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ZONING AND LAND USE REGULATION

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Abstract

Zoning confers an interest in the property of each landowner to those who control the political power of the locality. This allows municipalities to shape their residential environments and their property-tax base. Voters in most communities will accept developments that raise the value of their major personal asset, their homes. The efficiency of zoning thus depends on the transaction costs of making mutually advantageous trades between existing voters and development-minded landowners. High transactions costs of selling zoning plus the endowment effect that zoning confers probably create land-use patterns with excessively low densities in American metropolitan areas.

JEL classification: R52, R14, K11, H7

Keywords: Zoning, Land Use, Municipal Corporations, Exactions, Local Government, Tiebout models

1. Zoning is a Municipal Property Right

Zoning is the most important method of land use regulation undertaken by local governments. It divides a jurisdiction into geographically contiguous 'zones'. The local zoning ordinance prescribes what may be done in each zone and what may not be done. The great majority of the population of the US lives in communities that are zoned. This chapter will treat related local land-use regulations as part of zoning. Thus subdivision regulations, in which developers' projects are subjected to review and conditions by a planning board, and historic preservation rules, which are often reviewed under a separate ordinance, are regarded here as part of zoning.

Zoning comprises a protean set of constraints on land development. Most land-use law can be amended and classifications changed without the consent of affected property owners. Among the most frequently observed strands of the regulatory web are minimum area per lot, use to which the lot may be put (for example, agricultural, residential, commercial, or industrial), maximum height of the buildings, maximum number of units that can be placed on the lot, minimum setbacks for a building from its

neighbors and the street, off-street parking requirements, and demands that developers pay for (arguably) related public infrastructure such as roads and sewers. Single-family homes are typically placed at the top of the list of uses to be protected. Early 'cumulative' zoning ordinances allowed homes to be placed in commercial districts but not vice-versa. Modern ordinances (since about 1950) typically establish exclusive zones, so that homes are not allowed in commercial areas.

In order to provide a focus for this survey, I shall advance a particular point of view about zoning. I regard zoning as a collective property right that is used by the municipality to maximize the net worth of those in control of the political apparatus (Nelson, 1977; Fischel, 1985). The establishment of zoning and subsequent changes in its rules redistribute control over land from its nominal owners to the dominant political faction in the jurisdiction, who may include many of the owners themselves in a collective role as residents.

In some cases, this redistribution may increase aggregate land values (and, arguably, aggregate wellbeing) in the community by offering a method to overcome free-rider problems in providing local public amenities (Hochman and Ofek, 1979). In other cases, the redistribution of property rights may have less efficient consequences. In all cases, however, zoning is viewed through my analytical lens as the product of rational calculation.

It is not an arbitrary constraint, even though landowners subject to it may sometimes view it as such. Nor is zoning usefully viewed as the product of far-sighted planners whose objective is to correct the misdeeds of the private market, an idea even planners have given up (Popper, 1988). Zoning is the product of a political process, and it serves the interests of those who control that process. The discussion of the scholarly literature in this article is informed by this viewpoint.

2. Zoning is Decentralized but not Unpredictable

The study of land use regulation in law and economics has been inhibited by a lack of consensus about the 'stylized facts' upon which economic theorizing normally builds. There are more than 25,000 local jurisdictions in the US that have the power to adopt zoning laws, and their authority to regulate land is derived from the legislatures and constitutions of 50 states, not from the federal government. Almost all states grant considerable latitude to local authorities. This section will nonetheless attempt to show that there are regularities in zoning which make it possible to theorize about it. The end of this section contains a brief discussion of sources to enable readers to explore institutional details and cases.

Zoning laws are similar from state to state because of the continuing influence of the Standard State Zoning Enabling Act promulgated by the US Commerce Department (under Secretary Herbert Hoover) in 1928. Nearly every state adopted the act or significant parts of it, and the corpus of judicial opinions that form the case law of zoning was developed largely in response to its application. Casebooks on zoning and land-use law have little trouble appealing to a national market. Differences among the states are more the result of differences in state-supreme court opinions than in the structure of their statutes or the behavior of the municipalities (Coyle, 1993).

Zoning has remained almost entirely a state-law issue despite periodic national commissions decrying its parochialism (National Commission on Urban Problems, 1968; Jackson, 1972; President's Commission on Housing, 1982; Advisory Commission on Regulatory Barriers, 1991). Proposals to have the federal government penalize local governments for unreasonable zoning standards have all died on the vine. The US Supreme Court gave a boost to the fledgling zoning movement in *Euclid v. Ambler*, but it has largely eschewed substantive review of zoning controversies since then.

