

**Public Goods and Property Rights:
Of Coase, Tiebout, and Just Compensation**

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William Safire, a political columnist for the *New York Times*, also writes a weekly column on language for its Sunday magazine. When he makes a linguistic error in his column, a cadre of regular readers eagerly points it out. Safire generously calls his regulars “the gotcha gang.”

If economics had a “gotcha gang,” one of its founding documents would be Ronald Coase’s 1974 article, “The Lighthouse in Economics.” Coase starts off by serenely quoting famous economists—J. S. Mill, Sidgwick, Pigou and Samuelson—who use the lighthouse as an example of a public good. A lighthouse casts its warning signal to all ships at sea, regardless of whether they have paid for its services. But charging for the services of a lighthouse is, according to these famous economists, a laughably improbable proposition. Coase quotes a footnote from Samuelson’s influential textbook in which Samuelson (1964, p. 45) refers to “a man odd enough to try to make his fortune running a lighthouse.”

The reason it is odd, Samuelson says in the same place, is that “lighthouse keepers cannot reach out to collect fees from skippers.” That is as much analysis of actual lighthouses as one gets from Samuelson’s example: The image of a lighthouse keeper leaning out like a turnpike toll collector to a giant ship as it passes on a stormy night. Good image. Pretty silly even to think about such stuff.

Coase was silly enough to think about it. He investigated the British lighthouse system, reading its history and learning about its contemporary operation. He found that the system had been developed in large part by shipping interests, and they had for much of its history arranged to levy a charge upon ships to cover the cost of erecting the maintaining lighthouses. There were actually privately-owned lighthouses in this system, and some of their owners made out well, especially when they sold their assets to the government-chartered monopoly, Trinity House. Coase (1974, p. 368) points out dryly that “thus we find examples of men who were not only, in Samuelson’s words, ‘odd enough to try to make a fortune running a lighthouse business,’ but actually succeeded in doing so.”

Gotcha.

§ 1. Nonexclusion and Nonrivalry Define “Public Goods.”

There is much more than “gotcha” in this tale. Coase’s account of how lighthouses were actually financed (up to 1830 in Britain) and his defense of this system constitute a profound

inquiry into the nature of what economists call public goods. A public good is said to have two characteristics that distinguish it from a private good. Public goods are “nonexclusive” and “nonrival” in their consumption.

“Nonexclusive” means that it is too costly for the providers of the public good to collect a payment from those who benefit from it. Nonexclusiveness gives rise to the free-rider problem. Entrepreneurs who propose to provide a good from which consumers cannot be excluded will underprovide it, since it is too difficult to exclude those who do not pay (Richard Musgrave 1939). How difficult is “too difficult” is in the normal textbook definition usually left to be inferred from an example, such as national defense or lighthouses. The subject of transaction costs is usually left for advanced treatments or later chapters, if it is brought up at all, even though it is the heart of the exclusion problem.

“Nonrival” means that the enjoyment of the good by one consumer does not diminish its availability for other consumers to enjoy. Hamburgers are my standard example of a rival good. If you eat a particular burger, then I cannot eat it, too. Overhead fireworks, whether for the nation’s anti-missile defense system or for the local Fourth of July celebration, are my example for a nonrival good. Another person’s enjoyment of the fireworks does not subtract from that of those already viewing it. Most nonrival goods are also nonexclusive, but there are examples of nonexclusive but rival goods, such as ocean fish, and nonrival goods from which exclusion is simple, such as television signals. For a nuanced discussion of such distinctions by an influential political scientist, see Vincent Ostrom (1991, p. 168).

Nonrivalry is at the heart of Samuelson’s (1954) famous insight into the economic analysis of public goods. Because, as Coase found, the lighthouses were financed by a charge that varied in part by the number of ships likely to enjoy the services of the lighthouse, at least some voyages would be discouraged by the charge. Samuelson pointed out that this violated the price equals marginal cost condition that undergraduates are taught is the basis for the efficient allocation of resources. The cost of shining a light upon ship B after ship A has financed the light is zero, so the price charged to ship B or any other beneficiary of the light should be zero.

Coase did not disagree with the price-equals-marginal-cost principle. He asked instead, how best to provide lighthouses? Samuelson’s answer was, Coase inferred, that the light should be provided out of general government funds, raised by taxes on the public in general. This would

be the least distorting method of taxation, if one were choosing among taxes alone. Although there is some efficiency loss from all taxation, at least the broader fiscal mechanism would not deter ships from taking a voyage, as the lighthouse toll might.

Coase responded by asking how the shipping industry actually applied its “toll” for lighthouses. Shipping companies were charged according to how many ships were likely to pass lighthouses, but this schedule involved an easily-reached ceiling on the number of voyages. Thus a company with many ships would be charged more, but the “marginal” ship—the voyage that would be undertaken just at the point at which its marginal revenue would just exceed marginal cost—would in most cases not increase the shipping company’s lighthouse fees.

Of course, there might be other margins that the lighthouse payment might affect, such as how many ships to add to a fleet, if the additional ships would boost the company into the higher toll-bracket. But Coase points to another advantage of the earmarked lighthouse payment, one which Samuelson and most other public-finance economists of the time neglected. By financing lighthouses from payments by shipping companies, the operation of lighthouses is likely to be made more efficient. Because the fee was charged to them rather than the general public, ship owners had an interest in seeing to it that lighthouses were managed efficiently. Having lighthouses financed by general tax revenues would make the shipping owners less concerned with inefficiencies in lighthouse operation. A national lighthouse bureau would more likely become a source of political patronage, as suggested by Ambrose Bierces’ famous definition, which applied to the American system: Lighthouse: “A tall building on the seashore in which the government maintains a lamp and the friend of a politician.” (Cited by Coase 1974, p. 376, who goes on to say it “presumably does not tell the whole story.”)

