

## **The Congressional Budget Office's "Regulatory Takings and Proposals for Change": One-Sided and Uninformed**

by: C. Ford Runge

C. Ford Runge

Distinguished McKnight University Professor of Applied Economics and Law  
University of Minnesota

### **About the Author**

C. Ford Runge is Distinguished McKnight University Professor of Applied Economics and Law at the University of Minnesota, where he also holds appointments in the Hubert H. Humphrey Institute of Public Affairs and the Department of Forest Resources. He received his Ph.D. in agricultural economics at the University of Wisconsin, his M.A. in economics as a Rhodes Scholar at Oxford University, and his B.A. at North Carolina-Chapel Hill. He is the author of numerous books and articles concentrating on natural resources and trade policy. He also owns and operates a small farm in Wisconsin.

### **Introduction and Summary**

This paper is a response to the U.S. Congressional Budget Office's December 1998 report entitled *Regulatory Takings and Proposals for Change*.<sup>1</sup> It describes the methods and assumptions CBO used to analyze the effects of government regulation on private property values, and identifies several fundamental flaws in CBO's approach. This evaluation of CBO's report will hopefully serve to correct CBO's one-sided and uninformed analysis, and foster a more balanced public understanding of the benefits and costs of regulation in general.

*Regulatory Takings and Proposals for Change* discusses a variety of so-called "takings," or "property rights," bills which have been introduced in Congress. The most famous of these proposals is the Contract with America's takings "compensation" provision, which passed the U.S. House of Representatives in March 1995 but was never adopted by the Senate. A modified version of the Contract with America takings compensation proposal, focusing on regulation under the federal Endangered Species Act, was the subject of a hearing before the House Committee on Resources in April 1999. Other pending takings proposals would establish new procedures for analyzing the potential takings implications of agency actions, or create new rights to sue local governments over land use issues in federal court.

While the CBO report makes no formal recommendations on any of these proposals, it identifies numerous practical and fairness concerns raised by the proposals. The fundamental flaws in the CBO report discussed below are especially striking because the report otherwise presents a detailed and sophisticated analysis of the relevant issues.

This critique of CBO's methods and assumptions is pertinent not only to takings proposals, but also to other legislative initiatives addressing the effects of regulation of property and business. For example, the CBO report might be thought to provide support for H.R. 350, the Mandates Information Act of 1999, passed by the U.S. House of Representatives on February 10, 1999, and now under consideration in the U.S. Senate. However, for the reasons discussed below, that reliance would be badly misplaced. The report also is relevant to various bills in the 106th Congress which mandate detailed accounting of the costs and benefits of federal regulatory actions, including S.746 and S.1244.

First, CBO incorrectly assumes that regulatory effects on property values are invariably negative. In fact, regulations often have positive effects on property values because regulations protect services and amenities that directly benefit property owners, including owners who are themselves subject to the regulations. These positive impacts must be considered, along with

negative impacts, in any balanced assessment of the effect of regulatory action. Furthermore, regulations typically have scarcity effects, limiting owners' ability to use their property, but increasing the value of the permitted property uses owners retain. By ignoring how regulation provides benefits-- not simply to the community as a whole, but to regulated property owners as well -the CBO has ignored elementary economic principles.

Second, the CBO report fails to acknowledge that other government actions positively affect private property values, sometimes substantially. Overall, the federal government, through regulation, private subsidies, and public investments, has very positive impacts on the value of private property.

**This evaluation of CBO's report will hopefully serve to correct CBO's one-sided and uninformed analysis, and foster a more balanced public understanding of the benefits and costs of regulation in general.**

The CBO report focuses on the adverse effects of certain regulatory actions, but ignores the net effect of the many different government actions that affect the value of property.

Finally, the CBO report pays scant attention to the large empirical literature documenting how regulation, and government action in general. This gap suggests that the CBO report is not grounded in the real world of government regulation. At best, these flaws render the CBO report of limited value in assessing the arguments for takings and related legislative proposals. At worst, they bias CBO's assessment and produce a serious underestimate of the fairness and practical difficulties with legislative proposals addressing the effects of federal regulation.

### **I. CBO's Methods and Assumptions**

The CBO report contains a wide-ranging discussion of issues related to regulatory takings proposals. This paper does not address the CBO report as a whole, but instead focuses on the methods and assumptions used by CBO in considering the likely effects of regulatory actions on property values. These methods and assumptions appear in Chapter 3 of the report in the context of a discussion of "reduction-in-value thresholds" which might be used to determine eligibility for compensation under various legislative proposals.

The CBO analysis starts (p. 22) with the fact that many takings proposals call for comparing the value of a property just before a government action with its value just afterward, measured in percentage terms:

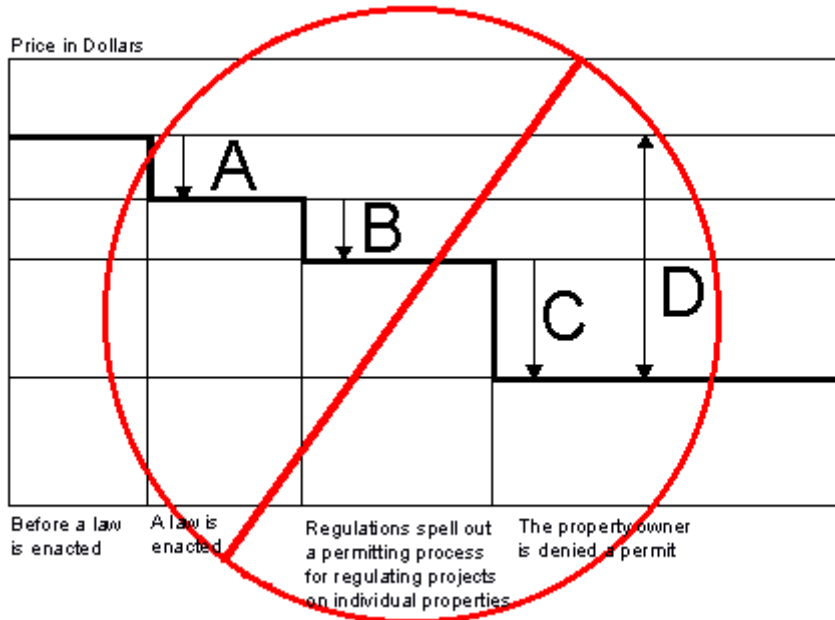
$$\frac{(\text{Value before the action}) - (\text{Value after the action})}{(\text{Value before the action})}$$

As the report acknowledges, there are various ambiguities in this formula.