Zoning is universally regarded as part of the government's 'police power' (Freund, 1904). The police power is the authority to make regulations. It is seldom defined in state constitutions, because the police power is regarded as one of the inherent powers of government. It is often treated in parallel with two other inherent powers, taxation and eminent domain. Property devaluations caused by police-power regulations are not compensable except under the infrequently-invoked doctrine of 'regulatory takings' (Epstein, 1985; Eagle, 1995; Miceli and Segerson, 1996). The much-discussed 1987-1993 US Supreme Court decisions that have revived this doctrine from its nearly moribund condition pose little threat to the vast majority of zoning ordinances (Fischel, 1995b).

It is typical for new zoning ordinances to 'grandfather' nonconforming, pre-existing uses rather than require them to discontinue. Early zoning ordinances envisioned the discontinuance of previously established, nonconforming uses without compensation (Weiss, 1987). The notorious case of *Hadacheck v. Los Angeles*, in which a long-established brick factory was surrounded by new homes and then ordered to be shut down (and its uncompliant owner put in jail), proved to be an early anomaly. Zoning laws adopted since the 1920s almost always allow pre-existing uses to stay if they are not overly noxious. This doctrine was not one required by the courts (both the California and US Supreme Courts ruled against Mr Hadacheck), many of which remain tolerant of rules that provide for uncompensated discontinuance of nonconformers after a somewhat arbitrary period of 'amortization' of capital costs has occurred (Berger, 1992).

Grandfathering permits existing community residents, who control zoning, to establish more rigorous standards for new development than that which applies to their own. (Another method is simply to create a new, more restrictive zone for undeveloped land; regulations must be uniform within districts, but not among districts.) A new zoning law that establishes three-acre minimum lot size does not require owners of homes on quarter-acre lots to tear down their homes or acquire more land. This obviously-reasonable bow to settled expectations is an important means by which zoning practice transfers rights from owners of undeveloped land to resident-homeowners. Because the existing residents do not bear any out-of-pocket costs, it is easier to impose stringent regulations on undeveloped land.

Grandfathering also provides an incentive for owners of undeveloped land to anticipate regulatory changes and perhaps build excessively early to protect their rights. (Some jurisdictions allow development rights to be vested merely by obtaining permits to build, but such permits are usually time-limited.) There is anecdotal evidence that such anticipation does induce premature development (Dana, 1995), and some theoretical models of regulatory takings have incorporated it (Mills, 1990; Riddiough, 1997).

Urban economists have sometimes attempted to model zoning as a single-valued constraint, such as minimum lot size. Such exercises can often be useful in working out implications of land-use constraints in an urban economics model (M.J. White, 1975; Rubinfeld, 1978). They can, however, be misleading when their models allow for simple evasions of the single constraint (Henderson, 1985). Zoning laws do not permit developers to evade a minimum lot size constraint by simply erecting larger amounts of capital on the larger lot. Height, setback and single-use requirements usually stand in the way, and where they do not, discretionary actions such as sewer connections can be withheld from an uncooperative or opportunistic developer. Monitoring is not a major administrative problem for zoning, and errors that do become grandfathered are easily avoided for future land uses by amending the zoning ordinance.

Sources of information on legal background include legal casebooks on land-use such as Ellickson and Tarlock (1981) and Callies, Freilich and Roberts (1994) and the leading property-law casebook, Dukeminier and Krier (1993). A monthly journal, *Land Use Law and Zoning Digest*, summarizes recent cases and legislation and provides experts' commentary on them. Influential law-journal articles are selected annually in *Land Use and Environment Law Review*. The leading planning journal is the *Journal of the American Planning Association*. Economics journals with numerous titles related to zoning and land use include *Land Economics*, *Journal of Urban Economics*, and *Urban Studies*. I treat institutional issues in chapters 2-4 of Fischel (1985). Some fine-grained stories about zoning by lawyers

with a national practice are contained in Babcock and Siemon (1985). A collection of law-review articles on property and land use is Ellickson, Rose and Ackerman (1995).

3. Local Political Authorities Control Zoning

The view of zoning as a municipal property right can help researchers avoid fruitless theorizing and misguided empirical work. The view assumes, however, that one can identify some people whose objectives are clear and who can control the zoning process to their benefit. Since zoning is embedded in local government politics, this requires an inquiry into the nature of that politics.

