partial takings).

18. 458 U.S. 419, 425–41 (1982).

19. See James G. Titus, *Rising Seas, Coastal Erosion, and the Takings Clause: How to Save Wetlands and Beaches Without Hurting Property Owners*, 57 *Md. L. Rev.* 1279, 1299–301, 1346 (1998).

20. Jenny Anderson, *Rebuilding the Coastline, but at What Cost?*, *N.Y. Times* (May 18, 2013), <http://www.nytimes.com/2013/05/19/nyregion/rebuilding-the-coastline-but-at-what-cost.html> (on file with the *Columbia Law Review*); St. Petersburg Coastal & Marine Sci. Ctr.,

large and the coastal systems, the state governments of New Jersey²¹ and New York²² committed to reconstituting the coastal dunes, partly on public property but mostly on private land. The measures involved multiple partial takings that attracted the wrath of certain private property owners and triggered litigation.²³

Another category of cases that has occasioned partial takings consists of the expansion of riverbeds or navigational routes.²⁴ Such changes in the layout of rivers invariably involve reconfiguration of the boundaries of riparian lots. While such adjustments typically involve multiple lots, it is possible that, in some cases, only one lot will be affected.

In all these cases, the government needs only a portion of existing parcels of land for its project. A partial taking, therefore, gives the government what it needs for its project while saving valuable resources. This is because the law of eminent domain requires the government to pay only for what it takes.²⁵ Hence, the government will often allow a partial taking to suffice for financial reasons. In some cases, state law even requires the state to proceed with a partial taking when that is all that is necessary to achieve the state's aim.²⁶

Hurricane Sandy Response—Storm Impacts and Vulnerability of Coastal Beaches, U.S. Geological Survey, <http://coastal.er.usgs.gov/sandy-storm-impact-vulnerability/research/coastal-impacts.html> [<http://perma.cc/28Z2-ZQ7W>] (last modified Dec. 5, 2016) (describing the damage from Hurricane Sandy).

21. See Leslie Garisto Pfaff, *Sea Change: Post-Sandy Rebuilding*, N.J. Monthly (Dec. 11, 2012), <http://njmonthly.com/articles/jersey-shore/sea-change-post-sandy-rebuilding> [<http://perma.cc/M3UX-BR7R>]; Elise Young, *New Jersey Shore Towns Challenge Sand Dunes Plan as Storms Gather*, Ins. J. (May 5, 2016), <http://www.insurancejournal.com/news/east/2016/05/05/407618.htm> [<http://perma.cc/8BSK-JQYB>].

22. See Lisa W. Foderaro, *Fire Island Residents to Lose Their Homes to Make Way for a Dune*, N.Y. Times (July 17, 2015), <http://www.nytimes.com/2015/07/19/nyregion/some-houses-on-fire-island-to-be-torn-down-to-make-way-for-new-dune.html> (on file with the *Columbia Law Review*); De Blasio Administration Releases Progress Report on Sandy Recovery and Resiliency, NYC.gov (Oct. 22, 2015) <http://www1.nyc.gov/office-of-the-mayor/news/749-15/de-blasio-administration-releases-progress-report-sandy-recovery-resiliency> [<http://perma.cc/JX6B-39Y9>].

23. Wayne Parry, *Beachfront Owners Challenge Sand Dunes Plan*, Courier-Post (Jan. 21, 2016), <http://www.courierpostonline.com/story/news/local/south-jersey/2016/01/21/beach-property-lawsuit/79116298> [<http://perma.cc/TE4W-SJS4>]; see also Matthew Hromadka, Comment, *The Price of Protection: Compensation for Partial Takings Along the Coast*, 30 *Touro L. Rev.* 861, 876–77 (2014); Louis M. Russo, Note, *From Railroads to Sand Dunes: An Examination of the Offsetting Doctrine in Partial Takings*, 83 *Fordham L. Rev.* 1539, 1541 (2014).

24. See, e.g., Hromadka, *supra* note 23, at 875–76 (discussing *United States v. Fort Smith River Dev. Corp.*, 349 F.2d 522 (8th Cir. 1965)). See generally Richard S. Harnsberger, *Eminent Domain and Water Law*, 48 *Neb. L. Rev.* 325 (1969) (examining just compensation as it relates to “water development and allocation”).

25. See Abraham Bell & Gideon Parchomovsky, *Takings Reassessed*, 87 *Va. L. Rev.* 277, 279 (2001) [hereinafter Bell & Parchomovsky, *Takings Reassessed*].

26. A statute of this kind was the source of the decision to take only an easement for a railroad track, which led to the litigation of *Preseault v. United States*, 100 F.3d 1525 (Fed. Cir. 1996).

It is worth noting another important aspect of partial takings: Partial takings cases paradigmatically implicate the core justifications for the existence of a power of eminent domain. Accepted lore justifies the power of eminent domain on the grounds that it is necessary to overcome the twin problems of high transaction costs and holdouts that would otherwise undermine the government's ability to carry out valuable social projects.²⁷ The takings literature suggests that high transaction costs are positively correlated with the number of lots affected.²⁸ Specifically, the more private lots a project involves, the more rights the government will need to clear, and the higher the cost of the project will rise. The holdout problem, by contrast, arises whenever the government must gain access to a *particular* lot.²⁹ In such cases, in a world without eminent domain, the relevant private owner could try to extract the entire surplus arising from the project before consenting to the transaction.³⁰ The holdout problem arises when the government has no reasonable substitutes to a particular parcel and must appropriate that parcel alone.³¹

The twin problems of high transaction costs and holdouts are endemic to projects that rely on partial takings. Almost inevitably, partial takings rely on particular parcels, making the partial taking highly vulnerable to holdouts. At the same time, while partial takings may not involve a large number of parcels, the transaction costs associated with a partial taking can be quite high. This is due to the particular problems partial takings raise—particularly in establishing the value of the partial lots taken—that we explore in depth later in this Part.³² In order to take property by eminent domain, the state must pay “just compensation” to the owner whose property is taken.³³ Figuring out the amount that con-

27. Jonathan Klick & Gideon Parchomovsky, *The Value of the Right to Exclude: An Empirical Assessment*, 165 U. Pa. L. Rev. 917, 937 (2017).

28. See Thomas J. Miceli, *The Economic Approach to Law* 216–17 (2004); Lloyd Cohen, *Holdouts and Free Riders*, 20 J. Legal Stud. 351, 356 (1991); Daniel B. Kelly, *Acquiring Land Through Eminent Domain: Justifications, Limitations, and Alternatives*, in *Research Handbook on the Economics of Property Law* 343, 345–50 (Kenneth Ayotte & Henry E. Smith eds., 2011); Thomas J. Miceli & Kathleen Segerson, *Land Assembly and the Holdout Problem Under Sequential Bargaining*, 14 Am. L. & Econ. Rev. 372, 374–75 (2012).

29. The need for a particular lot and the need for many lots are not mutually exclusive. For instance, the collection of many lots to build a road may make particular lots necessary in order to complete the road.

30. See, e.g., Guido Calabresi & A. Douglas Melamed, *Property Rules, Liability Rules, and Inalienability: One View of the Cathedral*, 85 Harv. L. Rev. 1089, 1106–07 (1972); Thomas J. Miceli & Kathleen Segerson, *Holdups and Holdouts: What Do They Have in Common?*, 117 Econ. Letters 330, 332 (2012).

31. Of course, the parcel may be needed in conjunction with other parcels to enable the government use.

32. See *infra* section I.C.

33. The just compensation requirement appears not only in the U.S. Constitution, which guarantees “private property [shall not] be taken for public use, without just

stitutes “just compensation” is a perennial difficulty.³⁴ Calculating compensation for partial takings is far more difficult³⁵ and, concomitantly, more expensive.

The choice of whether to pursue a partial taking is thus a difficult one for the state. Partial takings may reduce the amount of direct compensation paid by the government for property, but at the same time, they create additional costs that must be borne, in part, by the state.

A further complication is added by the fact that the state’s decision to pursue a partial taking does not take full account of the social costs engendered by such takings.

Full and accurate compensation for takings is indispensable to the proper functioning of the government’s power of eminent domain.³⁶ Accurate compensation is necessary for three distinct reasons. First, accurate compensation ensures fairness for aggrieved owners by ensuring that individual property owners are not forced to bear costs that ought rightly to be borne by society as a whole.³⁷ Second, accurate compensation ensures that government decisionmakers do not suffer from “fiscal illusion”—the illusion that social costs matter only when they find expression in government budgets.³⁸ Third, and finally, accurate com-

compensation,” U.S. Const. amend. V, but also in state constitutions. Julius L. Sackman, 1 Nichols on Eminent Domain § 1.3 (3d ed. 2017). Indeed, the compensation requirement is understood around the world to be a necessary companion to the power of eminent domain. Simon Keith et al., Food Agric. Org. of the United Nations, Compulsory Acquisition of Land and Compensation 11–15 (2008), <ftp://ftp.fao.org/docrep/fao/011/i0506e/i0506e00.pdf> (on file with the *Columbia Law Review*); see also 1A Nichols on Eminent Domain, *supra* note 16, § 1C.02.

34. Patrick J. Rohan & Melvin A. Reskin, 9 Nichols on Eminent Domain § G31.04 (3d ed. 2017) [hereinafter 9 Nichols on Eminent Domain]; Katrina Miriam Wyman, The Measure of Just Compensation, 41 U.C. Davis L. Rev. 239, 252–61 (2007); see also *infra* note 40.

35. Julius L. Sackman, 3 Nichols on Eminent Domain § 8A.02 (3d ed. 2017) [hereinafter 3 Nichols on Eminent Domain].

36. See Bell & Parchomovsky, The Uselessness of Public Use, *supra* note 10, at 1416–17.

37. See, e.g., *Armstrong v. United States*, 364 U.S. 40, 49 (1960) (articulating this rationale).

38. There is an ongoing debate about the degree to which fiscal illusion actually occurs in the real world. In support of the theory that fiscal illusion impacts government decisionmaking, see, e.g., David A. Dana & Thomas W. Merrill, Property: Takings 41–46 (2002); Thomas J. Miceli, Economics of the Law: Torts, Contracts, Property, Litigation 141 (1997); Richard A. Posner, Economic Analysis of Law 56, 73–74 (2007); Lawrence Blume & Daniel L. Rubinfeld, Compensation for Takings: An Economic Analysis, 72 Calif. L. Rev. 569, 620–28 (1984); Louis Kaplow, An Economic Analysis of Legal Transitions, 99 Harv. L. Rev. 509, 567–70 (1986). But see Steven Shavell, Foundations of Economic Analysis of Law 130 (2004) (questioning the fiscal illusion theory as a justification for the compensation requirement); Bethany R. Berger, The Illusion of Fiscal Illusion in Regulatory Takings, 66 Am. U. L. Rev. 1, 7–16 (2016) (arguing the fiscal illusion theory incorrectly assumes government officials are driven by maximizing fiscal returns); Yun-Chien Chang, Empire Building and Fiscal Illusion? An Empirical Study of Government Official Behaviors in Takings, 6 J. Empirical Legal Stud. 541, 544 (2009) (finding that in Taiwan, local

pensation reduces the possibility (and therefore the incentives) for government actors to utilize their taking power for corrupt purposes.³⁹ When compensation does not accurately measure the costs imposed by takings, the takings power can be misused or abused. This is no less true when the taking is a partial one.

Unaccounted-for costs and benefits are endemic to all takings and, in particular, to partial takings. Many scholars have argued that standard compensation formulas for all exercises of eminent domain fail to take account of some kinds of subjective value enjoyed by owners.⁴⁰ Additionally, government benefits that accompany takings are generally not given expression in compensation formulas.⁴¹ Finally, not all “takings” of property are compensable. A complicated set of judicially crafted formulas distinguish between, on the one hand, ordinary government actions that take valuable property rights and attributes without the need for compensation and, on the other hand, those that go “too far” and become “regulatory takings” for which compensation must be paid.⁴² “Partial regulatory takings,” in particular, do not trigger a compensation requirement, unless, like other regulatory actions, they go “too far.”⁴³

governments are sensitive to political costs and benefits when assessing land value); Daryl J. Levinson, Making Government Pay: Markets, Politics, and the Allocation of Constitutional Costs, 67 U. Chi. L. Rev. 345, 377 (2000) (challenging the fiscal illusion theory as a justification for takings compensation).

39. Abraham Bell & Gideon Parchomovsky, The Hidden Function of Takings Compensation, 96 Va. L. Rev. 1673, 1692–704 (2010).

40. E.g., Abraham Bell & Gideon Parchomovsky, Taking Compensation Private, 59 Stan. L. Rev. 871, 872–73 (2007) [hereinafter Bell & Parchomovsky, Taking Compensation Private]; James Geoffrey Durham, Efficient Just Compensation as a Limit on Eminent Domain, 69 Minn. L. Rev. 1277, 1292 (1985); John Fee, Eminent Domain and the Sanctity of Home, 81 Notre Dame L. Rev. 783, 790 (2006); James J. Kelly, Jr., “We Shall Not Be Moved”: Urban Communities, Eminent Domain and the Socioeconomics of Just Compensation, 80 St. John’s L. Rev. 923, 940 (2006); James E. Krier & Christopher Serkin, Public Ruses, 2004 Mich. St. L. Rev. 859, 866; Thomas W. Merrill, The Economics of Public Use, 72 Cornell L. Rev. 61, 83 (1986); see also Laura H. Burney, Just Compensation and the Condemnation of Future Interests: Empirical Evidence of the Failure of Fair Market Value, 1989 B.Y.U. L. Rev. 789, 793–94.

41. See *infra* section I.B.1.

42. There is a vast literature on regulatory takings, including Steven J. Eagle, *Regulatory Takings* (5th ed. 2012); Richard A. Epstein, *Takings: Private Property and the Power of Eminent Domain* (1985) [hereinafter Epstein, *Takings: Private Property*]; William A. Fischel, *Regulatory Takings: Law, Economics, and Politics* (1995); Lawrence Blume, Daniel L. Rubinfeld & Perry Shapiro, The Taking of Land: When Should Compensation Be Paid?, 99 Q.J. Econ. 71 (1984); Thomas J. Miceli & Kathleen Segerson, *Regulatory Takings: When Should Compensation Be Paid?*, 23 J. Legal Stud. 749 (1994); Frank I. Michelman, Property, Utility, and Fairness: Comments on the Ethical Foundations of “Just Compensation” Law, 80 Harv. L. Rev. 1165 (1967); Joseph L. Sax, *Takings, Private Property and Public Rights*, 81 Yale L.J. 149 (1971).