One ambiguity relates to the definition of the relevant parcel. If an individual owns ten acres of property, and a regulation prohibits use of one acre of the property, the percentage reduction in value will vary greatly depending upon whether the unit of property is defined as the ten acres the individual owns or the one acre subject to the restriction. The U.S. Supreme Court has established the rule that a takings analysis must be conducted on the "parcel as a whole."<sup>2</sup> As the CBO report describes, most takings "compensation" proposals would instead define the relevant parcel as the portion of the property actually affected by the regulation, an approach that would obviously yield higher percentage reductions in value.

In addition, the CBO report points out that the task of calculating "before and after" figures is complicated by the owner's uncertainty and possible changes in regulatory policy over time. CBO sought to depict this more complex picture in a figure, reproduced on the next page.

Diagram from CBO Report Designed to Illustrate "Changes in the Value of a Property Caused by a Regulatory Program (Over time)"



**NOTE:** The figure assumes that the regulatory program is the only influence on prices. "A" is the change in the price of the property that reflects the shift in expectations about its use at the time a law authorizing a regulatory program is enacted. "B" is the change in the property's price that reflects the shift in expectations when new regulations establish a permitting system for converting the property to different uses. "C" is the change in the property's price that reflects the shift in expectations when a permit to alter the property is denied by the regulatory agency. "D" is the difference between the value of the property and the value if a permit is denied."

**SOURCE:** Congressional Budget Office.

The CBO report states (p. 25):

The highest value shown in the figure represents the situation before the law instituting the regulatory action is enacted - when there is no expectation of regulation. Once the law is considered and passed, however, the value of the property declines (arrow A); the drop reflects the increased chance that the property's use may be restricted. Note that the value of the property does not fall to the lowest point because of the remaining uncertainty about how the regulation will be applied. In other words, at that point (that is, when the law is enacted), the value of the property is discounted to reflect a risk of regulation, not the certainty of regulation.

Once the agency writes the rules and regulations necessary to implement the law, the price of the regulated property may change again. If the rules and regulations were more restrictive than was generally expected when the law was enacted, the value of the regulated property might fall again (arrow B). If the rules and regulations were less restrictive than expected, the value of the regulated property might rise. If the owner of the property applied for a permit to use the land in a particular way and the agency denied the permit (on the basis of the rules and regulations it implemented as a result of the law), the value of the property would be likely to fall to reflect the

certainty that it would be regulated (arrow C). In contrast, if the permit was approved and the law had no effect on the use of the property, the property's value would rise to the level it had reached before the enactment of the law (arrow D).

The crucial premise of this entire discussion, of course, is that regulatory restrictions can only affect an owner's property value adversely, and an owner's only hope for seeing a rise in his property value is when the restrictions are not enforced at all.

After discussing the difficulty of defining the exact point in the regulatory process when the effects of a regulation should be measured, the CBO report then moves on to discuss how such a computation might be made. First, the "before" and "after" values must somehow be determined based on real estate appraisals. As the report describes, these appraisals would require counterfactual judgments about the use to which the affected property would have been put in the absence of regulatory action. The report notes (pp. 29-31) that considerable uncertainty surrounds these issues, and that biased or impartial appraisals would be difficult to avoid.

The CBO report then discusses advantages and disadvantages of considering "investment backed expectations" in determining an owner's potential entitlement to compensation, and the difficulty of accurately determining these expectations. It observes that the courts have rejected claims for compensation in the case of regulatory actions that fall under the "nuisance doctrine," and discusses the complexities of proposals to extend takings principles to contract rights generally.

Taken on its own terms, the CBO report provides many reasons to doubt whether takings bills, and legislative proposals to award compensation based on reductions in value thresholds in particular, are practicable or fair. But the report suffers from a much more serious problem: it sidesteps the fact that government actions may have both positive as well as negative effects on property and on those who are affected by government actions. The theoretical and empirical shortcomings of the CBO report are considered below.

## **II. CBO's Methods and Assumptions: A Critique**

The CBO report contains two fundamental flaws, and several additional methodological shortcomings. The two basic flaws are:

- The CBO report improperly assumes that the impacts of regulation on owners are exclusively negative, neglecting the substantial positive effects of regulation.
- The CBO report fails to provide a justification for focusing on certain regulatory actions that negatively affect property values, to the exclusion of other government actions which often yield significant net positive effects on property values.

In addition, the CBO report contains the following important shortcomings:

- It does not account for the leads and lags of a government action and its impacts on property value.
- It fails to provide a coherent definition of an appropriate baseline from which to measure "reductions" in value.
- It fails to take into account that a reduction-in-value standard would provide greatest "protection" for properties with the lowest economic value.
- It acknowledges, but offers no remedy for, the strategic incentives of property owners and appraisers to overstate losses and to misrepresent expectations of investment values.

Together, these methodological problems render the CBO analysis of how regulation affects property values almost useless as a guide to practical policy. I will address each of these

methodological flaws in turn below. In the next section I address the empirical evidence ignored in the CBO report, which demonstrates that government regulatory and other actions often positively affect property values.