§ 2. “Corroborative Details” and Property Rights.

I have given only the faintest flavor of Coase’s examination of the actual operation of the British lighthouse industry. In a 1993 article, in the *Journal of Legal Studies*, David van Zandt probed even more deeply into the history of British lighthouses. He found evidence of more government activity in the provision of lighthouse services than Coase’s article had suggested. Van Zandt concluded that lighthouses were provided on a continuum between private and government provision, with the government in many cases providing a more directed set of

arrangements, such as local monopolies and regulated fees, than one would expect in other arrangements we regard as private enterprise.

Coase made no published response to this critical reevaluation of his study. (Coase has not been reluctant to reply to others who have criticized his specific examples.) I think it is because although Van Zandt's conclusion is somewhat different from Coase's, Van Zandt actually did undertake to study the institution involved, and the need to undertake such investigations is what Coase wanted to impress upon his readers. (Professor Van Zandt confirmed my hunch in a private communication.) Coase's criticism of economists' rationale for government intervention is not the deductive logic by which they arrive at their conclusions, but that they deploy inductive principles from examples that do not hold water.

In his original paper, Coase waxed subtly sarcastic about economists' use of fanciful examples: "The lighthouse is simply plucked out of the air to serve as an illustration. The purpose of the lighthouse example is to provide," quoting now from Gilbert and Sullivan's operetta, *The Mikado*, "'corroborative detail, intended to give artistic verisimilitude to an otherwise bald and unconvincing narrative'" (1974, p. 375). That the line is uttered by Pooh-Bah, the fatuous "Lord High Everything Else," is not pointed out by Coase but would have been known by many of those toward whom it was directed.

In a more serious vein, Coase goes on to say what a positive empirical program would look like (1974, p. 375): "I think we should try to develop generalizations which would give us guidance as to how various activities should best be organized and financed." (Note that he does not say "public goods," just "various activities," in which publicness may or may not be discovered.) "But such generalizations are not likely to be helpful unless they are derived from studies of how such activities are actually carried out within different institutional frameworks. Such studies would enable us to discover which factors are important and which are not in determining the outcome, and they would lead to generalizations which have a solid base. They are also likely to serve another purpose by showing us the richness of the social alternatives among which we can choose."

Coase's and Van Zandt's investigations of lighthouse provision reveal the power of a property-rights approach to a set of economic problems in which the very notion of property is ordinarily disregarded. In most expositions of the theory of public goods, the conclusory

principle of “nonexclusion” diverts attention from the possibility of ownership. How could one have property in something from which beneficiaries cannot be excluded? Traditional rationales for public goods simply assumed property rights could not be established in lighthouses or other goods usually provided by the public sector.

The possibility of property rights underlies the “social alternatives” of which Coase spoke. The difficulties of excluding beneficiaries should not obscure the fact that lighthouses could be owned, and a system of payments could be invented that rewarded their owners for providing their nonexcludable services. Ownership of lighthouses themselves and the obligation to pay port duties to fund their services were important means by which entrepreneurial capital was invested in this critical service. The prospect of reward and the ability to capitalize lighthouse investments by bequeathing them to legatees or selling them to others (including the state) appear to have provided lighthouse services at least as well as a program that relied exclusively on government provision and general taxation to fund them. As Professor Van Zandt rightly emphasizes, purely private ownership is not the only area in which the concept of property rights can shed its light.

§ 3. The Tiebout Model for Local Public Goods.

In this and subsequent sections, I shall describe how economists have uncovered a more systematic approach to balancing the multiple issues of public goods for a large class of them. The system is named for Charles Tiebout (1956), who first identified the possibility of migration and local government as a means of dealing with the problem of a particular type of public goods. An influential generalization of Tiebout’s approach was proposed by James Buchanan (1965), and it is called “club theory.” I shall describe the Tiebout branch because I am more familiar with it and have contributed to the institutional analysis of the theory.

The type of public goods Tiebout had in mind are those that are nonexcludable and nonrival only within a limited geographic area. The services of roads, parks, watersheds and similar residential amenities are public goods only within a localized area. Exclusion of free riders is possible within the area, but the costs of doing so are high, and rivalrous consumption—read here as congestion of the local amenity—does not set in until the number of those enjoying the good become large. This class of goods accounts for about half of total governmental activities besides transfer payments. How should such goods be provided?

The conventional wisdom among economists before Tiebout was that the problem of providing these goods was no different from that of providing national defense. The “free rider” problem engendered by nonexclusiveness of goods required that the only mechanism of providing the good was political. While economists from Erik Lindahl onward have discussed how voting shares might be reconciled with tax shares, the default answer for public goods was invariably that elected officials would have to somehow divine the public’s will (Musgrave 1959, Samuelson 1954). They would set expenditures and raise tax monies to fund them. The connection between taxes and revenues was impossible to maintain in the same sense that prices paid for hamburgers are connected with the amount of hamburgers made available. State paternalism seemed inevitable. No one saw any opportunity to establish property rights in the provision of such goods.