43. John D. Echeverria, Partial Regulatory Takings Live, but . . . , *in* *Taking Sides on Takings Issues: The Impact of Tahoe-Sierra* 67, 67 (Thomas E. Roberts ed., 2002); Richard A. Epstein, *Lucas v. South Carolina Coastal Council: A Tangled Web of Expectations*, 45 Stan. L. Rev. 1369, 1377–78 (1993) [hereinafter Epstein, *Lucas v. South Carolina*] (stating that

These valuation problems associated with ordinary takings are even more severe in the case of partial takings. Partial takings involve the seizure of partial assets. This means that the seized property may have no market in which value can be measured. In addition, the seizure of one partial asset leaves behind a different partial asset. The effect of the seizure on the partial asset left behind must also find expression in valuation formulae.

In sum, partial takings are both extremely popular and extremely problematic. Partial takings are supported by the justifications supporting ordinary takings and troubled by the difficulties attending them. Yet, partial takings also have unique aspects that make them both particularly useful and unusually problematic. Ideally, the legal treatment of partial takings would ameliorate these problems. Unfortunately, the law's treatment of partial takings seems more likely to exacerbate them. It is to this troubling feature of the law of partial takings that we now turn.

B. *Special Doctrines of Partial Takings*

This section explores the judicial treatment of partial takings. Courts have fashioned many special doctrines to deal with compensation for partially taken parcels of land. The doctrines, as this section will demonstrate, deal with only some of the challenges partial takings pose. In some ways, the doctrines may be said to worsen the already extant challenges.

As a preliminary matter, it is important to understand the conundrums posed by compensating for partial takings. In general, takings compensation aims to give the owner of the taken property money in the value of the taken property.⁴⁴ *Prima facie*, if the state takes one-third of Blackacre, it should give the owner one-third of the value of Blackacre. But in reality, matters are not so simple. Blackacre may not be of consistent quality; part may be rocky, and the rest flat. Moreover, taking one-third of Blackacre affects the value of the remaining two-thirds. It may no longer be possible to use Blackacre in the same way as before—the lot, for instance, may no longer be large enough to grow certain crops. And new uses of Blackacre may now be possible—for example, the new road created in part from the taken property may enable a new factory to get products to the market cost efficiently. The relationship between the partial taking and the value of what remains of Blackacre is a complex

partial takings, while virtually total in form, will remain uncompensated under the Court's current approach).

44. See Bell & Parchomovsky, *Taking Compensation Private*, *supra* note 40, at 872–73; see also Patrick J. Rohan & Melvin A. Reskin, 8A *Nichols on Eminent Domain* § G18.02 (3d ed. 2017) [hereinafter 8A *Nichols on Eminent Domain*]; 4A *Nichols on Eminent Domain*, *supra* note 1, § 14.01.

one. This relationship is the source of a variety of special doctrines for adjusting compensation awards in cases of partial takings.⁴⁵

1. *Offsets.* — One of the most litigated questions of partial takings compensation is the “offset.” In most cases, an “offset” reduces compensation for partial takings.⁴⁶

To understand offsets, we must recall that all takings—not just partial takings—produce multiple effects, some positive, some negative.⁴⁷ For instance, when the state uses the power of eminent domain to take land to build a road, the landowners lose the assets taken by the state, but the remaining owners gain the value of easier access to their land. Indeed, given the constitutional requirement that takings be justified by a “public use,”⁴⁸ it is near impossible to think of a taking without an accompanying benefit to at least one person.⁴⁹ In most cases, the law treats the costs and benefits entirely separately. The losses the owners suffer as a result of the government’s takings are compensated. The benefits owners enjoy as a result of the government’s givings are overlooked.⁵⁰

In the case of partial takings, however, matters are different. Under both state and federal law of takings compensation, when deciding on the compensation to award owners suffering a partial taking, courts take into account both costs and benefits.⁵¹ In the language of the law, compensation for the taking is “offset” by the value of the benefit realized by the owner. The U.S. Supreme Court has ruled that such offsets are constitutional and do not run afoul of the constitutional requirement of “just compensation” for takings.⁵²

While it has a great deal of intuitive appeal, a doctrine of offsetting compensation by the value of benefits actually creates three different sets of difficulties. First, the doctrine is difficult to apply. It is difficult enough to measure land value;⁵³ it is much tougher when the effects of government projects must be disentangled from all the other factors affecting

45. See generally 4A Nichols on Eminent Domain, supra note 1, § 14.03 (exploring the special valuation issues associated with partial takings).

46. 3 Nichols on Eminent Domain, supra note 35, § 8A.02; 4A Nichols on Eminent Domain, supra note 1, § 14.03.

47. Bell & Parchomovsky, Takings Reassessed, supra note 25, at 290.

48. U.S. Const. amend. V.

49. See Abraham Bell & Gideon Parchomovsky, Givings, 111 Yale L.J. 547, 565 (2001) [hereinafter Bell & Parchomovsky, Givings] (“Thus, any taking must confer some benefit on the public.”).

50. Id. at 549.

51. 3 Nichols on Eminent Domain, supra note 35, § 8A.02; 4A Nichols on Eminent Domain, supra note 1, § 14.03.

52. Bauman v. Ross, 167 U.S. 548, 584 (1897). In some states, the benefits may offset only severance damages but not the compensation for the property taken. See, e.g., Done Holding Co. v. State, 534 N.Y.S.2d 406 (App. Div. 1988); State v. Meyer, 403 S.W.2d 366, 374 (Tex. 1966); City of Richardson v. Smith, 494 S.W.2d 933, 940 n.4 (Tex. Civ. App. 1973).

53. See infra note 74 and accompanying text.

land value. All states eliminate from the offset valuation effects that are not attributable to government action, and the version of the doctrine most jurisdictions use involves an even more difficult exercise of line-drawing between government-created effects that are legally important and those that are not. Second, the doctrine does not apply solely to partial takings but also to cases in which a landowner owns multiple parcels. This means that application of the doctrine depends on the identity of the landowner, rather than simply the nature of the asset.⁵⁴ Third, and finally, by offsetting benefits only for partial taking compensation but not for other takings or government actions, the doctrine actually creates a perverse incentive. It encourages the state to prefer partial takings to reduce the amount of compensation to be paid. Let us examine each of these in turn.

The doctrine of offsets is not as simple as it sounds.⁵⁵ At least in some states, the compensation award is not adjusted for *all* benefits realized by the owner. Courts draw a distinction between “special benefits”—benefits that are “direct and peculiar to the particular property”⁵⁶—and “general benefits,” which accrue to the many properties in the area.⁵⁷ In most states and at the federal level, courts reduce the compensation award (or offset it, in the preferred terminology) by the value of special benefits realized by the owner of the taken property.⁵⁸ The offset doctrine thus benefits the government in partial takings cases by allowing it to pay less compensation than it would have to pay in ordinary takings. However, the state reduces costs only to the extent of special, but not general, benefits created by the government project.

While it is easy to grasp the conceptual difference between special and general benefits, it is much harder to identify them in practice. Consider, for instance, the case of *Defnet Land & Investment Co. v. State ex*

54. For those who support incorporating broader concerns of distributive justice into eminent domain compensation awards, this can be seen as a feature, rather than a bug. See, e.g., Hanoch Dagan, *Takings and Distributive Justice*, 85 Va. L. Rev. 741, 746 (1999). However, it remains difficult to explain why the distributive justice concerns should enter into the picture only in the case of partial takings. Cf. Daphna Lewinsohn-Zamir, *In Defense of Redistribution Through Private Law*, 91 Minn. L. Rev. 326, 329 (2006) (defending more broadly the use of private law to effect redistribution); Glynn S. Lunney, Jr., *Takings, Efficiency, and Distributive Justice: A Response to Professor Dagan*, 99 Mich. L. Rev. 157, 158 (2000) (arguing against Dagan’s proposal).

55. For a summary of the different state and federal approaches to offsets, see generally 3 *Nichols on Eminent Domain*, supra note 35, § 8A.03.

56. *United States v. Trout*, 386 F.2d 216, 221–22 (5th Cir. 1967) (internal quotation marks omitted) (quoting *United States v. 2,477.79 Acres of Land*, 259 F.2d 23, 28 (5th Cir. 1958)).

57. *Richardson v. Big Indian Creek Watershed Conservancy Dist.*, 151 N.W.2d 283, 286 (Neb. 1967) (“[G]eneral benefits are those which arise from the fulfillment of the public object which justified the taking . . .” (internal quotation marks omitted) (quoting *Backer v. City of Sidney*, 89 N.W.2d 592, 592 (Neb. 1958))).

58. 3 *Nichols on Eminent Domain*, supra note 35, § 8A.03.

rel. Herman.⁵⁹ The State of Arizona had decided to widen a highway, and it therefore seized by eminent domain roughly thirteen acres of land from a tract of 120.75 acres owned by the aggrieved landowner.⁶⁰ The state agreed to pay compensation for the taken land, as well as severance damages, but it sought to offset the reward by applying the value of “special benefits” the land enjoyed due to the highway expansion.⁶¹ Specifically, the state argued that the remaining land was more valuable because the highway expansion brought an interchange in close proximity to the affected land.⁶² The landowner challenged this argument on the grounds that proximity to highway interchanges should never be considered a “special” benefit.⁶³ The landowner also noted the oddities of the particular case—that before receiving the “benefit” of the widened interstate highway, the land enjoyed direct access to a much longer stretch of the unimproved highway, while the new interchange itself was not located on the taken land but, rather, nearby on other taken land.⁶⁴ The court rejected the landowner’s argument, ruling that proximity to highway interchanges might or might not constitute special benefits, depending on the circumstances, including such matters as the amount of traffic on the highway and the amount of distance from the interchanges.⁶⁵ The rule, in other words, is that benefits must be examined ad hoc, and there are no firm guidelines for distinguishing the general from the special benefits.

With the distinction between special and general benefits boiling down to a fact-intensive but legally vague judicial determination, it is unsurprising that disagreements between state and landowner are frequent, and litigation common. The need to distinguish between the effects of specific and general benefits also complicates the appraisal process, since appraisers must discern not only the degree to which a property’s price has been affected by a taking but also the degree to which other properties’ prices have been affected by the same taking.

A small number of jurisdictions have set aside the distinction between special and general benefits. For instance, in a controversial recent decision,⁶⁶ *Borough of Harvey Cedars v. Karan*, the New Jersey Supreme Court eliminated the long-standing distinction between general

59. 480 P.2d 1013 (Ariz. Ct. App. 1971).

60. *Id.* at 1014–15.

61. *Id.* at 1015.

62. *Id.*

63. *Id.*

64. *Id.* at 1019.

65. *Id.* at 1019–20.

66. See William J. Ward, NJ Supreme Court Overturns *Karan*, Changes Rules on Partial Takings, N.J. Eminent Domain Blog (July 8, 2013), <http://www.njeminentdomain.com/state-of-new-jersey-nj-supreme-court-overturns-karan-changes-rules-on-partial-takings.html> [<http://perma.cc/SS4W-3QC7>] (describing the decision as opening “a virtual Pandora’s box of issues for trial judges”).

and special benefits in New Jersey law and expanded the offset doctrine to cover all benefits engendered by any takings project.⁶⁷ The case involved the restoration of sand dunes.⁶⁸ The Karans owned a single-family beachfront home in Harvey Cedars, New Jersey.⁶⁹ As part of its efforts to protect the beaches from erosion by rebuilding sand dunes, the Borough of Harvey Cedars took a perpetual easement over roughly one-quarter of the Karans' property.⁷⁰ The state sought to pay compensation only for the actual reduction in value to the Karans' property; this meant that the compensation award would be offset by the value of *all* benefits that accrued to the Karans' property, instead of just the "special benefits." The New Jersey Supreme Court reversed the lower court's decision in favor of the Karans and sided with the state, ordering the lower measure of compensation.⁷¹ It remains to be seen whether New Jersey's approach will be adopted elsewhere in the United States.

The New Jersey approach can potentially make application of the offset rule much easier. Applying this approach, one measures the value of a partially taken property before the taking and after it.⁷² The difference between the two values is the amount that has to be paid in compensation. If the remainder of the land has actually increased in value after the taking, no compensation need be paid at all.⁷³ Of course, even this approach may pose logistical problems. It's doubtful that the affected realty was actually sold immediately before and after the taking, making it more difficult to gauge the exact value of the property. Markets for real estate never involve perfect substitutes, so measuring price is a complex process.⁷⁴ In addition, one has to account for other factors that

67. 70 A.3d 524, 526–27 (N.J. 2013).

68. *Id.* at 527.

69. *Id.* at 528.

70. *Id.*

71. *Id.* at 526–27.

72. To be sure, this is not as easy as it sounds. The land market is not like the stock market. Thousands or even millions of identical stocks are bought and sold nearly continuously, such that it is possible to measure the price of a share at any given time with a high degree of precision. Land markets are much thinner—as there are many fewer buyers and sellers—and the products being sold are never perfect substitutes. Cf. William Larson, Bureau of Econ. Analysis, *New Estimates of Value of Land of the United States 2* (Apr. 3, 2015) (unpublished manuscript), <http://www.bea.gov/papers/pdf/new-estimates-of-value-of-land-of-the-united-states-larson.pdf> [<http://perma.cc/8727-U858>] (discussing the difficulty of measuring the value of land and proposing a model for evaluating the value of land).

73. But see Brittany Harrison, Note, *The Compensation Conundrum in Partial Takings Cases and the Consequences of Borough of Harvey Cedars*, 2015 *Cardozo L. Rev. de novo* 31, 51–56, <http://www.cardozolawreview.com/content/denovo/HARRISON.36.denovo.pdf> [<http://perma.cc/9FAG-DNTZ>] (arguing the New Jersey ruling is equally compatible with different valuation approaches).

74. See Peter Chinloy, *Real Estate: Investment and Financial Strategy* 25–47 (1988) (describing various approaches to appraising property, such as the cost, market, income-capitalization, and hedonic approaches); Riël Franzsen & William J. McCluskey, *Value-Based Approaches to Property Taxation*, in *A Primer on Property Tax: Administration and*

affect the price of the property, as reflected in broader price movements in the real estate market.⁷⁵

Problems in measuring offsets are compounded by the peculiar definition of “partial takings” for purposes of the offset doctrine. In most jurisdictions, a taking is considered “partial” for purposes of the offset doctrine so long as a portion of the owner’s land holdings is taken, even if all the taken land consists of whole parcels.⁷⁶ Consider, for instance, a state decision to take a single parcel of land—Blackacre—in its entirety to create a park. The park is sufficiently valuable that the four abutting parcels of land—Whiteacre, Greyacre, Blueacre, and Greenacre—will all double in value. For simplicity’s sake, let us assume that all five parcels are of equal value, and all are worth \$100,000. If each of the five parcels were owned by a different person, the state would have to pay \$100,000 in compensation to the owner of Blackacre to seize the land for the park. However, if the owner of Blackacre also owned another parcel, say Greyacre, the offset doctrine would view Blackacre–Greyacre as a single parcel that had been partially taken. Thus, under the offset doctrine, there would be no compensation: The \$100,000 loss of Blackacre would be offset by the \$100,000 gain in value of Greyacre.