- The CBO report improperly assumes that the impacts of regulation on owners are exclusively negative, neglecting the substantial positive effects of regulation.

The CBO report proceeds on the assumption that the effects of regulation on property values are entirely negative, as illustrated in Figure 1 of the CBO report, reproduced on page 4. The value of property after the adoption of a regulation is shown never to rise above its value before the action. The only possibility for positive effects is when the rules and regulations "were less restrictive than expected," in which case the value of the restricted property would not fall as far.

**The CBO report focuses on the adverse effects of certain regulatory actions, but ignores the net effect of the many different government actions that affect the value of property.**

In the limit, if the regulation had no effect on the use of property, its value would "rise to the level it had reached before enactment of the law." By assumption, there is no possibility granted of a government action enhancing or protecting the value of property.

An alternative interpretation of the CBO methodology might be that positive effects are present, but CBO did not think they were worth accounting for, since its focus was only on "takings." But no serious economist would propose that an analysis of costs be conducted without considering benefits. Moreover, in an analysis which focuses upon the abstract "fairness" of the effects of government regulation, it seems only logical to consider both sides of the ledger. Why the benefits of regulation for property owners should be omitted defies any reasonable explanation.

Contrary to CBO's assumption, a government regulation can benefit property owners, including the very owners who are subject to the regulation at issue, in several different ways. First, regulatory restrictions can enhance property values by protecting amenities and services that are fundamental to property value in the first place. Numerous examples come to mind where these types of reciprocal benefits are entirely likely, if not inevitable:

- A regulatory restriction against filling of wetlands provides direct economic benefits to land owners, including landowners who are themselves subject to the regulation. While potentially limiting the return an owner can make from developing his property, wetlands restrictions on neighboring properties increase the value of the owner's property by preserving scenic attributes, controlling flood waters, and helping maintain clean water supplies.
- Historic district regulations can impose constraints on the ability of property owners in the district to profitably exploit their property, for example by limiting their ability, except in extraordinary circumstances, to alter the facade of a building. At the same time, property owners in the district directly benefit from these same restrictions, because they safeguard the historic character of the community as a whole, maintaining the amenity value of all the properties in the district.

This phenomenon of "reciprocity of advantage" provides a partial explanation for why the U.S. Supreme Court has refused to read the takings clause to create a broad financial remedy for regulatory restrictions. The Court has said time and again that a mere reduction in the value of private property, no matter how severe, is insufficient to demonstrate a taking;<sup>3</sup> the Court has carved out an exception to this general rule only in the case of regulations that deny an owner all economic use of his property.<sup>4</sup> Thus, in *Agins v. City of Tiburon*,<sup>5</sup> the Court refused to consider an owner's taking claim without considering how the regulation also might have benefitted the owner. The Court said: "there is no indication that the appellants' 5-acre tract is the only property

affected by the ordinances. Appellants therefore will share with other owners the benefits and burdens of the city's exercise of its police power. In assessing the fairness of the zoning ordinances, these benefits must be considered along with any diminution in market value that the appellants might suffer."

Second, regulatory restrictions can enhance the value of private property by decreasing the supply of property available for development in the face of existing or growing demand. By raising the scarcity of development opportunities, through wetlands or endangered species restrictions, for example, regulations can increase the value of remaining development opportunities. To be sure, these scarcity effects, if substantial, can have other consequences, such as contributing to increases in the cost of housing. Whatever concerns these impacts may raise, however, they do not involve an issue of fairness with respect to land owners whose property values have increased as a result of scarcity.

Consider an example involving wetlands. If the owner of a ten acre parcel with two acres of wetlands valued at \$1,000/acre (total \$10,000) were restricted so that the two acres of wetlands could not be developed, what would be the impact on the value of the property? Given the effect of the regulation throughout the community on the supply of developable land, the consequence might be that the value of the eight acres would increase to \$1250 per acre as a result of the regulation, leaving the owner economically unaffected. Or the consequence might be to raise the value of the remaining eight acres to \$1,500/acre (total \$12,000), a net gain of \$2,000 for the 10 acres.

The CBO report mistakenly focuses on how a regulation affects a particular landowner without considering how enforcing the same regulation against other owners in the community affects the value of the owner's land. Assessing the impact of a regulation on a single property in isolation necessarily overstates the regulation's adverse impact because it ignores the fact that the owner benefits from regulation of other owners. In concept, a fair and accurate assessment of a regulation's impact on property value can only be calculated by estimating the value the property would have if the regulation were lifted from all affected property owners. As Timothy Searchinger of the Environmental Defense Fund has put it, from the standpoint of fairness: "the correct question is not how much property would be worth if it and it alone were not subject to restrictions; it is how much that property would be worth if the restrictions did not exist and did not apply to anyone."<sup>6</sup>

The fundamental flaw in the CBO analysis can be explained in another way. The CBO analyzes the problem of calculating the effect of regulations as if it were no more complicated than hiring an appraiser to determine the value of an individual property for some private or business purpose, such as for financial or estate planning. However, the problem of estimating how government regulation affects property values throughout a community represents a more complicated issue, requiring recognition of how regulation effects both the supply and amenity value of land. Thus, determining the actual net effect of a regulation on property owners can be very difficult. Yet the difficulty of this economic calculation cannot justify completely ignoring one side of the ledger.

**Assessing the impact of a regulation on a single property in isolation necessarily overstates the regulation's adverse impact because it ignores the fact that the owner benefits from regulation of other owners.**

Finally, property owners also may be benefitted by regulations in many ways which are not reflected in the value of their property. In other words, when upward adjustments in property value are credited to government actions, such an assessment may miss benefits from regulation that are not captured in such adjustments. The Clean Water Act, for example, confers benefits on consumers of water for drinking and recreation that are imperfectly reflected in land markets. The failure of land and property values to reflect these types of benefits can make these values a poor

proxy for estimating the overall social impacts of regulation, at either an aggregate or an individual level. Nonetheless, these difficult to measure benefits, which accrue to all the property owners in a community, including those subject to regulation, have to be considered in assessing a regulation's overall fairness.