Many observers are impressed by how much neighbors affect zoning hearings. Tideman (1969) found that nearby residents had almost complete veto power over proposed variances to permit commercial activity in a Chicago suburb. (The veto power is necessarily *de facto*; courts have overturned zoning laws that formally permitted neighbors to deny variances, Michelman, 1977.) Nelson (1979) employed the view of zoning as a neighborhood entitlement as a springboard to reform that would explicitly acknowledge it and permit its sale to developers.

Although neighborhoods are influential where minor changes are proposed, it is misleading to focus on the administrative actions of zoning boards when evaluating the entire institution of zoning. To be valid in most US jurisdictions, zoning must be imposed on the entire municipality, though, of course, there are different zones within the municipality. The comprehensiveness of zoning makes it a property right embedded in the entire community. Legal doctrine is also hostile to rezonings that affect only one or two small parcels, condemning it in many cases as 'spot zoning'. Most economic theories and empirical work have evaluated zoning as something that affects entire municipalities.

Locating zoning at the municipal level leads to the question of who controls municipal politics (Danielson, 1976). The leading theoretical contenders are (a) the median voter; (b) the bureaucracy, including the planning profession; (c) interest groups, including developers, real estate interests, building-trades unions, and advocates for the poor; (d) higher levels of government, such as state legislators and the interests they serve.

There is no widely accepted choice among these alternatives because, I submit, the size (both area and population) of the municipality makes a difference as to which model is relevant. The evidence in support of the median-voter model of politics has come almost entirely from cross-section studies of local government (Holcombe, 1989). Within these studies, there is

evidence that smaller municipalities behave more along the lines of median voter theory than the larger cities (Bloom and Ladd, 1982; Holtz-Eakin and Rosen 1989).

The small suburb is the paradigm of much zoning research. The larger the government unit, the more likely interest groups will influence the process (Komesar, 1978), and thus the more likely the 'property rights' embodied by zoning will belong to them. But even in large cities, homeowners often have substantial influence on zoning because of ward representation (as opposed to at-large, citywide elections) on city councils (Clingermyer, 1993).

This leaves an interesting question of political choice. If the median voters (local majorities) really get their way at the local level, in contrast to the interest groups and bureaucrats who are said to dominate the statehouse, what determines the division of authority between local governments and the state? As a constitutional issue, the rule is that local governments are creatures of the state, and the state can modify the locals' power over land use by altering the instruments of their creation (Briffault, 1990). This would sometimes mean a change in the state constitution for cities with 'home rule' charters, but most state constitutions are easily modified and, even where they are not, judges are reluctant to overrule state legislative infringements on local authority. Indeed, in the tradition of 'Dillon's Rule' of statutory construction, judges have encouraged state supervision of municipal activity (Rose, 1989).

As a political issue, however, the choice between state and local authority is more complex. Nearly every state - Hawaii is the main exception - delegates substantial authority over land use to local governments. This is not because states have not thought to do otherwise. To mention only the most recent proposal, states were urged in the 1970s to assume much more control over land use. Dubbed the 'Quiet Revolution' in an influential book by Bosselman and Callies (1971), the idea was to have state and regional bodies take over much of land use regulation from local governments. A parallel movement, pursued more by the courts than by legislators, has attempted to override suburban zoning decisions because of their exclusion of low-income groups (Haar, 1996).

Neither of these two centralizing attempts has gotten very far. Judicial efforts to open up suburbs to housing for poor people have stalled in the face of substantial popular and legislative opposition (Fischel, 1991). Many state and national environmental laws add constraints on the discretion of local zoning, but very few have made locals accept projects that they do not want (Popper, 1988). Activist states such as Vermont and Oregon have largely established a double-veto system, in which developers can go from 'yes' to 'no' in working their way up the regulatory ladder, but not from 'no' to 'yes'.

4. Externalities and Nonconvexities May Warrant Zoning

The rationale for zoning typically offered in the economics literature is that some activities cause spillover effects on their neighbors and that the best way to deal with these spillovers is to employ police-power regulations to separate uses (Mills, 1979; Ihlanfeldt and Boehm, 1987). Both of these propositions have been subject to scholarly questioning.