As our hypothetical taking of Blackacre illustrates, the offset doctrine leads to two disturbing anomalies. First, the amount of compensation that must be paid for takings depends on the identity of the aggrieved party, rather than on the property being taken. The government’s taking of the same land, which is otherwise the same in all particulars, in some cases will require a large compensation payment and in others a small payment (or none at all) based on the identity of the owner. Second, the ability of the government to recapture the value of its givings depends on it taking property. If the government creates the park on land it already owns, it cannot utilize the offset doctrine, but if it seizes the land to create the park, the offset doctrine may be used to subsidize the seizure. This means that the government best preserves its reservoir of land holdings by pairing its takings of land with projects that

Policy 41, 54–56 (William J. McCluskey, Gary C. Cornia & Lawrence C. Walters, eds., 2013) (describing the complexities of valuation in general and specific difficulties arising from the fact that “no two parcels are exactly alike”).

75. See Chinloy, *supra* note 74, at 27 (“Some problems with appraisal are posed by inflation and its presence or absence . . .”).

76. A similar rule is applied to partial regulatory takings. A regulation that deprives some parcels of all their value, but leaves value in other parcels of the same owner, cannot be considered a regulation that completely eliminates the value of a parcel, automatically triggering a finding of a regulatory taking. Rather, such a regulation must be considered as depriving all the parcels together of some of their value, thus requiring an indeterminate and fact-intensive determination of whether the regulation went “too far” and became a regulatory taking. See *infra* notes 183–196. See generally *Palazzolo v. Rhode Island*, 533 U.S. 606, 630–32 (2001) (noting the persistent difficulty of the denominator problem but rejecting the petitioner’s assertion of total deprivation to a smaller parcel because the issue was not presented in the petition for certiorari).

create positive externalities for landholders. For government planners with an eye on the budget, a project with such positive externalities is an excellent opportunity to take land on the cheap, as long as the government remembers to take the land from holders of multiple parcels.

This leads us to the third and most serious problem with offsets: No matter how perfectly the offsets are measured, they distort the incentives of state officials making decisions about takings. Indeed, in some sense, the more accurately the offset doctrine measures the effects of the taking, the worse the distortion of incentives.

Ordinarily, when the government takes property by eminent domain, it owes compensation for the full value of the property taken, irrespective of any benefits created.⁷⁷ But if the offset rule applies, the amount of compensation that must be paid drops drastically. Suddenly, the government may force the private citizen to pay a charge for the “giving”—the benefit it bestows upon the citizen.⁷⁸ This means that the government will pay less compensation and perhaps avoid having to pay at all. When the offset rule applies, takings are dramatically cheaper for the government. All things being equal, the government should always prefer takings in which the offset rule applies to those in which it does not.

The offset rule may lead the government to configure projects in such a way as to take advantage of the ability to reduce compensation by offsetting gains. This creates an incentive for the government to prefer, all things being equal, to seize parts of two parcels rather than one complete parcel. Likewise, the doctrine incentivizes the government to take parcels from owners of multiple parcels, rather than to take all the landholdings of a single owner.

2. *Severance*. — A second unique doctrine associated with partial takings is the severance damage rule.⁷⁹ Under this rule, when an asset is partially taken, the compensation is calculated in two steps. First, one calculates the value of the partial asset taken. Second, one measures the change in value of the partial asset that remains with the owner—the “severance damage.” One then combines the two values to get the total amount of compensation.⁸⁰

The severance rule is not generally intended to be applied together with an offset rule. Rather, it is used as a different approach to calculat-

77. 3 Nichols on Eminent Domain, *supra* note 35, § 8A.02(1) (noting “just compensation” has generally been interpreted to mean “fair and adequate monetary compensation for land actually taken, regardless of any benefits to the remainder”); see also Noel F. Delporte, Note, Benefit as Legal Compensation for the Taking of Property Under Eminent Domain, 16 St. Louis L. Rev. 313, 317–23 (1931) (discussing state constitutional provisions that forbid using benefits to offset compensation for land takings).

78. See Fischel, *supra* note 42, at 80–84; Bell & Parchomovsky, *Givings*, *supra* note 49, at 555–56, 596–97.

79. See 26 Am. Jur. 2d Eminent Domain § 281 (2014).

80. 3 Nichols on Eminent Domain, *supra* note 35, § 8A.02(1).

ing damages. To understand this, consider the ordinary use of the offset rule. The offset rule is used when the primary measure of damages is the difference between the value of the whole asset before the taking and the partially remaining property after the taking.⁸¹ In such cases, the offset rule clarifies that that difference in value is not the final word on compensation due; rather, the loss in value occasioned by the taking must be “offset” by certain benefits. By contrast, when the severance rule is used, the primary measure of damages is the value of that portion of the asset which is taken. Ideally, measuring damages by the value of taken land plus severance damages should yield the same result as measuring the value of the remaining land discounted by general benefits. The severance rule simply assures that proper account is taken of the impact of the taking on the remaining property. As the Fourth Circuit Court of Appeals noted, the different approaches (offset or severance) ultimately seek to measure the same loss, but do so in different ways. Consequently, setting compensation at the difference between property value before and after taking (of the untaken parts of the asset) and then adding extra compensation for “severance” can result in the payment of double compensation.⁸² Said the court,

[A]s the government argues, if th[e] [“before and after method of valuation”] is properly employed when there is a partial taking, severance damages should not be allowed. This is so because if the fair market value of the property after the taking is subtracted from its fair market value before the taking, presumably the fair market value after the taking would reflect any diminution in value by reason of the taking so that a separate allowance for severance damages is unnecessary in order for the landowner to recover just compensation.⁸³

Theoretically, the severance rule should allow courts to avoid the pitfalls of the offset rule and calculate damages more precisely. Unfortunately, reality is more complicated.⁸⁴ Severance damages are almost impossible to calculate. Measuring severance damages requires courts to undertake the same task that frustrates them in measuring offsets: They must figure out to what degree changes in asset value are attributable to “severance” as opposed to other phenomena,⁸⁵ such as changes in the

81. See *supra* section I.B.1; see also 1 Lewis Orgel, *Valuation Under the Law of Eminent Domain* §§ 48–51 (James C. Bonbright ed., 2d ed. 1953) (comparing the three formulas courts have used to measure “just compensation” for partial takings).

82. See *United States v. 2.33 Acres of Land*, 704 F.2d 728, 728 (4th Cir. 1983).

83. *Id.* at 730 (citing *United States v. 38.60 Acres of Land*, 625 F.2d 196, 201 (8th Cir. 1980)).

84. See Ashley Mas, Note, *Eminent Domain Law and “Just” Compensation for Diminution of Access*, 36 *Cardozo L. Rev.* 369, 374–75 & n.31 (2014) (listing the exceptions to the principle that all consequential damage to remaining parcels is compensable).

85. See 4A *Nichols on Eminent Domain*, *supra* note 1, § 14.03 (addressing limitations on the compensability of damage to remaining property).

market or the general effects of a government action. Because the markets for partial assets are often thin, or even nonexistent, there is little empirical basis on which courts can make such determinations. Instead courts must try to infer the relative financial impact of several causes by various indirect measurements.

Additionally, even if courts feel confident enough to make a decision about the economic impact of a severance, they must have a firm grasp of the other pieces of the compensation puzzle. They must be able to measure the value of the taken asset in such a way as to ensure full compensation but not double compensation.⁸⁶

It is little wonder, therefore, that courts often choose the offset method instead.

C. *The Problem with Partial Takings*

While partial takings are both ubiquitous and necessary, they also raise unique economic problems. Specifically, partial takings lead to three characteristic difficulties. First, the division of a parcel between state and owner creates a situation that may be prone to strategic misbehavior, such as extortion by the state. Second, in dividing parcels between the state and the prior owner, partial takings may create new assets (post-taking parcels) that are suboptimally configured. For instance, while a partial taking may enable a road, the partial taking may come at the price of making an entire farm unusable. Third, because partial takings involve dividing up existing parcels of land, they create new assets that may have no clear market. This complicates efforts to value the asset taken. Obviously, all three of these difficulties are related to one another.

The special doctrines discussed above do not fully address these three problems, and in some ways, they even exacerbate them. Indeed, the offset doctrine in particular creates a fourth problem with partial takings: Special doctrines incentivize the state to prefer partial takings over complete takings.⁸⁷ Indeed, the state may choose inefficient partial takings over efficient complete takings or nonaction.

In this section we address each of these problems, in reverse order. We begin with the artificial and undesirable incentive to engage in partial takings created by the special doctrines.

1. *The Artificial Incentive for Partial Takings.* — The first problem that arises in the context of partial takings is directly related to the offset rule. As explained above, the offset rule allows the government to adjust downward compensation awards by taking account of the positive effects of exercises of eminent domain.⁸⁸ The offset rule, however, applies only to partial takings or takings of a portion of an owner's larger set of holdings. When

86. See *id.* § 14.02(3)(b)(ii).

87. See *supra* notes 77–79 and accompanying text.

88. See *supra* section I.B.1.

land holdings are taken in their entirety, no offset is possible. This, of course, creates an incentive for the government to prefer partial takings to total takings when both methods can achieve the government's goals.⁸⁹

As an illustration, consider the following example. Imagine that the construction of a new highway exit increases the value of ten identical contiguous commercial lots by 200% each on account of the increase in the volume of traffic. Assume that the government can construct the new exit either by taking four of the lots in their entirety or by taking 40% of each of the ten lots. Assume, further, that the first option—taking four lots in their entirety—is more desirable from a planning standpoint; seizing the lots in their entirety would allow for a more compact exit, with lower maintenance costs and superior safety. In the absence of the offset rule, the government would clearly prefer to take the four entire lots. This option would lead to better results at the same cost (or perhaps even a lower cost, since the government would bear the administrative cost of only four takings, rather than ten). Yet, under the current compensation rules, the government has a strong financial incentive to choose the second, inferior option. While the inferior option would require the government to bear the cost of prosecuting ten eminent domain proceedings, in each case, thanks to the offset rule, the government would avoid paying any compensation. The offset rule, in other words, would render the acquisition of private property by eminent domain essentially free, so long as the government remembered to use partial takings.

In the extreme case, partial takings allow the state to take fee simple ownership in land without paying compensation and without falling afoul of the constitutional requirement to pay “just compensation” for takings. But even in the less extreme cases in which the state does have to pay compensation for a partial taking, the offset rule makes it likely that the state will pay less than it would for similar assets taken by whole-parcel takings.

Naturally, the ability to seize ownership for no compensation or for very little compensation distorts the government's decisions on takings. Simply put, when given the opportunity to take a lot and pay a little, there are few who will resist to the opportunity to take.⁹⁰

2. *Compensation Problems.* — Of course, the purpose of the offset rule is not to distort government incentives. Rather, the offset rule (like the severance rule) helps courts properly calculate compensation for partial takings.⁹¹

89. See *supra* section I.B.

90. One does not need to hold to extreme versions of fiscal illusion to recognize that budgetary considerations potentially impact government decisionmaking in some fashion. See *supra* note 38.

91. See 4A Nichols on Eminent Domain, *supra* note 1, § 14.02[1] (noting that the severance and offset rules “are merely tools to be used by the court or the jury in determining the sometimes elusive question of what constitutes full or just compensation

As we noted, compensation for eminent domain is already a difficult task even when the taking is of a complete parcel. Compensation, as calculated by standard doctrines, ignores a number of important harms and benefits.⁹² The offset doctrine partially alleviates the failure to take account of givings in ordinary exercises of eminent domain, but it does so at the cost of distorting government incentives.⁹³ Additionally, when the offset doctrine discounts general benefits, it forces courts to engage in a fact-intensive inquiry into the character of different benefits remainder properties enjoy.⁹⁴

Partial takings do not alleviate the ordinary difficulties in calculating compensation; they exacerbate them. This is because partial takings necessarily divide assets into new configurations. The old configurations may have had thick or thin markets, but the new configuration will almost certainly have a thin market or none at all. Consider, for example, the taking of a diagonal strip of land for a road, in such a manner as to create two remainder parcels that are roughly triangular. Though the new triangular parcels might have been created previously, they were not, probably because there was little demand for them. While the demand for such parcels might emerge at some time in the future, there is little likelihood that such demand will emerge precisely at the time they are created by the partial taking.⁹⁵

in the case of partial taking"); see also *Village of South Orange v. Alden Corp.*, 365 A.2d 469, 472 (N.J. 1976) (providing the formulas for the offset and severance methods and noting that either may be used in New Jersey); Orgel, *supra* note 81, §§ 48–51 (noting the three formulas courts use to determine partial takings compensation).

92. See *Coniston Corp. v. Village of Hoffman Estates*, 844 F.2d 461, 464 (7th Cir. 1988) ("Compensation in the constitutional sense is . . . not full compensation, for market value is not the value that every owner of property attaches to his property but merely the value that the marginal owner attaches to *his* property."); see also Bell & Parchomovsky, *Taking Compensation Private*, *supra* note 40, at 885–90; Durham, *supra* note 40, at 1278–79; Lee Anne Fennell, *Taking Eminent Domain Apart*, 2004 *Mich. St. L. Rev.* 957, 962–67 [hereinafter Fennell, *Taking Eminent Domain Apart*]; Krier & Serkin, *supra* note 40, at 866; Merrill, *supra* note 40, at 82–85. In practice, "Many owners are 'intramarginal,' meaning that because of relocation costs, sentimental attachments, or the special suitability of the property for their particular (perhaps idiosyncratic) needs, they value their property at more than its market value." *Coniston*, 844 F.2d at 472.

93. See, e.g., Russo, *supra* note 23, at 1552 (noting that as nineteenth-century railroad companies "invested with the power of eminent domain [and] took advantage of the ability to offset, some began to compensate landowners entirely in benefits," with "[o]ne scholar report[ing] that railroad takings in Illinois frequently resulted in an award of \$1" (footnote omitted)); cf. 3 *Nichols on Eminent Domain*, *supra* note 35, § 8A.03(1) (noting that offset rules vary depending "on whether benefits may setoff damages to the remainder or to the property taken and whether special or general benefits may be considered for setoff").