- The CBO report fails to provide a justification for focusing on certain regulatory actions that negatively affect property values, to the exclusion of other government actions which often yield significant net positive effects on property values.

The preceding section focused on CBO's error in ignoring how regulatory actions, which are alleged to adversely affect property values, can actually protect and enhance property values in many cases. But there is a second, equally fundamental, and arguably more significant problem with the CBO analysis, namely that it ignores how the full range of government actions affect property owners. Even if a specific government regulatory program has an adverse impact on a particular owner, is not the question of "fairness" most accurately approached by asking about the net effect on the owner of all relevant government actions?

Consider, for example, a 500-acre Midwest crop farm. The farm may be simultaneously involved in government programs paying subsidies based on historical plantings of different grains, while also receiving conservation payments for idling land under the Conservation Reserve Program, while also facing restrictions for "conservation compliance" and subject to "swampbusting" regulations on designated wetlands. When the value of the entire farm is appraised, all of these government actions are relevant, together with current and projected estimates of agricultural input and output prices, affected by national and international supply and demand. Given all these factors, how can it be reasonable to consider, in isolation, the effect of, for example, an endangered species restriction on the farm's value?

Numerous other examples of government actions that can potentially benefit private property values -so-called "givings" -can easily be catalogued. Some examples include:

- Construction of a new interstate highway, and in particular the location of a new highway interchange, can increase the value of private property made more accessible.
- Acquisition and development of a new public park can, by increasing amenity values throughout a neighborhood, increase the value of both developed and undeveloped property.
- Construction of major federal facilities, such as military installations, can confer substantial benefits on surrounding property owners by increasing the demand for commercial and other kinds of property development.

As discussed in Section III below, the available empirical evidence demonstrates that these "givings" are both real and substantial.

Of course, all of us, including property owners, pay for public facilities and services that benefit the general public as well as property owners through taxation. From that perspective, all taxpayers may be thought of as having already paid for the "givings," and therefore to be entitled to share in them. But it also is true that some citizens, often including owners of undeveloped land, commonly benefit from larger "givings" than other citizens. In concept, it is no more unfair to leave unequal adverse effects of government regulation unremedied than it is to leave unequal givings unrecouped. Thus, in considering a particular property owner's argument for compensation based on the adverse effects of regulation, it is appropriate to consider the extent to which the claimant has been the beneficiary of other "givings." Indeed, while the calculations are necessarily complex, it would be unfair to take on the task of calculating the extent of the "takings" without also calculating the "givings."

Moreover, in considering the demands of particular interest groups to be compensated for regulatory effects, it is reasonable to consider whether as a whole these interest groups (such as farmers) receive a disproportionately large (or small) share of public givings. As discussed below, empirical evidence shows that certain interest groups that advocate compensation for "takings," farmers in particular, are very substantial beneficiaries of public givings. Narrowly tailored takings legislation which, for example, focused on providing compensation for regulatory effects on rural land (as opposed to all property) might have the perverse effect of creating a special entitlement to compensation for groups already among the largest beneficiaries of public givings. From this perspective, some "takings" bills are perhaps best viewed as one more form of "givings."

In addition to these two major flaws, the additional flaws in the CBO report include:

- It does not account for the leads and lags of a government action and its impacts on property values.

The CBO report observes that many legislative takings bills propose to take values "just before" and "just afterward" to estimate the impacts of government actions on property. But other sections of the report emphasize the role of expectations, noting that "to some extent, property owners who acquired land after the passage of the Clean Water Act, the Endangered Species Act, or the Surface Mining Control and Reclamation Act should have considered the effect of those laws on the uses and values of their property" (p. 32). By the time most government policies are in place, they have been discussed and vetted in ways that make their passage and impact anything but a surprise. Thus, it is unrealistic to assume that formal adoption of a new rule or regulation generally results in a large, sudden change in property values. It also is clear that many impacts of government action lag over time due to the process of implementation, and that regulatory impacts often take time to become apparent.<sup>7</sup>

Taken together, these leads and lags render the "just before" and "just afterward" calculation discussed in the CBO report incapable of capturing the actual impact of government action on property values. The fact that property values typically change slowly over an extended period may help mitigate the perceived unfairness of changes in regulatory policy, and in any event complicates the task of drawing a clear causal connection between a particular policy change and a change in property value.

**In concept, it is no more unfair to leave unequal adverse effects of government regulation unremedied than it is to leave unequal givings unrecouped.**

- It fails to provide a coherent definition of an appropriate baseline from which to measure "reductions" in value.

The "before" and "after" calculation CBO uses obviously requires some type of definition of the baseline condition. While the CBO report identifies (pp. 27-28) several practical difficulties in identifying what the property might be used for in the absence of federal regulation, it fails to acknowledge or resolve others. For example, CBO asserts (p. 27) that in determining the impact of one particular regulation, it must be determined what potential uses of the property would comply "with all other laws and regulations -federal state, and local -that apply to the property," and observes that "State and local regulations... are often the binding constraint on the way a piece of property may be used." It is difficult to understand why the effect of only one regulation on property value should be assessed, but the effects of all other regulations on property value can be assumed to be de minimis or irrelevant. In addition, why should State and local regulations generally be considered "binding," whereas federal regulations are scrutinized for their impacts on property values?

- It fails to take into account that a reduction-in-value standard would provide greatest "protection" for properties with the lowest economic value.

One of the oddities of a focus on percentage reductions in property values is that a single regulatory restriction will likely have a very different impact depending upon the value and nature of the property. Highly valuable, productive properties might be ineligible for compensation because the restriction, even if burdensome in absolute terms, has only a small percentage effect on the property. Ironically, economically marginal properties, which are more likely to suffer a significant percentage drop in value as compared to other properties, would receive greater protection under a percentage reduction in value approach. Indeed, at the margin, the imposition of virtually any regulation, no matter how slight its effects, would render certain investments unprofitable. The CBO report does not acknowledge, much less address this difficulty.