Because the free-rider problem seemed to be no different at the local level than at the state or national level, mainstream public-finance theory had no reason to explain the existence of local government, let alone prefer it to more centralized governments. Larger units of government actually seem preferable under such conditions. They have larger staffs with more expertise; their outlooks are global rather than parochial; and their tax bases are less likely to migrate in response to an increase in rates, since there are fewer alternative jurisdictions. Local government seemed from this vantage point to be an anachronism, suitable perhaps as an administrative unit of the state, but hardly an appropriate decision-making body.

Tiebout (1956) argued, however, that the existence of many local governments within a metropolitan area—a common condition in the United States—might provide an alternative solution to the Musgrave-Samuelson free-rider problem. For local public goods, the mechanism to determine the efficient level might not have to be voting in the ballot box (for elected officials), but “voting with one’s feet” among communities.

As Tiebout envisioned the process, municipal managers would offer a set menu of public services, and potential residents would choose their residence among competing communities. By doing so, residents would reveal their demand for local public goods. Municipal managers might act like firms, but even if they were not governed by the profit motive, Darwinian selection (as suggested by Armen Alchian 1950) could winnow out those who did not give potential immigrants what they wanted.

Tiebout's model was a brilliant insight, but it was also incomplete. It lacked a credible supply side, it did not explain how local public goods were financed, nor did it explain how community interlopers—local free riders—were dealt with. As a result, Tiebout's theory got little attention from economists until Wallace Oates (1969) pointed out that most local governments financed their public services with property taxes, and these taxes and the activities they financed provided a guide to potential residents to the fiscal benefits of each community.

Oates's empirical research found that differences in property taxes and public services were reflected in home values: Communities with better schools and lower taxes have higher home values (Dee 1990). This indicates that potential residents do indeed value local public goods when selecting a place to live. As Caroline Hoxby (1999) has most recently demonstrated, the effect of locally-financed services on home values provides information and incentives for local officials to provide the efficient level of spending and taxation at a cost lower than any centralized planner could hope to achieve.

§ 4. Zoning Establishes De Facto Municipal Property Rights.

The discussion so far has pointed to the possibility that public goods could be provided without the degree of centralized political control that Samuelson (1954) and Musgrave (1959) thought was necessary. As Coase did in his Lighthouse investigation, Tiebout proposed an alternative mechanism. But unlike Coase, he had done little to undergird his alternative empirically. That was left to Oates, who found systematic evidence for what real-estate sales people have told customers for years: Home buyers purchase a community along with a home.

Oates's contribution breathed life into Tiebout's model by showing that a community's local public goods made a difference, but it did not address how free riders might be dealt with. "Free riders" in the Tiebout model would be households that see an attractive community, "vote with their feet" to go there, but build a small home to avoid paying the high property taxes. The Tiebout-Oates model was, in other words, unstable. Households could still free ride by building a smaller home and getting more in local public goods than they paid in local property taxes. As James Buchanan and Charles Goetz (1972) pointed out, mobility has two faces. People can select a community that they prefer, but others can move in afterward and free ride by paying less in taxes than the cost of providing services.

Bruce Hamilton (1975; 1976) was the first to propose (for the benefit of academic economists) that local land use regulations could be used to exclude free riders in the Tiebout-Oates system. Zoning laws could be used to specify the minimum amount of property that people had to buy to get into the community. Thus a family that valued local public goods but tried to build a smaller-than-average home would be prevented from doing so by zoning laws, which require such things as minimum lot size, set backs, road frontage, and building quality. By adopting a comprehensive zoning system, communities could specify how much in taxes all prospective development would have to pay. In effect, Hamilton suggested that zoning created municipal property rights, rights that were vested in the existing residents of the community. It was this insight that led me to subtitle my book, *The Economics of Zoning Laws: A Property Rights Approach to American Land Use Controls* (1985).

Under Hamilton's system, the property tax becomes nothing more than a fee for service. Property taxes can be supplemented by discretionary land-use exactions and impact fees in instances in which additional property tax liabilities are less than the cost of the development to the rest of the community (Altshuler and Gómez-Ibáñez 1993). Because homebuyers cannot shirk from the required minimum home value, they must reveal their preference for housing and public goods simultaneously. As long as there are numerous communities, mobile homebuyers can find a community whose level of public services and minimum housing levels corresponds to their preferences. The problem of public goods is thereby resolved, at least for those that can be geographically confined, without the political solution that Samuelson and Musgrave, among countless other economists, had assumed was necessary.

I have spent a good deal of my career investigating the land-use regulations required by the Tiebout-Oates-Hamilton model, even going so far as serving on a local zoning board from 1987 to 1997. The key question for the applicability of the Tiebout model is the extent to which zoning and related land use controls can in fact exclude "free riders." I think the answer is that zoning is at least as effective as other forms of exclusion of free riders. My Coasian insight—I came up with the idea in 1975 after rereading Coase's 1960 article—is that zoning constitutes a de facto collective property right (Fischel 1978). (Robert Nelson actually beat me to publication with his 1977 book, *Zoning and Property Rights*, but he did not invoke Coase's or related scholarship, demonstrating that you don't have to know the property-rights literature to invoke the model.) The collectivity that "owns" zoning and the right to change it is the politically-influential group

in the municipality. In most American municipalities, homeowners are the most influential group. (Most of America's 25,000 municipalities are small, and only about a quarter of all Americans live in municipalities whose population exceeds 100,000 [Monkkonen 1995, p. 3].)