94. Russo, *supra* note 23, at 1552. ("The early nineteenth century opinions made no effort to classify benefits as general or special, and the New York high court went so far as to suggest that a landowner could be entirely compensated with benefits.").

95. Studies show that parcels with regular boundaries are more valuable than those with irregular boundaries. See, e.g., Gary D. Libecap & Dean Lueck, *The Demarcation of*

To arrive at the correct compensation amount, judges must be able to estimate the value of the giving received by the affected property owners, the potential effects of future use by the government, and the suitability of the remainder for standard uses. In addition, the judge ought to be able to determine the harm the severance causes in those cases in which such harm exists. This is a formidable task.

As one would expect, there could be significant disagreement between the government and the private property owners concerning the appropriate compensation amount. Naturally, each party would attempt to bolster its claims by hiring the services of land appraisers, and the court would often be presented with divergent opinions as to what it should do. At the end of the day, though, notwithstanding the court's best efforts and the amounts the parties expend, it is unrealistic to expect the court to arrive at an accurate number. As a result, the amount awarded may be excessive or undercompensatory,⁹⁶ and the costs parties incur simply in order to figure out how to allocate the value and loss of the taking largely represent a pure loss from a social perspective.

3. *Problematic Asset Configurations.* — Even if the government could figure out how to calculate compensation easily, partial takings would still be problematic. Partial takings, by their nature, reconfigure assets. Part of an asset is taken by the government and part is left behind, creating two new smaller assets in place of the one larger one. But these new assets may not be properly configured for optimal use. Naturally, the asset held by the government is in a configuration that the government deems suitable for its use. But the part left in the hands of the private owners in the aftermath of partial takings is often unsuitable for its pre-taking use.⁹⁷ At times, the remaining part is unfit for any economically viable use.

This is especially true when the government takes a large percentage of the original parcel. For instance, takings of over 50% of the original parcel may result in the creation of remainders of very little use for their owners. Naturally, the specific effect will also depend on the initial size of the parcel that was subject to a partial taking. Very large parcels may “survive” substantial partial takings without losing the lion's share of their value, whereas small parcels may see their value eviscerated even by relatively small partial takings.

Land and the Role of Coordinating Property Institutions, 119 J. Pol. Econ. 426, 446–50 (2011); Gary D. Libecap & Dean Lueck, Land Demarcation Systems, *in* Research Handbook on the Economics of Property Law 257, 279–92 (Kenneth Ayotte & Henry E. Smith eds., 2011).

96. Patricia Munch, An Economic Analysis of Eminent Domain, 84 J. Pol. Econ. 473, 487–88 (1976) (finding pervasive under- and overcompensation in eminent domain cases in Illinois).

97. For examples, see generally Richard E. Welch, Valueless Property: How a Remainder Converts to a Remnant, *Right Way Mag.*, Nov./Dec. 2009, at 36, 36–37.

Another factor that affects the suitability of the remainder for future use is the pertinent land use law. Specifically, minimum lot size and setback requirements can render the remaining parts unsuitable for residential and commercial uses, dooming them to lie fallow if the owners cannot secure a change in the zoning rules or an exemption.

Small size is not the only problem resulting from partial takings. Partial takings may also create irregular-sized lots. The taking of a corner of a lot for a park may create an "L"-shaped remainder lot, for example. In other cases, partial takings may leave only a narrow sliver of the original lot, leading to the formation of "bowling alley" parcels. Needless to say, such unorthodox configurations make the remaining parts almost entirely unfit for conventional uses.

In a smoothly functioning market among willing buyers and sellers, these kinds of asset configurations would not be of concern. Owners would voluntarily subject their assets to such troublesome reconfigurations only if the newly enabled use were valuable enough to compensate for the loss engendered by stunting the ability of the remaining parcel to produce value. But exercises of eminent domain are not market transactions; indeed, it is highly unlikely that the power of eminent domain would be used if there were a smoothly functioning market in which the government could buy the lots it needed.⁹⁸ There is no guarantee that the partial taking is valuable enough to justify stunting the remaining parcel. Indeed, there is no guarantee that the stunting was necessary to achieve the purpose of the taking; perhaps the new use of the taken property could be best achieved by using whole parcels, rather than partially taken parcels.

4. *Strategic Misbehavior.* — A final problem emanating from partial takings is that they may induce strategic misbehavior on the part of the government. The potential for strategic misbehavior is in large part the result of the problems described above.

Consider again the differences between the compensation doctrine applicable to partial and complete takings. The government can greatly reduce the amount of compensation it will pay by carrying out a partial rather than complete taking. But the government need not actually carry out the partial taking. The threat of a partial taking can be employed in order to convince owners to take less compensation.⁹⁹

The possibility of strategic misbehavior does not end at the moment of the partial taking. Oftentimes, the nature of the asset divided by the partial taking is such that the newly divided assets continue to be strongly linked. If Blackacre, a farm, is partially taken by the government, what

98. Even with the shortcomings in compensation for takings, the process of taking property by eminent domain is costly, and likely more costly than negotiations in a smoothly functioning market.

99. See Gideon Kanner, *Condemnation Blight: Just How Just Is Just Compensation?*, 48 *Notre Dame Law.* 765, 788–89 (1973).

remains of Blackacre will be highly influenced by a government decision to use its part as a waste facility, rather than a park. More generally, once it has taken the asset part it needed and has paid compensation for it, the government can threaten to use the taken part in ways that impose negative externalities on the owner of the remainder. Once again, the threat can be employed to extract payment from owners (or, more likely, to silence objections by the owners to other government actions).¹⁰⁰

Consider the construction of a new highway. To enable the project, the government must take several lots, in whole or in part. Thereafter, in the event of partial takings, multiple remainders of various sizes will remain in the hands of the original owners. Having paid compensation to the owners, the government has discharged its legal duty. But, of course, the payment of compensation does not terminate the relationship between the government and the owners of the taken property. Subsequent to the takings, the government must decide what resources to expend on the maintenance of the new highway. For example, the government must decide whether to erect acoustic barriers between the highway and the lots, how much to spend on upkeep and maintenance, and how to develop the landscape. These and other decisions will have a direct bearing on the value of the remainders.¹⁰¹

To be sure, similar strategic problems may arise in any case of eminent domain. The government may threaten eminent domain in order to extract favors. Or, once it has taken the property, the state may threaten to use it in ways that are disadvantageous to owners of adjacent lots. However, the strategic problem is particularly acute in the case of partial takings. Partial takings, and the attendant compensation doctrines, give the government a number of tools for extortion. In some cases, these tools may end up being used.

II. ADDING OPTIONS TO PARTIAL TAKINGS

In this Part, we suggest a new approach to partial takings that would vest a put option in private property owners whenever the government elects to engage in a partial taking. The creation of a put option would bestow upon the private property owner the power to sell the remainder of her partially taken asset to the government at a percentage of fair market value of the asset as a whole at the time of the partial taking.

100. A related phenomenon is the strategic announcement of takings in order to take advantage of “condemnation blight” and lower compensation amounts. See 8A Nichols on Eminent Domain, *supra* note 44, § G18.02; Kanner, *supra* note 99, at 769; cf. T. Nicolaus Tideman & Florenz Plassmann, Fair and Efficient Compensation for Taking Property Under Uncertainty, 7 J. Pub. Econ. Theory 471, 474 (2005) (arguing such announcements reduce property values and should require compensation).

101. Kanner, *supra* note 99, at 786–87 (discussing the need to indemnify condemnees for damages).

Formalization of this new entitlement would create a property arrangement in which the parcel is divided (as the government desires in effecting a partial taking), but either party can exercise the legal power to effect a unification of the title in the hands of the government. As Professor Ian Ayres has pointed out, the government already holds a call option on all private property by dint of its power of eminent domain.¹⁰² The power of eminent domain entitles the government to seize title to any property, or part thereof, provided that it acts in the furtherance of a public use and is willing to pay the private owner just compensation, measured by fair market value.¹⁰³ This proposal is intended to pair the government's broad call option with a much more limited put option that would be conferred on private property owners in cases of partial takings.

As is true of all options, private property owners would be under no obligation to exercise their new legal entitlement. They would be free to do so at their discretion. Importantly, the introduction of a put option would result in a property arrangement that has the potential to ameliorate significantly all the problems associated with partial takings. The put option would encourage the reunification of assets with respect to which partial takings result in inefficient configurations. It would also create strategic pressures on the owner to reach a more realistic assessment of the value of the taking, while reducing the ability of the government to engage in strategic misbehavior. If coupled with the elimination or reform of the offset doctrine, this property arrangement would neutralize all the difficulties mentioned in the previous Part.

In order to explain our proposal, we begin with a brief review of the intersection of the rich literature on options with the phenomenon of takings. We then present the particulars of our proposed approach to partial takings.

A. *The Use of Options in Property Law*

The pertinent options come in two varieties. The first, a call option, allows the option holder to purchase an asset, entitlement, or future commodity from a certain counterparty at a preagreed price or at a price to be determined in the future.¹⁰⁴ The second type, a put option, can be thought of as the mirror image of a call option: It empowers the option holder to sell a good, entitlement, or future commodity to a certain counterparty at a preset price or a price to be decided in the future.¹⁰⁵

102. See Ayres, *Protecting Property*, supra note 8, at 809 n.47.

103. See U.S. Const. amend. V; *United States v. Miller*, 317 U.S. 369, 373–74 (1943) (noting the courts' adoption of "fair market value" as a measure of "just compensation").

104. Ayres, *Protecting Property*, supra note 8, at 796.

105. *Id.*

Options are often used to incentivize or suppress certain behaviors,¹⁰⁶ align the interests of the parties,¹⁰⁷ or to force parties to provide information.¹⁰⁸ Options may also be used to effect a better ownership structure or configuration of assets.¹⁰⁹ It is this use of options that is especially pertinent for our purposes.

In recent years, scholars have used option theory to devise innovative solutions to various property problems. This line of analysis begins with Guido Calabresi and Douglas Melamed's seminal insight that all legal entitlements may be divided into three prototypes.¹¹⁰ The first prototype, property rule protection, vests in the entitlement holder the power to set the price for takings or uses of her entitlement, and any attempts to take the entitlement nonconsensually will be met with an injunction.¹¹¹ The second prototype, liability rule protection, bestows the price-setting power not on the entitlement holder but rather on some third party, such as a legislator, court, or administrative agency, which means that transgressions will be met with a damages award that may fall way short of the asking price of the entitlement holder.¹¹² Finally, the third prototype, inalienability rules, puts the entitlement outside the sphere of market transactions and forbids the entitlement holder to sell her entitlement to others even for a price of her choosing.¹¹³

106. See Ian Ayres, *The Bill of Options?*, in *Optional Law: The Structure of Legal Entitlements* 1, 8 (2005) [hereinafter Ayres, *The Bill of Options?*]; Madeline Morris, *The Structure of Entitlements*, 78 *Cornell L. Rev.* 822, 824 (1993); see also Gideon Parchomovsky & Endre Stavang, *The Green Option*, 99 *Minn. L. Rev.* 967, 997 (2015) (explaining how call options can be used to incentivize large businesses to act in a more environmentally responsible way).

107. See, e.g., John Core & Wayne Guay, *The Use of Equity Grants to Manage Optimal Equity Incentive Levels*, 28 *J. Acct. & Econ.* 151, 152 (1999) (“[F]irms actively manage grants of new equity incentives to CEOs in response to deviations from an optimal level of equity incentives.”); Harold Demsetz & Kenneth Lehn, *The Structure of Corporate Ownership: Causes and Consequences*, 93 *J. Pol. Econ.* 1155, 1174–75 (1985) (explaining that shareholder choice to broaden ownership can enhance profits); Michael C. Jensen & William H. Meckling, *Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure*, 3 *J. Fin. Econ.* 305, 336 (1976) (arguing option contracts can be used to align managerial and shareholder incentives and maximize firm value).

108. See, e.g., Lee Anne Fennell, *Revealing Options*, 118 *Harv. L. Rev.* 1399, 1404 (2005) (discussing how options may be employed to reveal private information); Saul Levmore, *Self-Assessed Valuation Systems for Tort and Other Law*, 68 *Va. L. Rev.* 771, 779 (1982) (explaining how the grant of call options to third parties may induce truthful reporting of property values for property tax purposes).

109. See, e.g., *Symphony Space, Inc. v. Pergola Props., Inc.*, 669 N.E.2d 799, 806 (N.Y. 1996) (explaining that “options ‘appendant’ or ‘appurtenant’ to leases—encourage the possessor holder to invest in maintaining and developing the property by guaranteeing the option holder the ultimate benefit of any such investment”).

110. Calabresi & Melamed, *supra* note 30, at 1092.

111. *Id.*

112. *Id.*

113. *Id.* at 1092–93.

Drawing on the Calabresi-Melamedean framework, property theorists have analogized liability rule protection to call options.¹¹⁴ As an illustration, consider a classic pollution dispute. Assume a factory that emits smoke, depositing soot on a residential lot. Assume further that the law wishes to protect the entitlement of the resident to fresh air, free of pollutants. In this case, the law can either grant the resident property rule protection or liability rule protection. Under a property rule, the residential property owner will have an absolute right to block the emissions and win an injunction in court against the factory continuing to emit smoke. A liability rule, on the other hand, will allow the court to set the price of the pollution; the resident will win money damages to compensate her for the harm she suffers, but the factory will continue to emit smoke and soot.

Professor Carol Rose colorfully explained the policy choice in the following way:

[Under a property rule regime], the entitlement holder has the whole meatball, so to speak, and the other party has nothing—one has property, the other has zip. Under either of the two liability rules, on the other hand, the meatball gets split: The factory has an option to pollute (or once exercised, an easement), while the homeowner has a property right subject to an option (or easement).¹¹⁵

The value of employing options in property law has not escaped other property theorists. Even Professor Richard Epstein, generally a champion of strong property rule protection for property interests,¹¹⁶ has acknowledged the value of employing call options with respect to property in some cases. Specifically, Epstein has written of the utility of liability rules as a means of overcoming holdout problems and cases of bilateral monopoly that thwart voluntary exchange, noting that “liability rules, when used, always take the direction of a ‘call’ [option].”¹¹⁷

Ayres took the next logical step by suggesting the potential utility of put options as well. Ayres illustrated his analysis within the common framework of a pollution lawsuit. To begin with, Ayres explained the creation of options as a two-step process.¹¹⁸ In step one, a party takes or compromises the property interest of another, as in the case of the

114. See e.g., Ian Ayres & J.M. Balkin, *Legal Entitlements as Auctions: Property Rules, Liability Rules, and Beyond*, 106 *Yale L.J.* 703, 729–33 (1996); Ian Ayres & Eric Talley, *Solomonic Bargaining: Dividing a Legal Entitlement to Facilitate Coasean Trade*, 104 *Yale L.J.* 1027, 1041–46 (1995).