The idea that urban spillover effects are pervasive was first challenged empirically by Crecine, Davis and Jackson (1967) for the city of Pittsburgh. Similar results were obtained for samples in Rochester, NY, by Maser, Riker and Rosett (1977) and in Vancouver, BC, by Mark and Goldberg (1986). These studies estimate the value of property, most often single family homes, using regression analysis. Among the explanatory variables (the right side of the equation), the studies include some measure of the property's proximity to the *bête noir* of zoning, the nonconforming use. The studies conclude that nonconforming uses do not seem to have much effect on homes, contrary to zoning principles, and thus zoning is not justified.

Numerous other studies (more often using suburban samples) have found that proximity to nonconforming uses does reduce home values (Li and Brown, 1980; Stull, 1975). But the more telling critique of the former studies is their inattention to institutional process (Grieson and White 1989; Fischel, 1994). How did the nonconforming use get into the residential neighborhood in the first place? Most larger cities have had zoning since the 1920s. The nonconforming uses were most likely let into the neighborhood by a zoning process. To satisfy objections of nearby neighbors who appear at zoning hearings, the nonconformers may have adjusted their plans to mitigate spillovers or compensate for them. If this process works well, one could find that nonconformers do not adversely affect average neighborhood property values. But this is not because zoning fails or is irrelevant; it is because zoning worked to allow an efficient outcome.

A similarly indeterminate outcome is reached when one looks at the evidence that nearby nonconformities do reduce single-family home values. It is possible that the nonconforming uses compensated previous homeowners with a lump sum payment, and subsequent buyers of the homes were compensated for the nuisance by paying lower prices. There is nothing necessarily inefficient in this process: The new, nonconforming shopping center, say, may have added more value to the location than it subtracted from the homeowners' value. For small areas, at least, it is likely that the only way to tell if a given land use regime is efficient is to see if it maximizes the land value of the area as a whole (see Section 6 below).

The second prong of the traditional economic argument for zoning holds that the best means of internalizing spillover effects is the coercion of the

police power. The source of doubt about this proposition is the extensive literature on private (that is, consensual) alternatives for dealing with localized spillovers. Among the best-known studies of alternatives is Siegan's (1972) survey of Houston, Texas, the only large city in the US that lacks zoning. Houston does, however, have private covenants, and its overall pattern of land uses is not markedly different from other cities. Houston does appear to have lower housing prices than other places (Peiser, 1981), but, as will be seen in Section 6, it is not clear whether this is a compliment to, or criticism of, its lack of zoning.

Another well-known study of covenants and nuisance laws as alternatives to zoning is by Ellickson (1973), a law professor whose economically-informed investigations will reward any scholar of land use. Ellickson concludes that small-scale neighborhood effects would best be dealt with by a combination of consensual arrangements and a revival of nuisance law in which fines are the preferred remedy. (Preferred because they give the maker of the necessary nuisance a continuum of choices to correct his behavior.) Private covenants need not be rigid. Residential private governments such as homeowner associations are often adopted even when zoning is available (Reichman, 1976; Ellickson, 1982a; Hughes and Turnbull, 1996). (Private covenants can prohibit activities that zoning permits, but covenants cannot permit owners to undertake activities that zoning prohibits on their land.)

Ellickson's (1991) book on the ways that extra-legal activity and informal norms govern small-area relations is also useful in considering justifications for zoning. His finding that small-area groups often choose to deal with neighborhood effects by using home-grown remedies even when the law is available should shake economists' unthinking acceptance of the idea that formal laws actually govern people's behavior (see also Rudel, 1989). Several historical studies have also shown that pre-zoning land use patterns do not differ much from those that developed after the 1920s, when zoning became widespread (Cappell, 1991; McMillen and McDonald, 1993; Warner 1962).

In order to justify zoning on efficiency grounds, one might look to a larger land area than the immediate neighborhood of a given property. The theory of nonconvexities suggests that land developers might overlook value-maximizing opportunities even though they are able to bargain with immediate neighbors to internalize spillover costs (Crone, 1983). Nonconvexities cause a number of local land-value peaks that individual developers might easily mistake for the global maximum. I have pointed out, however, that private developers are capable of building large-scale communities and are willing to accept neighborhood spillovers in order to maximize aggregate land values (Fischel, 1994). Nonconvexities are a good

reason for employing intelligent land-use planners to see the larger picture, but such planners could be employed by private developers as well as by government bodies.