Zoning is best viewed as a means by which existing homeowners control entry into their local-public-goods club. Developers of new housing and of other types of property must satisfy existing homeowners that their proposed use will not make them worse off. Like other clubs, municipalities jealously guard their property rights. That they are valuable despite lack of explicit recognition as property rights is proved by scores of econometric studies (reviewed and summarized in Yinger et al. 1988, and Dowding, John, and Biggs 1994) that find that the quality and cost of local public goods systematically influence local housing values. Without zoning or a close substitute, the benefits of owning a house-lot in a successful municipality would quickly be eroded by opportunistic entrants.

§ 5. Rezoning and Majoritarian Rent-Seeking.

Up to now I have emphasized how zoning can be thought of as creating benefits for the existing residents of a municipality. These benefits, however, do not come without an economic cost. Owners of property whose land is restricted by zoning bear this cost. The economic issue this raises is whether the people who change zoning rules actually perceive this cost. I cast the issue in terms of zoning *changes* because nearly every acre within urban areas is now subject to zoning either by the municipality or the county. Although Houston, Texas, has been a fertile source of studies about landowner behavior and housing markets in the absence of zoning (Siegan 1972; Peiser 1981; Speyrer 1989), there is no perceptible move toward abolition of zoning in any city in the United States (McDonald 1995).

A zoning change that is “excessively restrictive” implies something precise if not easily measurable: In economic terms, a zoning change is inefficiently restrictive if the total loss in land values by those property owners who are restricted by zoning exceeds the total gain by property owners who are the beneficiaries of zoning (McMillen & McDonald 1993; Pines & Weiss 1976). When this rule is not followed (and it commonly is not), the process of rezoning usually results in communities that have an inefficiently low density of homes (Pollakowski & Wachter 1990). This in turn makes metropolitan areas in the United States too spread out. I will illustrate this with a concrete example that I encountered recently as part of a consulting case, but the sources I

cite will indicate that the problem is ubiquitous. (I was retained as an economics expert by the attorney for the plaintiff landowners, and, because the case has yet to be tried, I have fictionalized the name of the town and rounded-off its statistical descriptors.)

The township of Damwell, New Jersey, is a semi-rural community located in the west-central part of the state. Its population is about 4,000. Its older housing stock is located in a few small hamlets and farmsteads, which are spread out upon its 24 square miles. Newer development is on larger lots in small subdivisions and estate-sized parcels scattered along the rural roads. Although the dominant land use in the township is farming, the farmers are now greatly outnumbered by more recent arrivals who work elsewhere (if at all) in the central-New Jersey region.

Although it is called a “township,” Damwell has full municipal powers, including a planning and zoning board. They are appointed by a five-member “Township Committee.” Committee members are elected at large for three-year terms. From their ranks Committee members annually select a mayor and deputy mayor, who perform most executive functions with the help of a small staff. The township, like thousands of other suburban local governments, is a “municipal corporation.” It is governed more like a corporation, with its elected board of directors and hired executive, than like the state or national government, with its bicameral legislature and independently-elected executive (Fischel 2000).

The problem with the corporate analogy, though, is that Damwell’s “board of directors” is elected on the one-person, one-vote principle. Business corporations normally choose to allocate votes among their shareholders by the number of shares they hold, so that the rule is closer to one dollar, one vote. The municipal allocation opens it up to rent seeking activity of exactly the sort that James Madison worried about in the Tenth Federalist. The difficulty is not one of special interest dominance or bureaucratic influence. It is majority rule in one of its most straightforward manifestations. Without some constraints on the majority’s decisions, they may use their powers of regulation to transfer economic resources from the minority.

This is apparently what happened in Damwell. Up to the late 1990s, most of the rural land in the township was zoned for three-acre minimum lots. (The area between the goal lines of an American football field is about an acre.) It is arguable that this size lot might be economically appropriate for rural-residential where water must usually be obtained from an on-site well and sewerage must be disposed of by a septic system. On-site sewer and water can often be done

safely for the new home without jeopardizing the health of its neighbors on even smaller lots, but having three acres could be argued to preserve a margin of error in a world in which water and sewerage are critical to home values nearby. Three-acre minimums are, at any rate, a fairly common norm for rural-residential zoning. But even this large minimum was apparently not enough for nonfarming residents of Damwell.

In the later 1990s, Damwell rezoned its rural residential area to ten-acre minimum lot size. The rezoning took away two-thirds of the development rights that owners of rural land formerly held. The rationale for the rezoning was that it was necessary to preserve farmland. The vast majority of full-time farmers in Damwell, however, opposed the rezoning. While few of them wish to quit farming and sell their land to developers in the near future, the option to do that is, for most of them, their major source of wealth.

Aside from the wipeout of two-thirds of their land's value, the downzoning actually makes it more difficult for the farmers to continue to operate even in the near term. Most true farmers (as opposed to hobby-farmers, some of whom in Damwell support the new regulations) need to borrow money to finance their annual operation cycle. The chief asset against which they can borrow is their land. The banks' appraisal of their land is based largely on its development potential. By reducing the development potential, the rezoning makes it riskier to lend money to farmers, which makes them less likely to continue in farming.

The intent of this rezoning was to preserve the amenity value of farmland and open space for the benefit of the majority of residents who themselves are not farmers (Kline & Wichelns 1994). This is evident from newspaper reports of how the downzoning came about. When the planning commission first proposed the new restrictions, the township committee held hearings (as required by state law) on them. All of the opponents were farmland owners. The committee voted in 1997 not to undertake the downzoning.