115. Carol M. Rose, *The Shadow of The Cathedral*, 106 *Yale L.J.* 2175, 2178–79 (1997).

116. See, e.g., Richard A. Epstein, *A Clear View of The Cathedral: The Dominance of Property Rules*, 106 *Yale L.J.* 2091, 2120 (1997) (“The choice between property rules and liability rules should normally be resolved in favor of the former . . .”).

117. *Id.* at 2093.

118. Ayres, *Protecting Property*, *supra* note 8, at 800.

factory that emits pollutants onto a neighboring lot.¹¹⁹ Once the initial partial taking occurs, an option is created if a court decides to grant the affected property owner liability rule protection. By setting an amount of damages to be paid by the taker, the court effectively gives the taker a choice between exercising the option at the price set by the court and thereby appropriating the underlying entitlement or refraining from exercising the option at said price by stopping and restoring the status quo ante.

Extending the analysis to puts, Ayres noted that after the initial transgression occurs, courts have another option at their disposal: They can empower the harmed property owner to sell her interest to the transgressor at the price set by the court.¹²⁰ Ayres explained that the use of put options has different distributional and informational effects than the use of calls. Puts place the decisionmaking power in the hands of the harmed party, as opposed to the aggressor, allowing her to perform the relevant cost-benefit analysis and to exercise the option only when doing so inures to her benefit.¹²¹

As an example of the use of options in current property doctrine, Ayres turned to the doctrine of encroachment. An encroachment occurs when a land owner erects a structure that projects into or fully stands on her neighbor's property.¹²² Traditionally, the common law dealt with encroachment by granting property rule protection to the encroached-upon party and issuing an injunction against the encroacher even when the encroachment happened in good faith.¹²³ The case of *Pile v. Pedrick*¹²⁴ provides a powerful, albeit extreme, illustration. There, the foundations of the defendant's factory wall projected by one-and-three-eighths inches onto the plaintiff's property.¹²⁵ The encroachment resulted from a surveyor's error of which the defendant was not aware.¹²⁶ Despite the fact that the encroachment was both *de minimis* and in good faith, the court ordered the defendant to remove the offending portion of the wall.¹²⁷ As

119. *Id.*

120. *Id.*

121. *Id.* at 804–13 (discussing the distributional, informational, and bid–ask spread of puts).

122. See, e.g., Joseph William Singer, *Introduction to Property* 40 (2d ed. 2005).

123. See, e.g., James L. Kainen, *The Historical Framework for Reviving Constitutional Protection for Property and Contract Rights*, 79 *Cornell L. Rev.* 87, 134 (1993) (noting that “[u]nder the common law of the early nineteenth century . . . when an owner vindicated his title to the land by ejecting the improver from possession, his title was held to encompass title to the improvements”); Deepa Varadarajan, *Improvement Doctrines*, 21 *Geo. Mason L. Rev.* 657, 669 (2014) (“Under the conventional common law view, the mistaken improver of land was not entitled to any compensation from the landowner for the improvement.”).

124. 31 A. 646 (Pa. 1895).

125. *Id.* at 647.

126. *Id.*

127. *Id.*

the plaintiff was not willing to sell the tiny bit of land to the defendant, nor to permit the defendant entry to chip away the small portion of the offending foundations, the defendant had no choice but to remove the wall in its entirety.¹²⁸

Over time, the law has shifted away from the dogmatic approach of the common law. A growing number of states have modified the traditional approach statutorily by empowering courts to use liability rule protection in cases of good-faith encroachments, in which the encroacher did not know and was not supposed to know that she encroached on her neighbor's land and in which the value of the encroaching structure far exceeds the value of the underlying land.¹²⁹ In such cases, certain states vest power in the courts to give the encroacher an option to buy the affected land strip from the victim at a price the court sets—a call option solution.¹³⁰ Other states have gone even further by recognizing an option in good-faith encroachers to force a sale of the structure upon the encroached-upon neighbor—a put option solution.¹³¹

The modern approach to encroachments provides a natural launching pad for our proposed reform of the doctrine of partial takings. After all, encroachments that are authorized without the consent of the owner are nothing more (or less) than partial private takings.¹³²

We propose an expansion of the number of options already created in the context of partial takings. In addition to the options already inherent in the nature of the taking, we suggest adding a new put option, as we will describe in greater detail in the next section. The option we propose provides a simple but elegant way to ameliorate the harsh results of property rules without excessively disturbing the overall structure of entitlements.

B. *An Option-Based Mechanism for Addressing Partial Takings*

In this section, we propose an options mechanism that should accompany all partial takings. The aim of the mechanism is simultaneously to alleviate the central weakness of partial takings—the danger that partial takings might result in suboptimal partitions of parcels or titles that adversely affect land value—and to ameliorate or avoid the appraisal problems that plague partial takings. The options mechanism we propose addresses the former issue by giving the private owner the ability to reunify an affected parcel at a price that is partially predeter-

128. *Id.*

129. See, e.g., Kelvin H. Dickinson, *Mistaken Improvers of Real Estate*, 64 N.C. L. Rev. 37, 42 n.28 (1985) (reporting that at least forty-two states have adopted versions of such acts).

130. *Id.* at 65–68.

131. E.g., Cal. Civ. Proc. Code §§ 871.1–.7 (West 2015).

132. See generally Abraham Bell, *Private Takings*, 76 U. Chi. L. Rev. 517, 519 (2009) (arguing “takings carried out by non-governmental actors . . . have long existed, in some form or another, in our legal system”).

mined. By linking the price of unification to compensation for the partial taking, our mechanism also incentivizes parties to provide information that eases the task of determining the correct compensation for the initial partial taking.

In our proposal, every partial taking would be accompanied by the creation of a put option that complements the call option the government already has. The put option of private property owners would arise immediately upon the announcement of a partial taking and would have to be exercised within a short time—we propose three months. The price of exercising the option—the “strike price”—would be set by two factors: the market values set at the time of the partial taking and a ratio specified by the court at the time of the partial taking. The ratio, in turn, would be set by the court on the basis of the market prices of the asset as a whole and the portion taken.

To illustrate how our proposal would work, consider the following example. Assume that the government announces a plan to take a portion of Beth’s parcel in order to add another lane to an interstate highway. Ordinarily, the court would examine the value of Beth’s parcel and the portion taken thereof, announce a compensation award for the partial taking, and grant the government title for the portion. Under our proposal, the court’s order would be slightly more detailed. The court would not only announce the value of the portion taken, but it would also announce the value of Beth’s parcel as a whole. For purposes of illustration, let us imagine that Beth’s parcel is appraised at \$500,000 and the portion taken is appraised at \$100,000. This would mean that the court found that the portion taken was worth 20% of the whole parcel. As in an ordinary taking, the government would pay \$100,000 and receive title to the portion of Beth’s parcel it desires.

At this point, a put option would be granted to Beth to force a sale of the remainder of her lot to the government. The option would allow Beth a three-month period during which she could force the government to buy the remainder of her parcel at a price equal to 80% of the value of the parcel as a whole, or \$400,000. It is important to note that the formalization of a put option in Beth creates symmetry between private property owners and the government. Indeed, as Ayres explained, the government, on account of its eminent domain power, already has a call option over all private property, with the exercise price being fair market value.¹³³ In principle, therefore, had the government wanted, it could have seized the entirety of Beth’s parcel and paid her \$500,000, invoking the same public use purpose that enabled the partial taking.¹³⁴

133. Ayres, *The Bill of Options?*, *supra* note 106, at 4.

134. While the government would have to show a “public use” for the remainder, under current law, the government can point to almost anything as a public use justifying the taking. See, e.g., *Kelo v. City of New London*, 545 U.S. 469, 483–84 (2005) (“For more than a century, our public use jurisprudence has wisely eschewed rigid formulas and

The central feature of our proposal is thus to give both sides the ability to force the unity of asset. The symmetric ability to force unity of the asset not only encourages maintaining asset unity when it is more valuable but also eliminates the strategic incentive to seize partial assets when it is possible to offload uncompensated costs on the remaining parcel. In essence, the options force the government to evaluate the costs of a partial taking that would otherwise fall on the owner.

C. *The Advantages of the Proposed Model*

Our proposal offers four advantages over the current legal regime. First, our proposal creates a readily available mechanism for reuniting the title to the lot as a whole in the hands of a single owner, thereby preempting the creation of negative externalities that tend to arise in cases of split ownership. Second, and relatedly, it prevents the creation of parcels that are suboptimally configured for use. Third, our mechanism creates an incentive for the government to engage in more efficient planning and land development policies. Fourth, our proposal may save costs, relative to the existing rule, by simplifying the appraisal of the value of the part that remains in the hands of the private owner after the taking.

Let us examine each of these advantages in turn.

1. *Improved Asset Configuration.* — The proposal's ability to unify parcels is straightforward. Indeed, this is its central feature. Under our proposed regime, both government and owner have the ability to force reunification of a parcel split by a partial taking. This means that when one or the other of the parties believes the division to be suboptimal, either can force the unification. At the same time, the mechanism does not require the pretaking parcel configuration to remain forever. If the decision satisfies the parties, they can allow the options to lapse, and the parcels will have successfully been reconfigured. Thus, the proposal encourages unity only when one or the other party foresees a benefit from unity. It is only when a government taking threatens to leave the remainder unfit for use, or suboptimally configured for use, that the owner will exercise her put option to stop this result from occurring. While the owner would be unable to block the taking—that is the nature of eminent domain—the owner would be able to decide whether she is better off with the remaining partial parcel or the compensation. The government would not necessarily be saddled permanently with the remainder asset either. If the government could find a buyer for the remainder of the parcel, it could transfer the remainder to someone able to make productive use of it.

2. *More Accurate Compensation.* — The ability to force unity of the parcel, together with the option to leave the partial taking in place,

intrusive scrutiny in favor of affording legislatures broad latitude in determining what public needs justify the use of the takings power.”).

points to our proposal's second advantage. The reason an owner would choose to exercise the put option and force a taking of the remainder is either some flaw in the compensation scheme that ensures overcompensation for the remainder or a flaw in the configuration of the remainder that makes it difficult to use or sell. While flaws in the compensation scheme are certainly possible (as we shall discuss momentarily), it is reasonable to conjecture that the bulk of cases exercising the put option will involve a flawed configuration of the remainder. Flaws in the compensation scheme can be rectified with cash payments, without passing title; transferring title can be costly and traumatic. The owner's put option will likely be exercised only when the remainder cannot be put to more productive use.

3. *Incentivizing Improved Government Decisionmaking.* — The third advantage of our proposal is its effect on government decisions. Strictly speaking, our proposal is not necessary for the government to have a call option on the remainder. Thanks to the government's power of eminent domain, in all cases of partial takings, the government could have taken the remainder if it had so desired, and it can always pick up the remainder later.¹³⁵ Accordingly, the decision to take only a part implies that, from the government's perspective, a partial taking (coupled with partial compensation) is preferable to a complete taking (accompanied by full compensation). As we explained, the government's cost-benefit calculus is not necessarily aligned with the preference of the property owner and does not necessarily reflect the broad societal interest.¹³⁶ Yet, under current law, the government has the power to force its preference on the owner of the partially taken property, and the owner has no real say in the matter.

The creation of a put option in the property owner, per our proposal, will change the balance of power between the government and private property owners. It would allow property owners, who wish to do so, to force a sale of the remainder of the lot to the government in cases of partial takings. The formalization of a put option that would complement the government's already-existing call option will necessarily change the calculus the government performs when it considers whether to carry out a partial taking or a full taking. On the most basic level, it will force the government to take account of the cost that its choice will impose on property owners. Knowing that private property owners whose land was partially taken will be able to sell the remainder to the government will induce the government to engage in more socially optimal partial takings and in appropriate cases take the whole lot *ab initio*.

Relatedly, our proposal neutralizes some of the problematic incentives current partial takings doctrine creates. As we noted, the offset doctrine creates a peculiar incentive for the government to seek partial

135. See *supra* note 133 and accompanying text.

136. See *supra* section I.C.4.

takings in place of total takings.¹³⁷ It is only when the taking is considered “partial” that the government has the ability to reduce compensation awards by taking into account the positive effects of government projects on property values. Under our proposal, this perverse incentive is greatly diminished.¹³⁸ Courts grant all partial takings compensation awards against the background of an assessment of the value of the parcel as a whole. While courts may still use the offset and severance doctrines to establish the value of the partial taking, such evaluations ultimately must be anchored by the value of a complete taking; if there is a significant enough divergence, one or the other of the parties will almost certainly exercise the put or call option to translate the partial taking into a complete one.

4. *Reduced Administrative Costs.* — The fourth and final advantage of our proposal can be found in the savings it produces in administrative and assessment costs. While our proposal leaves courts in the unenviable position of measuring the value of partially taken property, it holds out the possibility of cheaper and more accurate assessments of value.

To begin with, the options significantly reduce the incentives for the parties to misstate the value of a partial taking. Prima facie, one may argue that our proposal invites the government to secure artificially low appraisals of the value of properties it plans to take. A second look shows this is not the case. It is under current doctrine that the government has an incentive to “depress” the value of taken properties, irrespective of whether it takes in whole or in part. Budgetary constraints invariably induce the government to try to lower the compensation amount it must pay to aggrieved property owners. Our proposal, however, greatly reduces the advantage of artificially low assessments of the value of the part of the property that is taken in partial takings. If the assessment of the portion taken is too low while the assessment of the property as a whole is roughly accurate, this will all but ensure that the property owner exercises the put option. As for the danger of artificially low appraisals of the entire parcel, there is an easy and well-established fix. As is the case under current takings law, property owners have the right to challenge the government assessment and produce an appraisal of their own.¹³⁹

137. Bell & Parchomovsky, *The Uselessness of Public Use*, supra note 10, at 1440–43; see also supra notes 76–77 and accompanying text.

138. As we have argued elsewhere, the government is best incentivized when the value of benefits is taken into account. Indeed, we proposed a general rule of assessing a charge for all government givings. Bell & Parchomovsky, *Givings*, supra note 49, at 577. However, as we noted there, it is a mistake to require givings charges only in the context of offsets for takings. By restricting givings charges to offsets for takings, the law perversely encourages the government to take property unnecessarily. *Id.* at 589.