It must be conceded, however, that most American communities are developed piecemeal by numerous developers who seldom coordinate their efforts beyond their immediate neighborhoods. To the extent that such lack of coordination may be corrected by public zoning, the nonconvexities argument may be the most important rationale for zoning. Some historians of American cities have emphasized that municipalities have long been the vehicle for entrepreneurial development schemes (Monkkonen, 1988), and modern urban economics has emphasized how cities create agglomeration economies in which government direction may be important (Henderson, 1988; Jacobs, 1969). Nonetheless, the link between zoning and 'solving' the nonconvexity problem is not thoroughly explored, and the evidence on growth controls (Section 7 below) suggests that some forms of zoning may work against efficient metropolitan development.

5. Rezoning Transactions are Facilitated by Exactions

If development-minded landowners value a rezoning (usually for a more intensive use) more than the municipal voters (or whoever controls the political process) value the parcel's current zoning, economists would expect that an exchange would make both parties better off. Developers would simply pay the community a sum that could be put in the municipal treasury and used to reduce local taxes or spent on additional public services. Hostility to such seemingly Pareto-improving moves is nonetheless widespread (Mills, 1989). This section will describe the subterfuges that facilitate zoning deals.

Some early zoning laws in fact allowed for private trades of zoning. They specifically permitted zoning changes (or at least zoning variances) if the landowner got the consent of all or nearly all of the neighbors to the property. The US Supreme Court struck down private dealmaking, however, in *Seattle Title Trust Co. v. Roberge*.

Nelson (1977) advanced a reform of zoning as a neighborhood entitlement that would explicitly permit its sale to developers by neighborhood groups. I have advocated increased fungibility of zoning, with the sales going to the municipal treasury (Fischel, 1985). Members of the planning profession are typically puzzled or horrified by this idea, but in fact many courts tolerate municipal dealmaking if it is not too blatant (Wegner, 1987). Informal dealmaking at the neighborhood level is a feature of many large-scale projects, and developers' advisory organizations such as the

Urban Land Institute offer guidance for negotiating with neighborhood groups and environmental organizations (Levitt and Kirlin 1985).

Dealmaking for rezoning is normally carried on at the municipal level. But there is lingering hostility to such transactions by the judiciary. Courts may strike down straightforward exchanges on the grounds that the police power must be inalienable (*Andres v. Village of Flossmore*; Kmiec, 1982). The California courts have likewise been unwilling to enforce deals on which communities subsequently reneged (often as the result of a voter initiative). Subsequent California legislation permitting 'Developer Agreements' has, however, apparently met most of the judicial objections to limiting the police power over time (Porter and Marsh, 1989).

The more subtle inducements to rezonings are called exactions. Developers whose projects are larger than a few units are routinely required to pay for new public infrastructure that benefits their projects. (This payment is often overlooked by critics who regard municipal provision of services to suburban development as a subsidy.) Although exactions were traditionally limited to highly localized costs, modern courts have expanded the range of services that developers may be required to pay for or provide directly. (The 'impact fee' is a somewhat more regularized form of exaction, but the border that separates the terms is imprecise.)

Exactions have received substantial attention in the scholarly literature. A well-rounded review is Altshuler, Gómez-Ibáñez and Howitt (1993), and a collection of essays is Babcock (1987). Whether exactions themselves restrict the supply of housing within a municipality by imposing additional entrance fees, as is commonly alleged, is not entirely clear. On the one hand, the prospect of lucrative exactions may persuade a restrictive community to allow development that it would otherwise have excluded (Gyourko, 1991).

On the other hand, the lure of filling municipal coffers might induce an otherwise prodevelopment community to adopt regulations just for the sake of exchanging them for exactions (Sterk, 1988). The example is not fanciful - the Mayor of New York once proposed just that, but the plan was overturned by *Municipal Art Society v. New York*. It is the latter possibility that seems to make American courts uneasy about exactions. The US Supreme Court in *Dolan v. City of Tigard*, attempted to limit exactions to the public costs attributable to the private project rather than allow the municipality to set the terms of trade. Whether this rule will actually benefit developers remains to be seen.

Issues of horizontal equity raised in the law and economics literature by Ellickson (1977) and Been (1991) do not categorically condemn exactions. Land-tax enthusiasts in the Henry George tradition favor exactions as a partial measure towards their goal of collective control of natural resources (Tideman, 1988), but the fairness of such selective taxation is questioned by

others (Epstein, 1993; Levine, 1994). Donald Hagman's balanced 'windfalls for wipeouts' proposal, which would require exactions when rezoning favored owners and compensation when rezoning penalized owners, is still worth serious attention (Hagman and Miscynski, 1978).