In the next election, committee members who had opposed the rezoning were defeated by candidates who ran with the avowed intent to adopt the rejected plan. Because by now farmers and other owners of developable land were in the minority, they were unable to resist them politically. Although the new zoning plan threw some concessions to the farmers in the form of "right to farm" laws, it is safe to infer from the many econometric studies of large-lot zoning's

effect on land values that the farmland owners got the short end of the stick (Brownstone & DeVany 1991).

§ 6. Efficiency and Compensation.

It is also fair to say, though with slightly less confidence, that the rezoning was inefficient. The test for efficiency in land-use decisions is whether a rezoning raises the aggregate value of land in the jurisdiction, assuming the jurisdiction itself is not so large as to have market power over developable land the region. The latter condition would be unusual in American metropolitan areas and almost unthinkable in New Jersey, with its 566 municipal corporations within the state. If the jurisdiction did have market power, however, not all actions that raised aggregate land values would be efficient, since some of the value increase would come at the expense of would-be residents who are priced out of the market (Thorson 1996).

A rezoning that did meet the efficiency test would not necessarily increase every parcel's value. Some parcels might decline in value while others would increase, but the positive increments would sum to an amount that exceeded the decrements. In such a situation, compensation for those landowners whose land was devalued would promote both fairness and efficiency. The fairness criterion in *Damwell* would generally call at least for paying compensation to the farmland owners, since they are being asked to give up a normal activity, the right to develop homes just like those in the rest of the community, for the benefit of the majority of nonfarmer residents (Michelman 1967).

Compensation would also promote efficiency (Knetsch 1983). The faction of nonfarmers who sought to downzone the rural land would have to consider the effect of their plan on their own wealth if *Damwell* had to pay for the development rights. Property taxes would rise in the town to pay compensation. If the benefits of farmland preservation were as large as what proponents imply, then property values in town would rise as homebuyers saw that the town was especially amenable. If this capital gain to the homeowners were greater than the loss in value to the farmland owners, then it would be politically worthwhile to undertake the rezoning, since homeowners would gain from it.

If, as is more likely, the ten-acre lot size increased nonfarmers' home values by only a small amount, then the demand for compensation to the farmers would most probably induce the nonfarmer majority to vote against the rezoning. The increase in property taxes needed to

compensate the farmland owners would depress home values by more than the benefit of farmland preservation would increase them. Compensation for zoning changes thus amounts to a benefit-cost discipline that guides the governing political faction in the community to choose only those actions that increase aggregate land values.

Some zoning changes that would meet the compensation criterion would not require any out-of-pocket expenditures. A new regulation might provide sufficiently large in-kind compensation to those burdened by it that the landowners are made whole without further payment. For example, a rezoning of a single-family home neighborhood that disallowed certain types of commercial activity might meet this test. The homeowner who complained that she could not now operate a real-estate business from her home could be consoled by the fact that her neighbors are likewise constrained. If the reciprocal benefits of doing so were sufficiently large, the new restrictions would not require compensation.

It is important, however, to examine closely the context of claims like this, which are often called “reciprocity of advantage” (Oswald 1997). Often a regulation that on its face seems to cast its burdens evenly in fact singles people out for special burdens. For example, if Damwell were to have passed a township-wide regulation that imposed severe restriction on the keeping of cattle, the equality of burden would be chimerical. Such a regulation would be acceptable and probably efficient if it applied only to zones composed of residences on small lots, but to apply it “equally” to farm-sized and home-sized lots would in fact be entirely unfair and inefficient.

In sum, the majority-rule political structure of local government makes it likely that a majority faction will at some point disregard the property values of the minority if a strict compensation rule is not enforced. Before discussing why American land-use jurisprudence fails to do this, it is worth an aside about wealth and factionalism. The conventional fear about majority rule is that the numerous poor will use the political process to obtain resources from the rich. However, in the Damwell situation, it is quite likely that the redistribution goes from people with lower wealth to those with higher wealth. The non-farming residents of the township are generally quite affluent, at least if one measures income levels. The primary activist promoting the new regulations is the wealthy owner of a thoroughbred horse farm, and she divides her time between dressage and dressing up the ordinances of the town. The majority of farmland owners appear to be poorer.

Of course, some farmland is owned by developers and land speculators, so the losers from the downzoning are not necessarily all dirt farmers. Nor do I want to suggest that income and wealth considerations ought to be decisive in local land use issues. Economics teaches fairly clearly that attempts to redistribute income are apt to be perverse unless undertaken on a national level and aimed at income and wealth rather than particular goods or entitlements (Kaplow & Shavell 1994; Oates 1972). But even if one ignores that lesson—as many of the defenders of uncompensated rezonings do—it ought to be understood that the resulting redistribution of wealth is apt to hurt at least as many lower-income people as the rich.

§ 7. Compensation and Opportunity Cost.

If compensation offers the “win-win” opportunity that I have so far described, one would expect that the rule would be widely adopted. And in fact it is adopted in the case of public acquisition or physical invasion of land. If the public seeks to build a new road or a new school, the owner to the land on which the project is placed must be compensated for it. Although the obligation to compensate does create some moral hazard on the part of landowners (Blume & Rubinfeld 1984)—as it does for victims of tort damages, too—the extent of that inefficiency in land use appears to be small relative to the political hazards that flow from undercompensation (Burrows 1991; Usher 1995). The great economic virtue of just compensation for takings is that it makes those who ultimately make those decisions, elected officials, perceive the opportunity cost of what they do (Cordes & Weisbrod 1979; Stroup 1997).