139. Dana & Merrill, supra note 38, at 171 (describing the process under which property owners can challenge the government’s appraisal of their land); Joe Palazzolo, *Obtaining Land for Trump’s Border Wall a Daunting Task, Experts Say*, *Wall St. J.* (Mar. 16, 2017), <http://www.wsj.com/articles/obtaining-land-for-trumps-border-wall-a-daunting-task-experts-say-1489687484> (on file with the *Columbia Law Review*) (“Property owners can

Should the parties fail to reach an amicable resolution, a court will have to step in and determine the fair market value. In such cases, it will be only upon the issuance of a judicial determination that the property owner will get to exercise her put option. While there is no guarantee that appraisals of the value of the parcel as a whole will be accurate, as noted, there is reason to believe that such appraisals will be better than those of segments of the parcel with no clear market.¹⁴⁰

One might voice a concern over the fact that our proposal increases the cost of planning for the government. Under our proposal, whenever the government engages in a partial taking, it will have to bear in mind that the private owner might choose to exercise her put option, forcing the government to pay the full market value of the property, even though it needs only part of it. Although this argument is correct, it misses the mark. For while it is true that the total amount paid by the government will increase, so will the amount of land the government will have at its disposal. Importantly, the government will be able to use the land to its own ends or resell any parts in which it has no interest to third parties. In other words, the government will be able to use and dispose of the taken property as any private owner would. The only marginal cost our scheme imposes on the government consists of the transaction costs that the government will incur should it choose to transfer its title. It is critical to understand that, under current law, that same cost must be borne by the private property owner who wishes to sell her remainder.

On a similar note, one might claim that the ultimate result of the exercise of put options by the owner will lead to excessive holdings of property by the state. Indeed, almost by definition, the put will force the state to take ownership of properties it did not express any interest in acquiring. Nonetheless, there is little reason to fear that this will ultimately lead to excessive landholdings by the state. The state already has impressive powers to acquire property, including the right to purchase property and to take it by eminent domain. The state's landholdings are vast—the federal government owns more than a quarter of all lands in the United States (considerably more in several states),¹⁴¹ and state and local governments also own vast amounts of land.¹⁴² At the same time, the

file their own appraisals if they disagree with the government's estimate, but they have to pay their own legal and expert fees.”).

140. Appraisals of the parcel in its entirety can rely upon valuation information from sources such as previous sales and tax appraisals. These sources will be unavailable for appraisals of portions of parcels.

141. Carol Hardy Vincent et al., Cong. Research Serv., R42346, *Federal Land Ownership: Overview and Data 6* (2017), <https://fas.org/sgp/crs/misc/R42346.pdf> [<http://perma.cc/2KXY-4DSX>].

142. See Nat. Res. Council of Me., *Public Land Ownership by State 1–2*, <https://www.nrcm.org/wp-content/uploads/2013/09/publiclandownership1.pdf> [<http://perma.cc/8RY7-Q9XP>] (last visited Sept. 22, 2017) (detailing, by both acreage and percentage of total state land, the amount of land owned by each of the fifty states); see also Nat'l Park Serv., *Land Ownership in National Park System Units in Alaska and*

state has the ability to sell property it does not desire, and it seems odd to fear that the state will end up holding too many lands because it has been forced to purchase lands it does not want to hold.¹⁴³

One might also voice a concern over the potential manipulation of the put option by the owner. Owners will exercise the put option, *inter alia*, when there are few good market options for disposing of the remainder. One might object that this opens the process up to manipulation; owners will seek a government taking when compensation exceeds market price or when in need of liquidity. The put option can force the taking of the remainder of the property without the need to engage in lobbying (or more corrupt practices). Here again, while the argument is correct, it is more aptly aimed at the practice of eminent domain. When compensation practices are flawed, all government takings are vulnerable to corruption.¹⁴⁴ The put and call options do not increase this vulnerability.

III. POTENTIAL OBJECTIONS

In this Part, we consider several potential objections to our model. First, we consider whether our model is well suited to small takings, and we suggest the possibility of introducing a *de minimis* exception into our model, which would exempt very small takings from triggering the put option mechanism. Second, we consider the possible impact of our proposal on state holdings of land and, in particular, whether the result would be excessive state holdings.

In the background of this discussion, it is important to bear in mind the constitutional framework limiting state actions regarding takings. The formal constitutional limitations on the takings power are found in the Fifth Amendment.¹⁴⁵ The two formal constitutional preconditions for

Possibilities for Mining and Other Developments 24, 26, <https://www.nps.gov/subjects/alaskaparkscience/upload/aps-13-2.pdf> [<http://perma.cc/8FENG35>] (last updated Sept. 14, 2017) (stating that Alaska owns approximately 355,331 acres of land within the National Park System); Nat'l Park Serv., Nonfederal Lands Within the National Seashore 81, <https://www.nps.gov/caco/learn/management/upload/nonfederallands.pdf> [<http://perma.cc/PLZ8-LHBS>] (last visited Sept. 20, 2017) (stating that over 30% of the land in the national seashore is owned by nonfederal public entities); Wash. State Recreation & Conservation Office, Statewide Profile 1 (1999), https://www.rco.wa.gov/documents/plip/county_profiles.pdf [<http://perma.cc/E854-BW8Z>] (highlighting that in Washington, the state and local governments own over four million acres of land, which is just over 10% of all land within the state).

143. We address this issue in greater detail below. See *infra* section III.B.

144. See *infra* section III.B.

145. Obviously, we are referring here to the national Constitution. Some state constitutions contain additional restrictions on the takings power. See Donna M. Nakagiri, Taking Provisions in State Constitutions: Do They Provide Greater Protections of Private Property than the Federal Takings Clause 3 (Jan. 1, 1999) (unpublished student research paper, Michigan State University College of Law), <https://digitalcommons.law.msu.edu/cgi/viewcontent.cgi?article=1004&context=king> (on file with the *Columbia Law Review*).

a taking of property are that the property must be taken for a “public use” and that “just compensation” must be paid to the owner.¹⁴⁶

However, there is a gap between these formal requirements and the actual law. In the law as it has been interpreted by the Supreme Court, the public use requirement has practically been read out of existence. Under current Supreme Court jurisprudence, any purpose that is legitimate for government action is a “public use” that can justify the exercise of eminent domain to take property. Thus, for example, the Court stated in its 1954 decision *Berman v. Parker*, “Once the object is within the authority of Congress, the right to realize it through the exercise of eminent domain is clear. . . . Once the object is within the authority of Congress, the means by which it will be attained is also for Congress to determine.”¹⁴⁷ Upholding the rule of *Berman v. Parker* in its 1984 decision *Hawaii Housing Authority v. Midkiff*, the Court insisted that “[t]he ‘public use’ requirement is . . . coterminous with the scope of a sovereign’s police powers,” and “where the exercise of the eminent domain power is rationally related to a conceivable public purpose,” the Court will uphold its constitutionality.¹⁴⁸ In its 2005 decision, *Kelo v. City of New London*, the Supreme Court approved of the *Berman-Midkiff* line of authority, citing both cases before stating that “[f]or more than a century, our public use jurisprudence has wisely . . . afford[ed] legislatures broad latitude in determining what public needs justify the use of the takings power.”¹⁴⁹

At the same time, the Court has developed a different and unexpected set of restrictions on the state’s power to take property. The Fifth Amendment requires the payment of just compensation only when property is “taken” but not when it is otherwise diminished in value. Had it wished, the Court might have left legislatures near-absolute discretion in determining what a “taking” is, just as legislatures now enjoy near-plenary authority in determining what constitutes a “public use.” Had the Court chosen this course, the state would be required to pay just compensation only if it labeled its action an exercise of the power of eminent domain but not if it chose to describe its action in terms of the government’s regulatory or taxing powers. In the landmark 1922 case *Pennsylvania Coal Co. v. Mahon*, the Court decided to limit the discretion

146. U.S. Const. amend. V; *Brown v. Legal Found. of Wash.*, 538 U.S. 216, 231–32 (2003).

147. 348 U.S. 26, 33 (1954).

148. 467 U.S. 229, 240–41 (1984). As Professor Ellen Frankel Paul notes, [T]he court’s meaning [is] unmistakable. . . . [T]he eminent domain power is as broad as the police power: whatever legislatures can regulate, they can also take. . . . Why is this so significant? Because if the police power is virtually unlimited in its purview (as, indeed, it has been since the Court abandoned substantive due process in the late 1930s), then so is eminent domain. This in effect, reads the public use clause as a limitation on government takings, out of the Fifth Amendment.

Paul, *supra* note 16, at 101 (1987).

149. 545 U.S. 469, 483 (2005).

of the state in deciding when a government action is a taking.¹⁵⁰ Laying the groundwork for what would become known as the law of “regulatory takings,” the Court ruled that government regulation of property may be deemed a “taking” if it goes “too far,” even if the legislature refuses to call the action an exercise of eminent domain.¹⁵¹ Regulatory takings law determines when the government has gone too far, and courts must consider the action a taking, even though not labeled an act of eminent domain.¹⁵²

The result of judicial glosses on the Fifth Amendment is thus best understood as placing two limitations on government takings. First, while the state has near-absolute discretion in deciding when to exercise the power of eminent domain, its choice to refuse to label an action “eminent domain” will sometimes be disregarded by courts, based on the complex doctrines of the law of regulatory takings. Second, if the state does “take” property—whether due to a declared exercise of eminent domain or due to an action deemed a “regulatory” taking—it must pay just compensation to the aggrieved owner.

A. *De Minimis Takings*

The constitutional framework for takings law is crucial to bear in mind when considering a first potential objection to our proposal. Some might argue that our proposal is overkill. It requires the state to offer a put option to landowners, creating the possibility that the state will be forced to acquire the entire asset, even when the state takes only a trivial portion of the property.

The rigidity of the Supreme Court’s regulatory takings jurisprudence reinforces this objection. The Supreme Court has steadfastly held to the view that any permanent physical occupation, slight though it may be, constitutes a taking for constitutional purposes (and, thus, a taking for which just compensation must be paid). Recall the case of *Loretto*, which involved a municipal ordinance requiring that landlords not interfere with the placement of hardware and cables for cable television service on private residential property.¹⁵³ The ordinance in question did not use the term “eminent domain;” it was, by all appearances, merely a regulation of property management. Moreover, the physical objects, whose placement the ordinance mandated, occupied only a few square inches of the building’s exterior.¹⁵⁴ Nonetheless, the Court clung to the rule that a physical taking of any size demanded the payment of just compensation.¹⁵⁵ In that particular case, the New York Court of Appeals,

150. 260 U.S. 393, 415–16 (1922).

151. *Id.* at 415.

152. See *infra* section IV.C.

153. *Loretto v. Teleprompter Manhattan CATV Corp.*, 458 U.S. 419, 423 (1982).

154. *Id.* at 422; *id.* at 454 n.11 (Blackmun, J., dissenting).

155. *Id.* at 421 (majority opinion).

upon remand, upheld the power of the commission to determine just compensation of a single dollar.¹⁵⁶

The rule that any permanent physical occupation constitutes a compensable taking poses a challenge to our proposal. In its basic form, our model would empower owners who suffered minor permanent intrusions to force a sale of their entire interest to the government. Such a result is undesirable from a social standpoint. Most minor intrusions and occupations do not affect the characteristics or marketability of the underlying asset. Nor do they create a risk of strategic abuse on the part of the government. Hence, trifling incursions do not normally necessitate a transfer of ownership to the government.

To reflect this fact, we propose that de minimis takings be exempted from our model. To operationalize this exemption, we would grant the government, in appropriate cases, the power to seek in court a declaratory judgment that its actions would result in a de minimis taking—an occupation that causes only a token harm to the owner. The owner, for her part, would receive an opportunity to convince the court that the occupation would occasion upon her more than a de minimis harm. Should the court grant the government its request and classify the taking as de minimis, no put option would be given to the owner, and, a fortiori, she would not be able to exercise it. On the other hand, if the court were to reject the government's claim that the occupation at hand is merely de minimis, the owner would receive a put option and would be entitled to exercise it at her will within the three-month window.

Whether a particular occupation counts as a de minimis taking would depend on the value of the property taken and the taking's effect on the use and marketability of the property. By our lights, a case like *Loretto* would clearly come within the de minimis exception and would not vest a put option in the property owner. Other physical occupations whose impact exceeded that of *Loretto* would be judged based on their circumstances. It can be added that the partial takings examples we discussed in section I.A, which involved the partial takings of land for the expansion of roads, navigation routes, and sand dunes, would almost certainly fall outside the scope of de minimis takings.

B. *Government Landholdings*

A second potential objection to our proposal concentrates on the shortcomings of the government as a landowner. The gist of this objection is that implementation of our proposal might ultimately increase the landholdings of the state. Indeed, since the put option would be most likely exercised when the partial taking leaves an unusable remainder asset, our proposal might put in the hands of the government relatively

156. *Loretto v. Teleprompter Manhattan CATV Corp.*, 446 N.E.2d 428, 432 (N.Y. 1983).

unmarketable lots, since owners of such lots may disproportionately exercise the put option we would give them. This, in turn, might lead to three kinds of undesirable effects. First, the government might not be the optimal owner of the asset but might not be able to dispose of the lots transferred to it. Second, during the period in which the government would hold the asset, it would bear the costs of management and maintenance. Third, aside from the costs of management and maintenance, the government might manage the land poorly or suboptimally.

While acknowledging that the widespread availability of a put option might have some effect on the amount of property ultimately taken by the state in eminent domain actions, we believe that any fears lying behind this potential objection would be overblown. It must be kept in mind that while the put mechanism in our proposal is novel, there are already provisions in the laws of many states that recognize that partial takings may result in poor configurations of the remaining untaken assets. Indeed, the Uniform Eminent Domain Code requires states to offer to acquire the “uneconomic remnant” that remains after the “acquisition of only part of a property”—that is, after a partial taking.¹⁵⁷ While these rules require governments to expose themselves to the risk of acquiring more than they intended every time they engage in a partial taking, they do not seem to have resulted in greatly increased government landholdings. The reason for this is twofold. First, states considering embarking upon partial takings are aware of the rules in advance and will naturally consider the potential for broader takings than expected. If the economic burden of the broader takings renders the project no longer cost effective, the state will have the option not to embark upon the project at all. Second, even if most takings are partial takings, the amount of property taken by eminent domain remains a very small portion of the total amount of property in the country. Even if the state revolutionizes its compensation practices for partial takings, the total effect on landholdings in the country will still remain relatively small.