- It acknowledges, but offers no remedy, for the strategic incentives of property owners and appraisers to overstate losses and misrepresent expectations of investment values.

The CBO report recognizes that when compensation is sought as a form of regulatory relief, those arguing for this relief will have strong incentives to emphasize the negative impacts of government action, to discount positive impacts, and to find appraisals that correspond to their preferred valuation. This is made easier by some of the factors discussed above, notably the possibility of manipulating the definition of the relevant parcel, the one-sided attention to negative regulatory effects, and misattribution of impacts to one versus another government action.

Yet the CBO report persists in discussing "investment backed expectations," and their disappointment or denial due to regulation, as if these expectations could be accurately determined by disinterested analysts or appraisers. This is naive. Assume for the moment that investors in land cannot influence the market or regulatory environment; they are both "price-takers" and "rule takers." What a buyer of property expected at the time he or she bought it is of course not directly observable. What is written on a title (together with any liens, etc.) and the general law of nuisance might constitute a minimum set of expectations, but it is far less than an investor ought to know before purchasing a significant property. "Investment backed expectations" are not observable and are extremely subject to misrepresentation. ("I had no idea Congress would pass such a law!"). If an appeal is made to what a reasonable observer might have known at the time about the likelihood of regulation, according to some objective rules, the subjective essence of the market investment mechanism is lost: as economists frequently emphasize, "It takes a difference of opinion to make a horse race."

One response to the argument that expectations are unobservable takes the form of what economists call "revealed preference." Insofar as an investor puts her money into a particular parcel of land, and could have done something else with it, she is validating her belief in a particular expectation about both the market and the regulatory environment. However, the fact that an expectation is "investment backed" may or may not be evidence in favor of its reasonableness and thus its candidacy for compensation. An investor's preferences may be revealed, but they are not necessarily reasonable, and may reflect a penchant for high risks, or what financial analysts call "plunging."

Even worse, to the extent that compensation is known to be available for potential losses, truncating the downside risk of an investment, expectations are shifted in a way which actually draws money into higher risk ventures. As in insurance markets, problems of moral hazard and adverse selection come into play, as when the terminally ill seek life insurance, the savings and loan industry's portfolio shifts to highly speculative land deals in response to government insurance, or gas and oil companies drill too many dry holes because of government "depletion allowances."

Two notable cases of what might be called "investment backed plunging behavior" motivated by the expectation of compensation are flood insurance and agricultural subsidies. As Daniel Farber notes:

Suppose a landowner is considering a further investment in his property, but there is some chance that the property will be flooded by a proposed dam. We would like the owner to consider this possibility when deciding whether to make an investment, since the investment will be wasted if the dam is built. But if the owner can obtain full government compensation for the flooding, she has no reason to take the possibility of the dam into account. (If the dam is not built, the owner can expect a return from her additional investment, while she gets her money back from the government if the dam is built after all.) So the owner is indifferent to the possible construction of the dam and hence will tend to overinvest, with a consequential loss in economic efficiency.<sup>8</sup>

In the case of U.S. agricultural subsidies, by truncating the downside risk of losses due to declines in market prices, compensation has encouraged overinvestment in certain subsidized crops, and discouraged the development of private markets in crop insurance. Since crops are only partially insured by government subsidy schemes, crop losses often lead to calls for additional "disaster relief."<sup>9</sup>

In summary, CBO fails to acknowledge the full range of critical problems with attempts to define reasonable "investment backed expectations" as a basis for awarding compensation. First, what someone expected or should have expected at the time is strongly subject to strategic misrepresentation. Second, whether an expectation is "investment-backed" is no guarantee of its reasonableness. Third, to the extent that compensation became expected, it would encourage riskier investments and over-investment in compensated versus noncompensated property.<sup>10</sup>

### **III. Empirical Data on Government's Positive Impacts on Property Values**

The CBO report is not only one-sided in its analysis, as discussed in the preceding section, but it largely ignores the significant volume of empirical work demonstrating that government actions positively affect property values.<sup>11</sup> Instead, CBO focuses its attention on purely hypothetical estimates of losses in property values due to restrictions on wetlands conversion. The only apparent exception involves an isolated discussion (p. 69) of potential increases in the value of mine properties as a result of the Surface Mining Control and Reclamation Act of 1977 (SMCRA).

In this section, I briefly survey a variety of empirical studies that undercut the one-sided methodology and assumptions used by CBO.

- Numerous empirical studies document the substantial positive effects of regulation on land owners, including owners who are themselves subject to regulation.

First, a large number of empirical studies show that regulatory restrictions confer considerable benefits on landowners. Many of these studies document the considerable benefits owners of already developed property receive as a result of development restrictions, benefits which are apparently traceable both to the amenity and scarcity effects of regulation.

**The fact that an expectation is "investment backed" may or may not be evidence in favor of its reasonableness and thus its candidacy for compensation.**

Some studies also specifically document the benefits conferred on owners of vacant property by such restrictions.

For example, a study of local land-use controls on housing prices in the San Francisco Bay area concluded that the market value of houses in growth-controlled areas was from 17 to 38% higher than the market value of houses in uncontrolled areas.<sup>12</sup>

The authors analyzed a sample of 1,673 single-family dwelling units from 63 suburban communities within the Bay area, using real estate appraisal records for the year 1979.