Indeed, the moral hazard problem seems more likely to apply when compensation is not forthcoming. As several studies have indicated, landowners know that the discovery of an endangered species on their property will result in regulations whose effect is often to reduce the value of their land. In the absence of compensation, landowners have been known to try to dispose of or conceal the existence of the species, thus perversely defeating the purpose of the regulation (Thompson 1997).

The problem with constitutional commands for just compensation is that courts do not generally apply them to regulations (Eagle 1995). Although every state and federal court has been presented with the issue, judges have been extremely reluctant to apply the just compensation rule to land use regulations by local governments. The U.S. Supreme Court standard, which forms a floor on the states’ standards, is that compensation for a downzoning

like that of *Damwell* would not be forthcoming unless it resulted in the land having no viable economic use or if there were no palpable public benefit from it (*Agins v. Tiburon* 447 U.S. 255 [1980]). This standard is quite generous to municipal authorities and allows for a substantial amount of rent-seeking.

The result is that inefficient rezonings like those in *Damwell* are not automatically deterred. It is also likely that the low price of regulations will induce some communities to substitute them for expenditures that must be financed by taxation. For example, rather than providing recreational open space by acquiring land and making it a public park, the municipality might be tempted to restrict development on existing open space. This would provide the neighborhood benefits of open space, though generally not allowing public access to it, and this benefit may result in too few genuinely public parks being built.

The reluctance of courts to award just compensation for downzonings could be caused by the high transaction costs of awarding damages. It is often argued that it would be too difficult to assess the true damages to the land; that winnowing out false claims would be difficult; and the higher property taxes would be harmful to capital formation in the rest of the community (Kaplow 1986; Sax 1971). While these considerations might apply for regulatory changes undertaken over a much wider area, such as air-pollution standards, they are not persuasive at the local level.

In the *Damwell* case, the victims are obvious, and assessing their loss is no more (or less) difficult a task than that presented by traditional eminent domain. Indeed, there is a proven market in development rights in New Jersey, as the state government has funded their voluntary purchase over a wide area. Of course plaintiffs will seek to get as much in damages as possible, but that is, again, no different than owners of land taken for an airport runway.

As for the effect of the higher property tax, that seems entirely misplaced in this instance. The nonfarming residents of *Damwell* *should* face higher property taxes, both because it will temper their enthusiasm for regulation and because the benefits of the regulation redound primarily to them. Indeed, precisely because the benefits of the regulation do redound to nearby land, the taxes on that land should not cause excess burden to the taxpayers.

It is sometimes argued that compensation is not necessary to provide the signals of the market about the correct opportunity cost of open space zoning. The story, which is a version of

the Coase theorem, goes like this: If we simply allowed Damwell to do as it pleased with its zoning, it would eventually establish the most stringent possible regime. Rather than 10 acre zoning, it would have 1000 acre minimum lot size and allow no development whatsoever. At the same time, allow Damwell to grant zoning variances for those developers who wanted to build homes and to accept cash (or equivalent goods in kind) for the variances. Trade would ensue. Developer would pay the community for the right to build on the farmland. The community would sell those rights whose value to it exceeded the value of the open views and other public benefits from farmland. The resulting higher-density development would both reflect outsider's willingness to pay to locate in the community and pre-existing residents' true demand for open space (Fischel 1978; Nelson 1977).

The troubles with this scheme are two. One is that it discounts entirely the well-being of the owners of farmland. The "efficiency" of the plan is precisely the source of its unfairness (Fischel 1991). By completely divesting the current owners of their rights, those rights are transferred to the decision-makers—the other residents of Damwell—who now have an incentive to make efficient decisions.

The other trouble is that such a system is inherently unstable. In order to expropriate all of the development rights and the right to resell them, the courts and legislatures of New Jersey and the United States must throw out hundreds of years of property law (Kayden 1991). Such a radical change in property rights cannot be contained to a single township or a single area of property law (Michelman 1967). Landowners elsewhere would become anxious that their rights would similarly be disregarded, and they might rush to develop at an inefficiently early time (Dana 1995). Owners of other types of property would become anxious. Copyright holders might suspect that they were next and modify their behavior, moving into other lines of work or attempting to protect their works by other, more costly means.

Indeed, it is not even clear that such a scheme would work locally. Developers who were offered the newly expropriated development rights by the township might wonder, what is to stop the township from doing this again? I buy the rights to develop something next year on the land, make my preparations, and then the township changes its mind and downzones it again. Such a possibility is not an abstract theory. An example was the experience of New York City with rent control (Salins & Mildner 1992). When rent control was phased out in the early 1970s,

developers came forth with new units. The city subsequently adopted new rent controls that applied to the newer units, which caught the landlords by surprise. No longer. The story is now legendary among New York area developers, who repeat it with an air of “fool me once, shame on you; fool me twice, shame on me.”

This anxiety may go some distance toward explaining a seeming oddity in the U.S. Supreme Court’s takings jurisprudence. The Court tolerates downzonings as long as there is some colorable public purpose to them and as long as they do not result in the property being deprived of all economic use unless otherwise justified by the state’s common-law of nuisance and related doctrines (*Lucas v. South Carolina Coastal Council*, 505 U.S. 1003, [1992]). That standard would not help the farmers in Damwell, New Jersey, since “only” two-thirds of their land’s value is removed; a single family home on a ten acre lot is still a viable economic use.