Additionally, the problems of government acquisitions of unmarketable portions of land, or “uneconomic remnants,” should not be exaggerated. It is the partial taking, rather than the put option, that renders the

157. Unif. Eminent Domain Code § 208(a) (Unif. Law Comm’n 1974); see also Alaska Stat. § 34.60.120(9) (2016); Del. Code Ann. tit. 29, § 9505(9) (2017); Haw. Rev. Stat. Ann. § 113-5(9) (LexisNexis 2013); Me. Rev. Stat. Ann. tit. 23, § 154-C (1992); Mont. Code Ann. § 70-31-301(9) (2015); Okla. Stat. Ann. tit. 27, § 13(9) (West 1997); Utah Code Ann. § 57-12-13(9) (LexisNexis 2010); Wash. Rev. Code Ann. § 8.26.180(9) (West 2017).

An interesting variant can be found in Minnesota. There, the “Buy Your Farm” state law, which is not based on the Uniform Eminent Domain Act, allows owners of partially taken properties to force a purchase of the remainder within sixty days. Minn. Stat. § 216E.12(4) (2016). The provision is limited in several important ways. First, it applies only to acts of eminent domain by utilities. *Id.* Second, it allows the utilities to object and force the dispute into district court. *Id.* Third, and most importantly, the district court is instructed not to force the sale if the remainder lacks commercial viability. *Id.*

remaining part of the asset unmarketable or uneconomic. The put option simply forces the state to take full account of the cost of creating such remnants. To the degree that this improves government decisionmaking about partial takings, the placement of the burden on the state ought to be welcomed.

Likewise, the problem of government administration and management of untaken portions of land should not be exaggerated. Governments already own vast amounts of land in the United States. The put option comes into play only if the state has already decided to engage in a partial taking. That is, the put option is relevant only when the state has already decided to increase its property holdings.

A final note is in order about the constitutionality of the put option, given the broader constitutional background of the takings power. As should be evident from the existing provisions of the Uniform Eminent Domain Code, there is no reason to fear that the state lacks power to take the remaining land, whether in response to exercise of the put option or due to a new decision of the state to seize the remainder by eminent domain. Even if the state chooses to take the remainder only in order to retain useful land configurations, this is the sort of “public use” that would likely pass constitutional muster under the very forgiving modern jurisprudence of public use. If the state takes the remainder due to exercise of the put option, the constitutional issue becomes even easier. Arguably, when the state acquires the land at the behest of the owner exercising the option, it is not engaging in an act of eminent domain at all. Rather, it is engaging in a voluntary purchase of land, which does not need to be justified as a “public use.”

IV. EXTENSIONS

In this Part, we explore several extensions to our basic proposal. First, we evaluate an alternative means of implementing our proposal, in which the option prices would be determined by self-assessment, rather than by the courts. Second, we explain how our model can be extended to partial chattel takings. Third, and finally, we consider and reject the possibility of using our model to regulate partial regulatory takings.

A. *Self-Assessment*

Our model is based on utilizing existing legal doctrines for appraising the value of property affected by partial takings. A more ambitious version of this model would offer a self-assessment mechanism that would enable owners of property the government intends to take to state the value of the taken part as a percentage of the overall value.¹⁵⁸ In this

158. For a broader discussion of the benefits of self-assessment, see generally Bell & Parchomovsky, *Taking Compensation Private*, *supra* note 40, at 895–900 (describing self-assessment as an “improvement over existing takings compensation doctrine” because it

variant, once the government declared its intent to engage in a partial taking of a certain percentage (size-wise) of a private parcel, the owner would receive an opportunity to self-assess the value of the targeted portion (percentage-wise) relative to the whole.

To illustrate how the proposed mechanism would work, assume that a municipality publicizes its intent to take 40% of Anne's parcel to expand a local road. To this end, the government secures an appraisal of Anne's entire parcel, which states that the value of the lot as a whole is \$200,000. At this point, Anne would receive an opportunity to report her own assessment of the ratio of the value between the 40% portion designated to be taken and the property as a whole. For example, Anne might estimate that the value of the part designated for taking is not 40% of the whole but actually 65%. Once Anne submits her self-assessment, the government could choose among two different options: Either it could take the part it originally planned to take and pay Anne 65% of the value of entire lot (\$130,000), or it could take the whole parcel and pay Anne full compensation in the amount of \$200,000. Anne would also have the ability to exercise her put option, forcing the government to take the remainder of the land for an additional \$70,000. We assume, for purposes of this example, that the government's appraisal of the parcel as a whole is correct; if Anne were to litigate this appraisal, the court could determine a different value for the parcel as a whole, while still accepting Anne's self-assessment of the relative value of the taken segment. For instance, if the court were to determine that the value of the lot as a whole was actually \$220,000, Anne's self-assessment of 65% would still stand, but the government's choice would now be between paying Anne \$143,000 to take the segment of the lot or paying her \$220,000 and taking the whole lot.

Self-assessment potentially brings two benefits.¹⁵⁹ First, self-assessment lowers the cost of assessing the value of the partially taken land. Neither party would have to bring expert witnesses to the court, nor would the court have to engage in any difficult analysis of the competing assessments. The property owner would simply have to make a declaration. Only if the parties disagreed about the value of the parcel as a whole would it be necessary to battle in court about appraisals, and, even then, the battle would be about only the value of the parcel as a whole, making it unnecessary to introduce any proof about the value of the taken segment or its interaction with the parcel as a whole.

"ensures the payment of full compensation to condemnees" and "represents a reduction in transaction costs relative to the existing regime").

159. Bell & Parchomovsky, *Takings Reassessed*, supra note 25, at 300; see also Fennell, *Taking Eminent Domain Apart*, supra note 92, at 959 (noting "principles of self-assessment might be employed to overcome the difficulties associated with forced sales in situations where public use is contested"); Levmore, supra note 108, at 771 (arguing self-assessment provides an alternative to valuations by judges, tax assessors, appraisers, and juries, which can "generate substantial transacting costs").

Second, self-assessment potentially yields a more accurate approximation of the value of the partially taken land.¹⁶⁰ This is due to the strategic pressures the options create. An understatement of the value of the partial taking makes the partial taking cheaper for the government and renders it unlikely that the government will choose to seize the remainder of the land. There is little reason for a property owner to understate value in this way; the best the owner can achieve with such an underestimation is to later cut her losses by exercising her put, making the government take the entire property at the court-set price (which the owner could always have done under this model, irrespective of the self-assessed price). It is more likely that a property owner would be tempted to overstate the value of the partially taken property. This would increase the compensation paid for the partial taking and therefore put more money in the hands of the owner, for the time being. However, the overestimation would also mean the untaken remainder of the property was underpriced. This would encourage the government to exercise its call option (its power of eminent domain) and take the rest of the property. Again, there would be little to recommend misstating the value in this way; while the self-assessment would encourage the government to exercise its call option, the owner could always exercise the put option to the same effect, without misstating the value.

To be sure, the self-assessed value will be imperfect due to the anchoring effect of the court's assessment of the value of the whole parcel. For instance, it would not make sense for an owner to attempt to use self-assessment to capture extra subjective value that she attaches to the parcel. This is because the compensation for the whole parcel will not include such subjective value.¹⁶¹ Including a large subjective value in the self-assessment of the partial taking would have the same effect as an exaggerated self-assessment: It would encourage the government to exercise its call option to take the rest of the property. At that point, the owner would not only lose compensation for the subjective value; she would also lose the entire parcel.

There is, however, one flaw with self-assessment in the context of partial takings. Government decisions to take property are not purely pecuniary.¹⁶² Even if the remainder property looks cheap due to an exag-

160. See Bell & Parchomovsky, *Taking Compensation Private*, *supra* note 40, at 891–95 (discussing self-assessment and strategic pressures for truthful reporting).

161. See *supra* note 40 and accompanying text.

162. Even theories of “fiscal illusion,” which presume an important role for fiscal factors in the decision to take property, do not presume that the government will take property simply because the compensation that will be paid is below market. Rather, theorists who believe in fiscal illusion believe in the much more modest proposition that government decisions regarding takings are distorted by the fact that certain costs are off-budget. “Fiscal illusion” is, itself, a highly debated phenomenon. See *supra* note 38 and accompanying text. Those who reject theories of fiscal illusion naturally would reject the idea that the government takes property solely because the compensation to be paid will be below market.

gerated self-assessment of the value of the partial taking on the part of the owner (Anne in our example), the government might still prefer to refrain from exercising its call option. If the owner could properly identify situations in which the government would refrain from taking the cheap remainder, it would be to her advantage to overstate the value of the partial taking. Such an overstatement would ensure a greater payment at the time of the partial taking, and the reluctance of the government to exercise its call option would make the owner secure in the belief that the overstatement will stand.

B. *Partial Chattel Takings*

Takings are not restricted to land. While our proposal presumes that the partially taken asset is real estate, there is nothing in the law that restricts partial takings to realty. Indeed, some of the most prominent takings controversies in recent years have involved chattels, such as raisins,¹⁶³ intellectual property,¹⁶⁴ and interest income on bank account funds.¹⁶⁵ Yet, while it is easy to find partial takings of chattels, adapting our mechanism to chattel takings requires some adjustment.

The major issue that deserves special attention in the context of chattels is the definition of the asset. Our proposal for options that can reunify a partially taken asset is driven primarily by the advantages of the unified asset—easier evaluation, avoidance of suboptimal configurations, and the like. However, assets are not defined in heaven.¹⁶⁶ One cannot a priori determine what an asset in property is. Even in the context of partial takings of land, defining the asset can be difficult. Land does not always come with clearly drawn border lines. Even in cases in which an individual owns one continuous area of land, the land might best be seen as multiple parcels. Conversely, the discrete holdings of several individuals might best be seen as collectively composing a single parcel. As we

163. *Horne v. Dep't of Agric.*, 133 S. Ct. 2053, 2056 (2013) (holding that California raisin farmers who were forced to forfeit the portion of their supply in excess of a production limit set by California's Secretary of Agriculture could challenge the forfeiture under the Fifth Amendment).

164. See Dustin Marlan, Comment, Trademark Takings: Trademarks as Constitutional Property Under the Fifth Amendment Takings Clause, 15 U. Pa. J. Const. L. 1581, 1583–85 (2013) (contending that “‘proPERTIZATION’ of the trademark regime, together with constitutional property dimensions favorable to trademark law, supports the claim that trademarks ought to be subject to the Takings Clause”). But see *Zoltek Corp. v. United States*, 442 F.3d 1345, 1350–51 (Fed. Cir. 2006) (holding that patent infringement cannot form the basis for a Fifth Amendment taking under the Tucker Act).

165. *Brown v. Legal Found. of Wash.*, 538 U.S. 216, 231–34, 237 (2003) (holding that the state of Washington was permitted to use interest on lawyers' trust accounts for clients to pay for legal services for indigent litigants under the Fifth Amendment's public use doctrine and that no compensation was owed).

166. See Abraham Bell & Gideon Parchomovsky, Reconfiguring Property in Three Dimensions, 75 U. Chi. L. Rev. 1015, 1024 (2008) (discussing the role of asset configuration in optimizing value).

discussed in the context of offsets, the law often focuses on the owner rather than the number of parcels in deciding whether to consider a taking to be partial.¹⁶⁷ Specifically, the law may consider a taking “partial” when only part of an owner’s realty is taken, even though the taking is of one or more discrete parcels.¹⁶⁸

These difficulties are greatly compounded when chattels are taken. To be sure, there are easy cases. When discussing an automobile, for instance, the car as a whole is clearly a discrete asset, and if the government sought to seize the hood, or a door, we would easily identify the proposed taking as a partial taking. But if the “taking” is of some or all of the interest paid to a bank account—the kind of taking addressed by the Supreme Court in *Phillips v. Washington Legal Foundation*¹⁶⁹—it is harder to find an asset whose completeness is of interest to us. Of course, it is possible to talk about a bank account as an “undivided” asset.¹⁷⁰ The seizure of half the money in a bank account could thus be described as a “partial taking.” But it is unclear why we should care that this taking is partial. The cash in a bank account—whether the full bank account or only half—is just as easily measured in value and just as easily used in the marketplace. The difficulties we described as characteristic of partial takings of land¹⁷¹ would seem inapposite.

We therefore suggest that if our proposal were to be used in the context of chattel takings, it should be modified to take account of the difficulty in identifying assets whose wholeness should be protected. We suggest that the option created for a partial taking—the owner’s put—should be created only after a preliminary examination by the court of the asset in question. Specifically, in order to trigger our partial takings mechanism, the owner would have to prove to the satisfaction of the court that the taken property was only a part of a larger asset, that the larger asset was one whose “wholeness” was valuable enough to warrant legal protection, and that the value of the “whole” asset could readily be measured by the court. Only if the court made this finding would the court proceed to the rest of the steps in our proposal: measuring the value of the asset as a whole and of the portion taken, and setting the strike price for the put option.

We anticipate that, in some cases, the showing of the value of asset wholeness would be easy, as in the takings of part of a boat or a car. In other cases, such as cash, such a showing would be near impossible. Finally, there would be cases that lend themselves to a showing of the

167. See *supra* section I.B.1.

168. See *supra* section I.B.1.

169. 524 U.S. 156, 160 (1998).

170. E.g., *In re Will of Filfiley*, 313 N.Y.S.2d 793, 795–96, 803 (Sup. Ct. 1970) (noting that a testator’s “undivided half is not readily alienable and he can under no circumstances convey the whole without his joint tenant joining in the deed”).

171. See *supra* section I.C.

importance of “wholeness” but are not always clear cut, such as the seizure of shares of a corporation or a share of a piece of intellectual property.

C. *Partial Regulatory Takings*

Our model has concerned itself so far with physical seizures of property, whether land or chattels. In this section, we assess the applicability of our model to regulatory takings.

Regulatory takings doctrine is perhaps the most complex doctrine within the world of takings and, indeed, one of the most controversial and difficult in the world of law.¹⁷² Generally speaking, regulatory takings doctrine is designed to identify situations in which a government actor negatively influences the value of property while purporting to exercise a power other than the power of eminent domain.¹⁷³

According to the Takings Clause of the U.S. Constitution, the government must pay “just compensation” to any owner whose property is “taken for public use” but not to owners whose property values are affected by non-“takings.”¹⁷⁴ This is true for many state constitutions as well.¹⁷⁵ Naturally, seizures of property by eminent domain are “takings.”¹⁷⁶ But government regulation of property may be deemed a “taking” as well, if it goes “too far.”¹⁷⁷ The problem and the controversy lie in determining when government action goes “too far.”