Another similar study evaluated the effect of land use restrictions on housing prices along the shore of Chesapeake Bay, focusing on critical area limitations on residential and commercial development.<sup>13</sup> These limitations included channeling new development into already developed areas, and requiring new development to meet landscape requirements, setback restrictions, surface restrictions, and the like. The authors concluded that in one county subject to the restrictions prices of shore front houses increased by 46-62% compared with the control area as a result of the restrictions. Houses without water frontage also increased compared to the control area, by a margin of 14-27%, as did houses near but not in the designated critical area, by a margin of 13-21%.

A study focusing on the Chesapeake Bay designated critical areas looked at the effects of regulation on the value of both developed and vacant properties.<sup>14</sup> In the case of developed residential parcels, in the years following passage of the critical areas law there were statistically significant differences in property values as compared to control areas.

In the case of vacant parcels, the restrictions increased property values in one county, as compared with the control areas, by 33% in 1984, 53% in 1985, and 39% in 1986. In the remaining three counties the effects were also positive, but less statistically significant.

These results are consistent with a comprehensive study of the effect of land use restrictions in the New Jersey Pinelands, an area of approximately one million acres protected by the 1979 New Jersey Pinelands Protection Act and its Comprehensive Management Plan.<sup>15</sup> The Plan established management districts as Preservation, Forest, Agricultural, Rural Development, Regional Growth, and Pineland Villages and Towns. Each district was subject to a different set of restrictions, which were most limiting in the Preservation District, but applied in varying degrees in the other districts as well. The study concluded that, when compared with unregulated control areas, prices in regulated districts exceeded those in the control areas to a statistically significant degree in five out of six years.

The role of historic district regulations on property values also has been estimated. A 1991 study by Schaeffer and Millerick showed that in a Chicago neighborhood, historic district designation was highly beneficial to property values, helping to maintain them in the face of declining prices.<sup>16</sup> Overall, historic designation increased average housing values by from 29 to 38%. In addition, areas adjacent to the district, but not within it, appeared to derive positive benefits, increasing in value by 29%.

- Other empirical studies document the substantial net benefits government actions of all kinds confer on private property owners.

A wide variety of other, non-regulatory government actions benefit private property owners. Empirical documentation of the net positive impacts of government actions on property values is widespread in the current literature on transportation planning, agricultural policy, and park and "greenbelt" conservation.<sup>17</sup>

**A large number of empirical studies show that regulatory restrictions confer considerable benefits on landowners.**

Transportation infrastructure, much of it financed or subsidized by federal, state, and local governments, has long affected the value of land. A significant volume of historical writing documents how in the nation's early history canals, toll roads, and railroads expanded demand for and increased the value of land parcels by expanding access to commercial markets, particularly on the eastern seaboard.<sup>18</sup> For example, as entrepreneurs with local government support built a network of canals linking the Great Lakes with the Ohio-Mississippi River systems, land values rose in Cleveland, Toledo, Columbus, Dayton, Cincinnati, Ft. Wayne, and other centers served by such systems.<sup>19</sup> Next, promoters of railroad construction attempted to capture and monopolize trade areas for the cities that built them (e.g., New York), enhancing demand for land within the city itself.<sup>20</sup> During the Civil War, the local and regional rail systems, each one focused on a separate urban center, were knit together into a unified network so that the value of their lands was significantly enhanced.<sup>21</sup> Existing towns and cities which received transcontinental rail service saw demand for parcels of land within them rise, and land values rose accordingly.<sup>22</sup> In western areas not yet settled, railroad companies systematically designated sites for town development with full awareness of the value that would accrue to parcels on or near the rail stops and rail line intersections.<sup>23</sup> The Panama Canal, begun in 1903-4, reduced the cost of shipping western grain to East Coast markets and thereby raised the value of grain lands in the western Dakotas, Montana, Washington and Oregon. Value of California farm land was enhanced by using cheap water routes through the canal to the East, instead of more expensive rail transport overland.

Although the Port of Duluth-Superior had been a major Great Lakes port since 1871, like all other Great Lakes ports, it was engaged in shipping almost entirely to other lakes ports until the opening of the federally-financed St. Lawrence Seaway at the start of the 1959 shipping season. Once the seaway opened, ocean-going ships could visit lake ports, and bulk commodities and manufactured goods could reach East Coast and foreign markets more cheaply. Adjustment in barge rates and rail rates followed the opening of the seaway, but in general the overall reduction in transportation costs for hitherto remote locations, such as grain sources in the eastern Dakotas and northwestern Minnesota, meant enhanced land values for those areas as transportation cost savings were capitalized.<sup>24</sup>

Since World War II, the federal and state governments have invested hundreds of billions of dollars in highway construction. These highways have made commuting to work less time-consuming for many suburban areas, opening new areas to residential and commercial development. Economists have theorized three kinds of possible effects on land values. One, highways have increased land values in the areas made accessible by reducing travel time to work. Two, they have reduced land values elsewhere by opening up and diverting residential and commercial development to new areas along the highways. Three, they have had an overall lowering effect on land values as more land becomes available throughout the community. Hence, in some places highways increase land values, in other places they decrease them. Separating the impacts, however, is analytically difficult. For example, rising populations will drive up demand for housing and therefore land values regardless of transportation impacts.<sup>25</sup> It is generally not feasible to separate the impact of this increasing demand for housing from the impact of more land becoming available in the community.

While highways may not be a sufficient cause of increasing development and land values, they (or some equivalent form of transportation) are generally a necessary condition for land value increases and a condition that only government can practically provide. Numerous studies have documented these impacts empirically. In a study of land values in Atlanta, for example, Lemly found that a newly constructed freeway corridor within four years caused enormous increases or decreases in land values depending on access to the highway. Between 1952 and 1956, some areas in outlying suburbs along the freeway increased in value by more than 750%, while adjacent areas without access lost 50% or more of their value in the same period.