The U.S. Court, however, would clearly frown on a subsequently-adopted scheme that required the landowner to pay most of the incremental value of land to the township in return for a variance to allow, say, five homes on a ten-acre parcel. In such an instance, the court would demand that the payment be earmarked for a project that was related to the purpose of the farmland regulation itself and that the amount of the payment was “roughly proportional” to the cost to the community of allowing the variance.

Numerous commentators, myself among them, have pointed out that the Court’s rules limiting exactions inhibit exchange between landowners subject to severe regulation and the government agency that has the power to modify the regulation (Fennell 2000; Fischel 1995; Gyourko 1991). To use my farmland example, if the New Jersey courts are willing to accept the ten-acre minimum lot size, it does not help those landowners subject to them to restrict the ability of the farmers to repurchase their rights from the township authorities. A reason for the U.S. Court’s position, however, could be that it is not willing to make downzonings even more attractive to local governments by allowing them to be sold for cash. Beyond that, the Court’s constraints may reflect a more profound unease about what the total scheme does to the fundamental framework of private property law. If they were to allow such trades as a matter of course, the foundations of private property might begin to crack in some unexpected places.

§ 8. Private Governments.

Zoning presents both an expansion and contraction of property rights. In the Tiebout model's framework, zoning is necessary to protect the local government's tax base and the value of homes that are not in areas subject to a residential private government. Yet an open-ended regulatory regime also invites majoritarian rent-seeking by homeowners in those local governments. Numerous scholars have suggested that the just compensation principle would go far to reconcile these problems, but courts of law so far have been extremely reluctant to do so. This section addresses the literature that asks, Is it worth reconciling them? Why not abolish zoning and replace it with some other institution that would accomplish its same aims with less of the disadvantages.

We need not look far for workable alternatives. A growing number of substantial residential developments are organized as private community associations (Dilger 1992). Association constitutions are typically set up by the initial landowner-developer, and buyers of homes in the projects must accept the governance rules of these organizations. The associations adopt and enforce regulations that are even more detailed and, in many people's eyes, more intrusive than municipal zoning (Sterk 1997). They are comparatively uncontroversial, though, since the governance of community association cannot usually change initial rules—adopt rezonings—without a supermajority of votes from residents (Ellickson 1982). Moreover, most associations do not allocate votes on a per capita basis, as municipalities do. Voting is allocated by unit ownership or some characteristic thereof (Barzel & Sass 1990). Tenants do not vote, and owners of two units would typically have two votes, regardless of whether they lived in the community or not.

The rapid growth of community associations testifies to their success in providing alternatives to zoning. Several thoughtful scholars have advocated expanding their role to displace many municipal functions (Ellickson 1998; Liebmann 2000; Nelson 1999). But the strongest testimony is still lacking. No community association has, to my knowledge, induced any local government unit within which it was located to disincorporate and shift the entire burden of municipal services and regulatory authority to the community association. There are many instances of community associations negotiating for tax rebates for the municipal services such as sanitation services that they provide themselves. And it could be that the development of

community associations in unincorporated parts of counties (a common pattern in the South and West) has deterred the incorporation of municipalities. But, for the most part, the community association movement seems to be an additional layer of governance, not a one-for-one displacement of local government.

One reason for the durability of municipalities is that they get favorable tax treatment by the federal government. Municipalities can issue tax-exempt bonds, and municipal property taxes—but not community association dues and assessments—are deductible for itemizers on the federal income tax. Indeed, several municipalities in the Los Angeles area were founded as private community associations, whose members then incorporated as municipalities to get the tax advantages (Miller 1981).

A less obvious explanation for the persistence of municipal governments where there are plentiful private alternatives may be their role as “mediating institutions.” In one important dimension, private community associations may be inferior to municipalities because the latter possess the power to displace the state government’s powers. Provision of local public goods by the state government is likely to be less efficient.

One could argue that private associations could fill the mediating role, but they would probably be less effective in important dimensions. A local government with police power can displace the state’s police powers. Municipalities need not simply be administrative conduits; their authority is essentially that of the state. Of course, all attorneys know the old saying that local governments are creatures of the state, so the state can override locals if legislatures care to do it. In reality, state legislatures are closer to being creatures of local government (Burns and Gamm 1997; Monkkonen 1988; 1995). All states elect legislatures by districts whose boundaries are almost always contiguous to some aggregation of local governments. Thus local officials are the candidates most likely to become legislators, and their continuing basis of support is most likely to be local government units. Without such units, the basis for geographic districts and the resulting responsiveness of legislatures to the demand for local control would evaporate.

Private governments would be problematical substitutes for local governments as mediating institutions. They could not assume the local version of the state’s powers to tax, regulate and employ eminent domain, except in the most limited circumstances. (If they could do so in general circumstances, they would then become municipalities, possessing zoning and other

coercive powers.) State-level interest groups such as public-employee unions and income-based lobbying groups would determine both state and local policy, often to the detriment of local residents. The baneful educational results of school-finance centralization, mostly induced by state courts hostile to localism, is evidence for this possibility (Husted and Kenny 2000). Indeed, blunting such interest-group influence was largely what motivated Judge Thomas M. Cooley's famous constitutional defense of local government autonomy in *People ex rel. Le Roy v. Hurlbut*, 24 Mich. 44, 106 (1871).

§ 9. Conclusion: Tiebout-Preserving Just-Compensation Doctrines.

Local government in the United States is rather like a bright child who has been spoiled by parental indulgence. The Tiebout model of local government is an economic formalization of one of the many virtues of local government, which have been apparent to observers at least since the time of Alexis de Tocqueville (1835). I have argued that a necessary condition for the Tiebout model to function is municipal zoning. The success of zoning is in its ability to manage community development in such a way as to preserve the value of previously-developed single family homes.