Courts developed a variety of doctrines to help draw the line between actions that have gone too far—regulatory takings that are unconstitutional unless accompanied by the payment of just compensa-

172. See, e.g., J. Peter Byrne, Ten Arguments for the Abolition of the Regulatory Takings Doctrine, 22 *Ecology L.Q.* 89, 90 (1995) (arguing for the negation of regulatory takings); Holly Doremus, Takings and Transitions, 19 *J. Land Use & Envtl. L.* 1, 1 (2003) (describing regulatory takings doctrine as “famously incoherent”); Daniel A. Farber, Public Choice and Just Compensation, 9 *Const. Comment.* 279, 279 (1992) (“[T]akings doctrine is a mess.”); Mark Fenster, The Stubborn Incoherence of Regulatory Takings, 28 *Stan. Envtl. L.J.* 525, 529–30 (2009) (noting the “messiness” of regulatory takings doctrine and suggesting that it is inevitable); Eduardo Moisés Peñalver, Regulatory Takings, 104 *Colum. L. Rev.* 2182, 2186 (2004) (“Takings Clause jurisprudence is characterized by nothing if not the confusion and intense disagreement it generates.”); Carol M. Rose, *Mahon* Reconstructed: Why the Takings Issue Is Still a Muddle, 57 *S. Cal. L. Rev.* 561, 561–62 (1984) (calling takings “[b]y far the most intractable constitutional property issue”).

173. For a comprehensive discussion, see generally Fischel, *supra* note 42; Bill Higgins, Inst. for Local Gov’t, Regulatory Takings and Land Use Regulation: A Primer for Public Agency Staff 6 (2006), <http://mrsc.org/getmedia/FB8A8201-E2CC-453B-BE00-AECEFA196562/m58takings.aspx> [<http://perma.cc/3Z6X-SHL7>].

174. U.S. Const. amend. V.

175. See generally Nakagiri, *supra* note 145, at 15, 18–19 (contending that “state takings provisions arguably provide greater protection of private property than does the federal Takings Clause”).

176. E.g., *Loretto v. Teleprompter Manhattan CATV Corp.*, 458 U.S. 419, 426 (1982).

177. *Pa. Coal Co. v. Mahon*, 260 U.S. 393, 415 (1922).

tion to owners—and those that have not—exercises of the regulatory power whose burdens must be suffered by owners.¹⁷⁸

Two rules are particularly important for our analysis of partial takings. One of these rules is the “total wipeout” rule established by *Lucas v. South Carolina Coastal Council*.¹⁷⁹ According to the ruling in *Lucas*, a government action that completely wipes out all commercial value of property is a per se taking, for which compensation must be paid.¹⁸⁰ By contrast, the approach generally followed in cases in which there is no wipeout is the balancing test established by *Penn Central Transportation Co. v. New York City*.¹⁸¹ Under the *Penn Central* approach, there are no hard-and-fast rules on identifying a regulatory taking. Instead, courts must make case-by-case determinations by evaluating the facts in light of three case-specific factors: the owner’s reasonable investment-backed expectations, the nature of the government action, and the degree of diminution in property value.¹⁸²

Questions associated with partial takings are particularly relevant to the issue of partial regulatory takings. Two clusters of potential partial regulatory takings cases can be identified.

One cluster involves regulations that do not wipe out all commercial value of a property in perpetuity but do wipe out all value for a period of time or all value of some of the property. Consider, for instance, the case of *Palazzolo v. Rhode Island*.¹⁸³ In *Palazzolo*, the Court had to consider whether the owner of seventy-four lots of land (the result of subdividing three parcels that had been bought together) could claim the benefit of the total wipeout rule when some of the downland lots had lost all their commercial value, while some of the upland lots retained significant value.¹⁸⁴ As in all cases of partial regulatory takings, the Court declined to find a total wipeout. Instead, the Court ruled that all the lots should be considered together for purposes of the taking (just as courts rule that all lots should be considered together for purposes of evaluating the applicability of the offset doctrine in cases of partial takings¹⁸⁵) and that since some value was retained, there was no total wipeout.¹⁸⁶ Similarly, in

178. See e.g., Raymond R. Coletta, *The Measuring Stick of Regulatory Takings: A Biological and Cultural Analysis*, 1 U. Pa. J. Const. L. 20, 20–22 (1998) (discussing the rules used to determine when regulation requires payment of compensation under the Takings Clause).

179. 505 U.S. 1003, 1019 (1992).

180. *Id.* There are some exceptions to this rule, such as total wipeouts that are attributable to abating a nuisance that would traditionally have been recognized as such. See Coletta, *supra* note 178, at 79 n.283.

181. 438 U.S. 104, 124 (1978).

182. *Id.*

183. 533 U.S. 606 (2001).

184. *Id.* at 613–16.

185. See *supra* section I.B.1.

186. *Palazzolo*, 533 U.S. at 630–31.

the case of *Tahoe-Sierra Preservation Council, Inc. v. Tahoe Regional Planning Agency*, the Court considered a regulation that wiped out all commercial value of certain lands during a moratorium period in which no construction was allowed.¹⁸⁷ The moratorium was lifted after several years, and on that basis, the Court determined that there had been no total wipeout.¹⁸⁸

A second, and broader, cluster of cases involves what is known as the “parcel as a whole” rule, or the “denominator problem.”¹⁸⁹ This cluster of cases involves court interpretations of the prong of the *Penn Central* balancing test that requires courts to consider the degree to which the regulation has diminished property value.¹⁹⁰ In order to assess diminution in property value, courts must first determine the baseline from which such diminution is to be measured. The facts of *Penn Central* are illustrative. In *Penn Central*, the Court considered whether an early historic-preservation law (New York’s Landmarks Preservation Law) had worked a regulatory taking by forbidding development of Grand Central Station in New York.¹⁹¹ The Court engaged in an explicitly “ad hoc” factual inquiry that examined many aspects of the particular property.¹⁹² One argument that the property owner raised in its own favor was that the regulation essentially deprived the Penn Central Transportation Company of all ability to profit from air rights above Grand Central Station.¹⁹³ The Court was unsympathetic. The Court insisted that what ought to be examined is the “parcel as a whole—here, the city tax block designated as the ‘landmark site.’”¹⁹⁴ In other words, the Court said when courts evaluate whether a regulation unduly diminishes property value, courts should aggregate, rather than disaggregate, the owner’s holdings. Courts should not be bound by the manner in which the land is divided for future potential deeds; rather, courts should aggregate related pieces of land into a single “whole parcel.” Obviously, the more land aggregated into the “whole parcel,” the less any single regulation will be thought to have proportionately diminished its value.¹⁹⁵

187. 535 U.S. 302, 311–12 (2002).

188. *Id.* at 330–31.

189. See Michelman, *supra* note 42, at 1192; Danaya C. Wright, A New Time for Denominators: Toward a Dynamic Theory of Property in the Regulatory Takings Relevant Parcel Analysis, 34 *Envtl. L.* 175, 190–91, 218 (2004).

190. Wright, *supra* note 189, at 188.

191. *Penn Cent. Transp. Co. v. New York City*, 438 U.S. 104, 115–17 (1978).

192. *Id.* at 124.

193. *Id.* at 130.

194. *Id.* at 131.

195. See *Palazzolo v. Rhode Island*, 533 U.S. 606, 631–32 (2001) (“The case comes to us on the premise that petitioner’s entire parcel serves as the basis for his takings claim, and, so framed, the total deprivation argument fails.”); *Lucas v. S.C. Coastal Council*, 505 U.S. 1003, 1016–17 & n.7 (1992) (discussing whether an owner who cannot develop 90% of his tract “has been deprived of all economically beneficial use of the burdened portion of the tract, or . . . has suffered a mere diminution in value of the tract as a whole”).

The “parcel-as-a-whole” rule, and more generally partial regulatory takings, has been subject to fierce scholarly debate.¹⁹⁶ Some have suggested that the Court artificially reduced the likelihood that a regulation will be viewed as a regulatory taking and decried the judicial deference.¹⁹⁷ Others have celebrated the Court for seeing through an obvious manipulation, denying owners the ability to engage in pretend divisions of the property (conceptual severance, in Margaret Radin’s felicitous phrase¹⁹⁸) and thereby blocking artificial inflation of regulatory takings claims. Be that as it may, the judicial approach to date has been clear. According to the courts, there are no “partial regulatory takings.” A regulatory taking, if it occurs, relates to the entirety of the affected asset. We have to consider the whole of the asset. Even if there is a partial wipeout of value, or a total wipeout for a limited time (whose limits are not initially known), it’s a matter for the balancing test.

Land is considered to have been either subject to a “regulatory taking” or not subject to such a taking.¹⁹⁹ One cannot divide things up and say that part has been subject to a regulatory taking and another part has not. The contrast to physical takings could not be sharper. Courts consider the physical seizure of even a very small part of a large parcel a per se taking, for which just compensation must be paid.²⁰⁰ But the

196. See David Dana, *Why Do We Have the Parcel-as-a-Whole Rule*, 39 Vt. L. Rev. 617, 621–24 (2015) (arguing the parcel-as-a-whole rule is superior to its alternatives); Steven J. Eagle, *The Parcel and Then Some: Unity and Ownership and the Parcel as a Whole*, 36 Vt. L. Rev. 549, 565–67 (2012) (arguing for a narrow application of the parcel-as-a-whole rule that does not aggregate separately titled lots); Daniel L. Siegel, *How the History and Purpose of the Regulatory Takings Doctrine Help to Define the Parcel as a Whole*, 36 Vt. L. Rev. 603, 618 (2012) (arguing for a broad application of the parcel-as-a-whole rule that generally supports aggregation of contiguous lots, even if separately titled); John E. Fee, *Comment, Unearthing the Denominator in Regulatory Takings Claims*, 61 U. Chi. L. Rev. 1535, 1557–58 (1994) (arguing for a very limited application of the parcel-as-a-whole rule that would treat as separate any horizontal segment of land that has independent economic viability); Keith Woffinden, *Comment, The Parcel as a Whole: A Presumptive Structural Approach for Determining When the Government Has Gone Too Far*, 2008 BYU L. Rev. 623, 638–40 (proposing an alternative to the holding in *Penn Central* whereby courts would include contiguous property held by the same owner when determining the relevant parcel).

197. See Epstein, *Lucas v. South Carolina*, *supra* note 43, at 1376–77.

198. Margaret Jane Radin, *The Liberal Conception of Property: Cross Currents in the Jurisprudence of Takings*, 88 Colum. L. Rev. 1667, 1674 (1988).

199. *Tahoe-Sierra Pres. Council, Inc. v. Tahoe Reg’l Planning Agency*, 535 U.S. 302, 327 (2002) (“[The Court] does not divide a single parcel into discrete segments and attempt to determine whether rights in a particular segment have been entirely abrogated. . . . [T]his Court focuses rather both on the character of the action . . . and extent of the interference with rights in the parcel as a whole” (internal quotation marks omitted)) (quoting *Penn Central*, 438 U.S. at 130–31)).

200. *Loretto v. Teleprompter Manhattan CATV Corp.*, 458 U.S. 419, 426–35 (1982) (holding that, regardless of size, a permanent physical occupation by the government—or a third party authorized by the government—constitutes a taking for which just compensation is due under the Fifth and Fourteenth Amendments).

regulatory taking of a huge portion of value of a parcel is not necessarily a taking,²⁰¹ and the effects must be considered for the “parcel as a whole.”

One might imagine an extension to our proposal in which we would tackle partial regulatory takings just as we suggest treating partial physical takings. A call option in the hands of the government and a put option in the hands of the owner would accompany any regulation that diminished property value. This would bring a completely new approach to “whole parcel” questions. Essentially, a parcel would be whole if the owner wanted it to be such (as proved by exercise of the put) but not otherwise.

Unfortunately, however, we cannot see how our proposal can easily be transferred to the world of partial regulatory takings. The greatest problem is establishing the strike price. Unlike in cases of partial physical takings, “partial regulatory takings” do not require courts to assess precisely the value of the land rights taken. Except in the unlikely case in which the regulatory action is challenged as a regulatory taking, the courts may entirely ignore the value of the “taking.” Even in the context of a regulatory takings challenge, the *Penn Central* test does not require a precise measure of the value of the “taking” in order to determine whether a regulatory taking has taken place; it is sufficient for courts to use generalized statements.²⁰² Creating a mechanism for setting the strike price for the put and call options could thus be prohibitively expensive.

Moreover, we acknowledge that bringing our proposal to the world of regulatory takings would profoundly alter the world of regulation. Property regulation is ubiquitous.²⁰³ Potentially, every zoning change, or even property tax, is a regulatory taking.²⁰⁴ Giving the owner a put option to force a sale of her entire interest to the government whenever the government regulates property would turn every regulation into a taking (at the option of the owner). This would vastly expand the category of compensable regulatory takings. The administrative and judicial costs arising from the implementation of such a scheme would likely be enormous. We, therefore, caution against applying our model to regulatory takings. The boundary between physical and regulatory takings also demarcates the limits of our model.

CONCLUSION

The ubiquity of partial takings, together with the unique challenges they present, creates a clear case for creative solutions to longstanding problems posed by this important land use tool. A close inspection of current partial takings law reveals a handful of specialized doctrines that

201. E.g., *Penn Central*, 438 U.S. at 130–31 (eliminating essentially all air rights).

202. See *id.* at 123–24.

203. E.g., *Tahoe-Sierra Pres. Council*, 535 U.S. at 324.

204. See Epstein, *Takings: Private Property*, *supra* note 42, at 95.

courts adopted on an ad hoc basis to address specific problems without much attention to systemic effects and, in particular, to the misalignment these doctrines create between partial takings and total takings. Despite their immense practical significance, the takings world has largely ignored partial takings. This is unfortunate. The current approach fails to do justice to partial takings and comes at a significant cost to society.

In this Article, we carefully reviewed the defining characteristics of partial takings and then built upon our findings to devise a novel approach to partial takings that balances social and private interests. The key element of our approach is the creation of a new option that would empower the owner of the partially condemned lot, if she so chooses, to force the government to purchase the remainder of the asset. Per our proposal, the exercise of this option would be voluntary, which means that owners would exercise it only if doing so would be desirable. Our mechanism would guarantee that the layout of the affected parcels would not be distorted by partial takings that threaten to leave a remainder that is unusable or unmarketable. Our mechanism, when exercised by the owner, would also have the salutary effect of transferring the title to the taken parcel as a whole to a new single owner—namely, the government—giving it the full panoply of rights and powers that come with a fee simple interest. Finally, our proposal would reduce the transaction and litigation costs that currently attend instances of partial takings.