**Empirical documentation of the net positive impacts of government actions on property values is widespread in the current literature on transportation planning, agricultural policy, and park and "greenbelt" conservation.**

Similarly, land in a suburban area close to downtown but not near the freeway appreciated 63%, while parcels near the freeway's entry into the central business district rose more than 150%. In this downtown sector, "a rapid change from residential to commercial and light industrial activity [was] extensively influenced by the presence of the North Expressway," and properties which were low in value had "increased dramatically."<sup>26</sup>

Other studies of the great highway building period found similar effects. A 1964 study of the Shore Parkway in New York City found that land adjacent to the highway appreciated by 54% more over 14 years than land farther away. Land along a suburban portion of the North Central Expressway in Dallas, Texas appreciated 106% more over 17 years than control lands. Land along the Gulf Freeway in Houston appreciated 65% over five years more than sites without access. Several sites studied in California, Georgia and Texas appreciated an average of 8% per year more than other sites without access to highways.<sup>27</sup>

Despite the suggestions that expanded access might depress land values while reducing travel time, much of the empirical evidence appears to contradict this suggestion. Land values have nearly always increased after a major transportation improvement, whether the investment was a barge canal in the 1830s or a new freeway bridge in the 1990s. A 1981 study of farmland values at the urban fringe of Chicago, Illinois, for example, showed that sales prices increased 2% per mile for locations closer to freeway exchanges.<sup>28</sup> Turning from data on transportation routes to empirical work on the impacts of agricultural policy, the tobacco program provides a good example of the effects of government programs on farm property values. Shuffert and Hoskins estimated the value of a government-granted tobacco allotment for Kentucky burley tobacco growers in 1969.<sup>29</sup> Analysis of sale prices of over 1,200 Kentucky farms indicated that an acre of burley tobacco allotment added approximately \$6,015 (in 1967 dollars) to farm sale prices. The quotas granted to burley growers, analyzed by Vantreese and others for 29 counties across Kentucky, accounted for as much as 38.9% of land values per acre in 1976, falling to 12.7% in 1982, and rising slightly thereafter.<sup>30</sup> A separate study of the other major types of tobacco, flue-cured, by James Seagraves,<sup>31</sup> showed that between 1934 and 1962, the capitalized value of allotments rose from 34.5 cents per pound of tobacco to \$1.51 in constant dollars, again significantly raising the value of farmland participating in the tobacco program.

A 1992 study by Herriges et al. of U.S. corn programs, in which subsidies were paid to corn farmers on a certain number of "base" acres in return for restricted planting regulations, showed that the implicit value of corn base acreage in twelve Iowa counties was worth approximately \$200 per acre.<sup>32</sup> A 1965 study by Floyd had estimated that such programs may increase land values from 5% to as much as 65%. In Floyd's study, the value of farmland was predicted to increase most if government programs did not control output, if certain marketing restrictions (such as tobacco quotas) were used, and if land taken out of production through government acreage-idling programs was compensated by the government. Increases predicted for each of these cases, respectively, were 15-30%, 55-65%, and 50%.<sup>33</sup> In a 1993 study of the economic value of "base" acres granted by federal programs for cotton, Duffy et al. showed that cotton base was worth a premium of \$60 to \$108 per acre compared with a farm with no base.<sup>34</sup> Featherstone and Baker showed that an increase in commodity prices resulting from subsidies and other income supports would increase rents and thus raise agricultural land values.<sup>35</sup>

A study by Torell and Doll documents the positive impact of public-lands grazing permits on the values of private ranches in New Mexico.<sup>36</sup> They showed that the private economic benefits of grazing permits are capitalized into private land values. They also noted that the U.S. Internal Revenue Service explicitly recognizes the capitalized value of grazing permits in their taxation of estates, corroborating the view that agricultural policies enhance land values.

Turning to public conservation activities, particularly the establishment of parks and greenbelts, the evidence also supports substantial positive effects on private land values. For example, a study by Correll et al. in Boulder, Colorado, found that average values of properties adjacent to the city's designated greenbelt were 32% higher than those only 3,200 feet away. After controlling for other factors such as house size, the average value of a house 30 feet from the greenbelt was \$54,379 in 1978, compared with \$50,348 1,000 feet away, \$46,192 2,000 feet away, and \$41,206 3,200 feet away. Because of this effect, the aggregate property value for the neighborhood was approximately \$5.4 million greater in 1975 than it would have been in the absence of the greenbelt.<sup>37</sup>

## **Conclusion**

The CBO report on legislative takings proposals relies on the simplistic and incorrect assumption that government action invariably reduces private property values. As discussed in this paper, elementary economic principles as well as the results of substantial empirical research demonstrate that regulation and other government actions have significantly positive impacts on private property values. Fair debate about regulation and private property needs to recognize both sides of the ledger.

1 A full copy of the CBO report is available on the CBO website: [www.cbo.gov](http://www.cbo.gov).

2 See *Concrete Pipe & Prods. v. Constr. Laborers Pension Trust*, 508 U.S. 602 (1995); *Pennsylvania Central Transp. Co. v. New York City*, 438 U.S. 104 (1978).

3 See e.g., *Penn Central Transportation Co. v. New York City*, 438 U.S. 104 (1978)

4 *Lucas v. South Carolina Coastal Council*, 505 U.S. 1003 (1992).

5 447 U.S. 255 (1980).

6 Timothy Searchinger, "Some Key Questions Raised by the Recent Focus in Takings Cases on 'Reduction in Value,'" Paper presented at Georgetown University CLE Conference on Regulatory Takings, San Francisco, California, September 1998.

7 See e.g., Kevin C. Moore & William H. Myers, *Predictive Econometric Modeling of the U.S. Farmland Market: An Empirical Test of the Rational Expectations Hypothesis*, CARD Report No. 133 (1986).