Like many other useful institutions, zoning can be pressed to excess. Large-lot zoning has subverted the mechanism by which the demands of outsiders can be felt within a locality. Owners of land upon which development can take place are the primary receptors of the demands of outsiders. The land market is a remarkably perceptive institution to the demands of future residents primarily because landowners can make money by catering to them. By taking this prospect away and distributing the right to develop to community authorities, large-lot zoning disfranchises would-be residents.

Judicial reluctance to review the content of local zoning laws and apply damages remedies is at the heart of this deficiency. Judges' deference might be caused by the belief that wealthy landowners are well-enough fixed in the political marketplace. Whatever the merits of this argument at the state or national level, it is surely untrue at the local level. Most observers agree that if the majoritarian principle applies anywhere, it is in the small local governments that, as a group, control the majority of land in most American metropolitan areas.

Although owners of developable land are not proverbial widows and orphans, the majority are hardly rich, and the homeowners who gain from this redistribution are typically in the upper

ranks of the income distribution. No coherent redistributive goals is advanced by ten-acre minimum lot sizes, even if it had no adverse effects on those outside the community.

Another source of judicial reluctance to intervene in blatant downzonings is the belief that the damages remedy would result in an open-ended assault on all municipal regulation. Even those judges who are inclined to protect property rights worry that a damages remedy would undermine the desirable features of local autonomy. Their anxieties are probably heightened by the scholarly deployment of the regulatory takings doctrine as a broad cudgel against all regulatory institutions, not just local zoning (Epstein 1985; Paul 1987).

Without wishing to dispute or endorse the scholarly merit of the broader use of the takings clauses, I wish to conclude by pointing out that there is a middle way. The key to a jurisprudence of takings that recognizes both the purposes of the clause and the limitations of judicial resources is to recognize that there are two aspects of local zoning that make it different from other levels of government and other types of regulation. First, owners of land do not have the option of “exit” to discipline the enthusiasms of local governments (Epstein 1992; Sterk 1992). Even in the locales most enthusiastic about regulation one seldom sees attempts to regulate the price of food and clothing in local stores. The likelihood that store owners would pull out of the jurisdiction stays the regulation. But land cannot be moved. Landowners can, of course, sell and leave, but the capital loss they endure is unavoidable because their land stays put.

The other aspect of zoning that makes it a prime and confinable object of judicial scrutiny is that the local legislatures that enact it are those most likely to engage in the majoritarian excesses that motivated the takings clause (Rose 1989). Madison’s Tenth Federalist warns against the evils of faction, but he really means local majoritarianism (Fischel 1995, chap. 3). Local governments are most prone to the tyranny of the majority, and judges ought to pay special attention to them for this reason.

If judges were to invoke regulatory takings, how should they balance the virtues of local self-governance with the virtues of private landownership? The most coherent answer was provided by Robert Ellickson (1973; 1977). He argues that both communities and landowners should be judged by a standard of “normal behavior,” which is a flexible application of the principle that “harm prevention” ought not to be compensated, but “benefit extraction” generally should (Oswald 1997; Wyeth 1996). On the one side, the clearest but not only violation of normal

behavior by the landowner would be to seek to develop something that fell in or close to the traditional category of nuisance (Kmiec 1988). Segregation of land uses by zoning into residential, commercial, and industrial zones would not violate this norm in most places. The clearest violation of “normal behavior” would be for a community within a metropolitan region that zoned its undeveloped land to achieve densities much lower than those already enjoyed by the majority of residents in the community. Requiring such low densities does nothing to promote the efficiencies of the Tiebout model or any other widely-held virtue found in local self-governance.

The normal behavior standard is best viewed as a temporal application of the golden rule (Fischel 1995). If current residents were themselves outsiders who might want to live in their own community, would they willingly embrace them? That is, if the residents of a community characterized by half-acre lots suddenly became strangers to their own community, would they want the lots zoned for ten-acre minimum lot sizes? The fact that this might preserve open space would then be tempered by the fact that most residents could not afford to live in the community.

Of course, I could be wrong about this. Perhaps current residents really would be willing to pay for a low density community. The great virtue of the damages remedy for regulatory takings is that judges do not actually have to get inside the minds of those who make the laws. If residents truly value the remaining land in their township as open space more than outsiders value it as housing lots, judges can let them do it (Kanner 1989). By insisting that the community pay for its preferences by paying damages for excessive land-use easements, they can accomplish that most American of remedies: Putting your money where your mouth is.

Application of the normal behavior rule would still allow for community specialization that is one of the virtues of the Tiebout model. Many communities would develop as purely single-family communities. Zoning would protect the assets of homeowners in those communities from subnormal interlopers unless they consented to such uses. A few communities might retain large amounts of land in open space or as farms. These communities would find it worthwhile to pay owners of land for their development rights or purchase the land outright as a nature preserve. Other communities would actively seek to have a mix of residential types and perhaps mix residences with commerce in a controlled manner. The success of such mixing in privately planned communities such as Celebration, Florida, and Columbia, Maryland, suggests that some

suburbs would use their zoning to go in that direction even if they were not required to do so (Burkhardt 1981; Frantz & Collins 1999). A virtue of a normal-behavior standard enforced by monetary damages is that allows the Tiebout model to work by inducing both prospective residents and existing residents to reveal their true preferences.

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