A further form of exchange of zoning is barter arrangements called 'Transferable Development Rights' or TDRs. Instead of the community proffering development rights in exchange for the developer's cash, the landowner is offered the right to develop elsewhere in exchange for acceding to new restrictions on her property. Because they amount to barter-like exactions, TDRs are in principle efficiency-enhancing, at least when compared to an inalienable zoning regime (Mills, 1980; Carpenter and Heffley, 1982).

When historic preservation was a young idea, many attorneys believed that the courts would require compensation for owners of property who were burdened by the restriction, and Transferable Development Rights were advanced as a low-budget means of compensation (Costonis, 1974). As the case law developed, however, landmark designations have seldom required compensation (*Penn Central Transportation Co. v. New York City*). TDRs have languished as a result, with only a few unusually restrictive agricultural and historic-district zoning schemes offering TDRs to landowners.

A final (but not the only remaining) means of exchange of zoning is through the property tax system. Developers of commercial property often point to the additional property tax revenue that the community will gain if their projects are allowed to proceed. To the extent that such revenues exceed the cost of services occasioned by such development, excess property tax revenues can be viewed as a side payment by which the community can be compensated for the local disamenities of commercial development (Fischel, 1975; McHone, 1986). The promise of increased employment and wages can also be a method by which developers persuade officials to make favorable rezonings, though this method works only when the community is geographically large enough or isolated enough to internalize much of the potential labor market.

My judgment is that, on the whole, sales of development rights are ubiquitous, but they involve higher transaction costs than the sale of other municipal assets. Communities that want to sell redundant school buildings may have a slightly harder time doing so than otherwise similar private entities. The variety of opinions by voters and other political interests adds to the transaction costs. But such transactions nonetheless occur regularly because of the obvious opportunity cost of failing to do so, and because few people regard selling an old school building as antithetical to the purpose of schooling. Zoning transactions do occur, but only after overcoming the additional transaction costs of hostility to the very idea by many citizens, public officials, judges and professional planners.

Exchanges of zoning probably happen often enough to lend credence to various studies that suggest that zoning 'follows the market' (Wallace, 1988; McMillen and McDonald, 1991; Wheaton, 1993). But following the market by allowing exchange is not the same thing as saying that the land market would be the same in the absence of zoning. Even under highly fungible zoning, communities would withhold those land use entitlements that they collectively valued more than developers did. As will be argued in Section 7 below, such a collective entitlement can also have an important effect on real property markets via the endowment effect.

6. The Tiebout Model with Zoning Makes Local Taxes more Efficient

Land use controls in the US are regarded as a necessary condition for the model of local government embraced by the economics profession. Tiebout (1956) suggested that the free-rider problem could be overcome for public goods that are confined to small geographic areas. For local public goods, Tiebout argued that preferences could be truly revealed if households could select among many geographically contiguous communities assumed to provide a wide range of public services. Because most large US metropolitan areas - in which most Americans live - have scores if not hundreds of municipalities, and because most people move several times during their lives, American cities approximate the necessary conditions for Tiebout's model.

Hamilton (1975, 1976) added the local property tax and 'fiscal' zoning to Tiebout's model. A criticism of Tiebout holds that the property tax system - the mainstay of American local government - encourages developers to build low-value housing in communities with high levels of public services. This creates two kinds of deadweight loss. The property tax itself discourages housing consumption, since a larger house increases one's tax bill but usually not one's benefits from public services. Second, willingness to pay for local services is not accurately revealed, since some low-demand immigrants can receive higher levels of local services than they are willing to pay for in property taxes. As a result, the Tiebout model's efficiency advantages are undermined.

Hamilton showed that both of these inefficiencies could be overcome if the original residents (or developers) of the community established a zoning regime that required subsequent development to generate property tax revenues that covered each household's expected cost of local public services. Such zoning is called 'fiscal zoning', though it is empirically indistinguishable from any other brand (Bogart, 1993). In the Tiebout-Hamilton system, the property tax has no deadweight loss, and the level of

public services is efficient because mobility by households among communities allows them to choose a known level of public services for which they must pay. Mobility allows households to choose the mix of services and housing they prefer and also encourages communities to keep costs down (Martinez-Vazquez and Sjoquist, 1988).