8 Daniel A. Farber, "Public Choice and Just Compensation," 9 *Constitutional Commentary* 279, 285 (1992). See also Robert Cooter, "Unity in Tort, Contract, and Property: The Model of Precaution," 73 *California Law Review* 1 (1985); Louis Kaplow, "An Economic Analysis of Legal Transactions," 99 *Harvard Law Review* 511 (1986); and Lawrence Blume & Daniel L. Rubinfeld, "Compensation for Takings: An Economic Analysis," 72 *California Law Review* 569 (1984).

9 W.W. Cochrane & C.Ford Runge, *Reforming Farm Policy: Toward a National Agenda* (1992). On the truncation of risk due to government intervention in agricultural commodities markets, see Federick I. Johnson, "Price Supports Under Uncertainty: The U.S. Oats Market," 33 *The American Economist* 36 (1989).

10 See C. Ford Runge, "Economic Implications of Wider Compensation for Takings or, What if Agricultural Policies Ruled the World?," 17 *Vermont Law Review* 723 (1993).

11 Chapter 4 of the CBO study cites a handful of articles and observes, without elaboration, that: "Economists and real estate specialists have developed several methods for estimating the effect of various factors, including changes in regulations, on property values."

12 Lawrence Katz & Kenneth T. Rosen, "The Interjurisdictional Effects of Growth Controls on Housing Prices," 30 *Journal of Law & Economics* 149 (1987).

13 George R. Parsons, "The Effect of Coastal Land Use Restrictions on Housing Prices: A Repeat Sale Analysis," 22 *Journal of Environmental Economics and Management* 25 (1992)

14 Patrick W. Beaton & Marcus Pollock, "Economic Impact of Growth Management Policies Surrounding the Chesapeake Bay," 68 *Land Economics* 434 (1992).

15 Patrick W. Beaton, "The Impact of Regional Land-Use Controls on Property Values: The Case of the New Jersey Pinelands," 67 *Land Economics* 172 (1991).

16 Peter V. Schaeffer & Cecily A. Millerick, "The Impact of Historic District Designation on

Property Values: An Empirical Study," 5 *Economic Development Quarterly* 301 (1991).

17 See generally C. Ford Runge, M. Teresa Duclos, John S. Adams, Barry Goodwin, Judith A. Martin, & Roderick D. Squires, *Government Actions Affecting Land and Property Values: An Empirical Review of Takings and Givings*, Lincoln Institute of Land Policy, Research Paper, 1996. Much of the empirical discussion in this paper is drawn from this document.

18 U.S. Department of Transportation, Federal Highway Administration, *America's Highways: 1776-1976: A History of the Federal-Aid Program* (1977).

19 *Canals and American Economic Development* (Carter Goodrich ed., 1972).

20 Albert Fishlow, *American Railroads and the Transformation of the Antebellum Economy* (1965).

21 William Cronon, *Nature's Metropolis: Chicago and the Great West* (1991).

22 William F. Huneke, *The Heavy Hand: The Government and the Union Pacific* (1985).

23 John R. Borchert, *America's Northern Heartland*. Minneapolis (1987).

24 William H. Becker, *From the Atlantic to the Great Lakes: A History of the U.S. Army Corps of Engineers and the St. Lawrence Seaway* (1983).

25 Vernon W. Ruttan, "The Impact of Local Population Pressure on Farm Real Estate Values in California," 37 *Land Economics* 131 (1961).

26 James H. Lemly, *Expressway Influences on Land Use and Value: Atlanta, 1941-1956*, Report to the State Highway Department of Georgia 92 (1958).

27 U.S. Department of Transportation, *Social and Economic Effects of Highways* (1974).

28 David L. Chicoine, "Farmland Values at the Urban Fringe: An Analysis of Sale Prices," 57 *Land Economics* 362 (1981).

29 Milton Shuffert & Josiah Hoskins, "Capitalization of Burley Tobacco Allotment Rights into Farmland Values," 51 *American Journal of Agricultural Economics* 471 (1969).

30 Valerie L. Vantreese, Michael R. Reed & Jerry R. Skees, "Mandatory Production Controls and Asset Values: A Case Study of Burley Tobacco Quotas," 71 *American Journal of Agricultural Economics* 319 (1989).

31 James A. Seagraves, "Capitalized Values of Tobacco Allotments and the Rate of Return to Allotment Holders," 51 *American Journal of Agricultural Economics* 320 (1969).

32 Joseph A. Herriges, Nancy E. Barickman & Jason F. Shogren, "The Implicit Value of Corn Base Acreage," 74 *American Journal of Agricultural Economics* 50 (1992). It should be noted that base acres are an accounting unit, not a separate category of land. A farm of 300 acres may have 100 acres in corn base as recorded by the county offices of the U.S. Department of Agriculture, but the acres planted to corn in any given year could be any acres on the farm. Thus, the value of base inheres in the value of the entire farm unit. See Willard W. Cochrane & C. Ford Runge, *Reforming Farm Policy: Toward a National Agenda*. Chapter 3 (1992).

33 John E. Floyd, "The Effects of Farm Price Supports on the Returns to Land and Labor in Agriculture," 73 *Journal of Political Economy* 148 (1965).

34 Patricia A. Duffy, C. Robert Taylor, Danny L. Cain & George J. Young, "The Economic Value of Farm Program Base," 70 *Land Economics* 318 (1994).

35 Allen M. Featherstone & Timothy G. Baker, "Effects of Reduced Price and Income Supports on Farmland Rent and Value," 10 *North Central Journal of Agricultural Economics* 177 (1988).

36 L. Allen Torell & John P. Doll, "Public Land Policy and the Value of Grazing Permits," 16 *Western Journal of Agricultural Economics* 174 (1991).

37 Mark R. Correll, Jane H. Lillydahl & Larry D. Singell, "The Effects of Greenbelts on Residential Property Values: Some Findings on the Political Economy of Open Space," 54 *Land Economics* 207 (1978).

Copyright © 1999 Georgetown University. All rights reserved. No part of this publication may be reproduced in any form without prior consent of the publisher.