In proposing this model, Hamilton implicitly embraced the view of zoning as a municipal property right. Economists often view the local government fisc in the same terms as the national fisc. Levels of spending and taxes are, in the conventional view, determined by an entirely political process. But in the Tiebout-Hamilton world, local governments are much different; they must respond as purveyors of public services to the regional property market. As Oates (1969) first showed, if local governments provide high-quality local services at a lower level of property taxes - that is, if they operate like efficient firms - they reward their established residents with higher owner-occupied housing values. (Oates's study has been replicated many times; a survey and additional evidence on capitalization of local fiscal variables in home values is Yinger et al., 1988).

The same incentive that homeowner-voters have for supporting efficient levels of taxes and spending - maximizing the value of their own homes - also influences their support for local zoning. Zoning laws (and changes in zoning) that increase resident homeowners' net worth will be favored, assuming residents control the local political process, and policies that decrease it will be opposed. Zoning is also a means of controlling other municipal costs by limiting the types of development that may raise taxes or require public expenditures (Oates, 1977).

There is ample evidence that owner-occupied housing in well-planned communities is more valuable than similar units in poorly controlled areas. For example, Lafferty and Frech (1978) found that suburban communities in the Boston area that kept their commercial areas within closely contiguous zones rather than letting them scatter about had higher single-family home values (see also Burnell, 1985). Speyrer (1989) found that houses protected either by covenants or by zoning in the Houston, Texas, area were more valuable than houses in sections of Houston that were both unzoned and uncovenanted. (Sprawling Houston, which is unzoned and has areas in which covenants have lapsed or were never established, surrounds two small cities that do have zoning.)

The fact that more stringent zoning restrictions can increase housing values raises the question of why all communities do not zone to the most restrictive degree possible. One reason is that zoning may be sufficiently fungible that homeowners can be compensated for devaluations of their property. Suppose a proposed office building is opposed by nearby homeowners, who credibly complain that their property will be devalued by

the traffic, the building's shadow and other spillovers (Thibodeau, 1990). If the developer can compensate them with cash or in-kind payments, the existing residents may 'take the money and run', leaving behind houses that are devalued but neighborhoods whose aggregate property values (for both housing and office buildings) are higher. Thus the finding that spillovers devalue nearby housing is consistent with efficient land use.

The implication of the foregoing is that the efficiency of land-use controls is best evaluated by looking at aggregate land values, not simply owner-occupied houses (Lind, 1973; Sonstelie and Portney, 1978; Brueckner, 1990). But even this standard must be qualified. If the municipality possesses some monopoly power (*vis-à-vis* other communities) in its provision of developable land, maximization of aggregate land value may be inconsistent with Pareto efficiency (M. White, 1975; Pines and Weiss, 1976). While there is empirical evidence in support of the 'monopoly zoning' hypothesis (L. Rose, 1989; Thorson, 1996; Bates, 1993), it is nonetheless impressive how many local jurisdictions there are in US metropolitan areas (Fischel, 1981). At any rate, Congress in 1984 specifically exempted local governments from financial liability under the Sherman Act, thus staunching anti-monopoly litigation against municipalities (Deutsch and Butler, 1987).

7. Growth Controls and Endowment Effects Raise Housing Costs

The positive connection between zoning restrictions and housing prices (often pejoratively characterized as 'housing affordability') is often raised as a criticism of zoning (Schwartz, Hansen and Green, 1981; Katz and Rosen, 1987). Critics often point to the delays and cost-creating regulations involved in zoning. Such criticisms overlook that privately-planned communities often impose at least as many barriers to additional housing units and other changes in the status quo (Reichman, 1976). Moreover, as noted in Section 6 above, a benign residential zoning policy that makes the community more attractive would raise the rental price and the purchase price of both pre-existing and newly built housing units.

The foregoing optimistic view of zoning's effect on housing prices must be tempered by two observations. One is the previously mentioned monopoly possibilities. But even in areas with numerous local governments, it appears that local zoning laws can increase housing prices of entire metropolitan areas (Black and Hoben, 1985; Pollakowski and Wachter, 1990). It is also arguable that California's local growth controls contributed to that state's extraordinary housing price rise that began in the 1970s (Frieden, 1979; Ellickson, 1982b; Fischel, 1995). Monopoly and public-sector efficiency

cannot be the only reasons for the higher costs of housing associated with growth controls.

In order to explain how a competitive system of local government might cause inefficiently high housing prices, it is useful to start with the Coase Theorem's framework. If transaction costs are zero and the effect of initial entitlements on each party's willingness to pay (the endowment effect) may be neglected, Coase pointed out that it does not matter who possesses the initial entitlement. In the case of the owner of undeveloped land (landowner) versus the existing residents (community), the Coase theorem says the following: it does not matter whether the landowner has the right to erect 100 units of housing or the community has the right to keep it in open space (zero units). If only 60 units of housing are optimal, the community (assumed to speak with one voice here) will pay the landowner to refrain from building 40 of them if the landowner has the right to build. If the landowner lacks the right to build, she will pay the community for the right to erect 60 houses (but not 61 or more). (This idea is developed graphically in Fischel, 1985.)

Coase set out this theory in order to induce economists to investigate the consequences of dropping the assumption of zero transaction costs. As mentioned in Section 5 above, there are more-than-normal transaction costs involved in developers' purchasing rezonings. As a result, fewer than 60 housing units might end up being developed. Transaction costs act in this instance the same as an excise tax on housing. If this condition applies to all communities in the metropolitan area (as it normally would), housing prices will be higher than otherwise, even if there is no municipal monopoly power.

The 'higher than otherwise' needs some qualification, however. It cannot reasonably mean that housing prices are higher than they would be if there were no land use controls at all. In that case, the owner in the example might end up putting up too many houses (more than 60) because the community is unable to organize to purchase the 40 development rights. That is, one must consider the effect of transaction costs on the other side. One might, as in much blackboard law and economics, suppose that some third party can (without cost) determine what the optimum would have been in the absence of transaction costs, but that supposition hardly addresses issues in which transaction costs are pervasive.

A better way to think about the appropriate benchmark for determining whether zoning is too restrictive (and thus housing too expensive) is to ask whether another system of law could provide much the same benefits of zoning with fewer of the costs. The 'comparative systems' approach was recommended by Demsetz (1969), and its chief practitioner in the land-use area is Robert Ellickson, as mentioned in Section 4 above.

Aside from focusing research on the effects of transaction costs, the Coase theorem also raises the issue of the 'endowment effect' (Coase himself

brushed this aside). Even if transaction costs are zero, which party has the initial endowment - the development-minded landowner or the anti-development community - might still make a difference in final equilibrium because having the initial endowment affects their subsequent willingness to exchange. Economists have traditionally considered initial endowments as amounting to the same thing as income or wealth elasticity of demand. That is, if the community is entitled to restrict the landowner's development, the existing residents are richer than they would be if they had to pay the landowner (out of increased property taxes, say) to forswear development.

But this effect does not explain much. It can only work when the entitlements are first established. The owners of land favorably affected by zoning got a capital gain when it was first adopted, or, more precisely, when it was first known that it would be adopted and expected to last. Subsequent buyers had to pay more for the land as a result. New occupants of houses in restrictively zoned communities have to pay for the initial entitlement in making their purchase, leaving them no richer than if there had been no favorable zoning to begin with.

A more likely explanation for the reluctance to trade induced by the endowment effect is the 'offer/ask' disparity, which appears to exist independent of the amount of wealth (Hoffman and Spitzer, 1993). Many psychological experiments indicate that possession - in either a physical sense or from longtime usage - of an entitlement leads people to value it more than they would if they did not initially own it. The initial entitlement effect leads to disparities between willingness to pay (or 'offer') and willingness to accept (or 'ask') on the order of at least 1:1.5 and often 1:5 and higher (Knetsch and Sinden, 1984). The high-side disparities are especially pronounced when public goods, such as neighborhood amenities, are the subject of the experiments (Knetsch, 1990).

In light of the evidence on the endowment effect, it seems likely that community possession of the entitlement to develop should result in subsequent trades that are far more restrictive of development than if landowners had to be persuaded not to develop. The greater restrictiveness caused by the endowment effect cannot be considered inefficient by the usual economics standard. Pareto efficiency can be achieved for any initial distribution of wealth. The fact that there is more than one efficient outcome in the land-use game is no more remarkable than that there are many points on a contract curve in an Edgeworth box.

It is for this reason that economists cannot simply say that the restrictive zoning and resulting higher housing prices are inefficient. One could step back to challenge the legitimacy of the transfer of development rights from nominal owners to the community (Epstein, 1985). This is problematic, however, given the large number of historically involuntary transfers

(especially involving land) that are now regarded as legitimate, and given that there was never an age or a place in which private landowners had the untrammled right to develop as they pleased (Ellickson, 1993). Zoning is only a recent stage in governmental restrictions on land use, and it has been widespread for more than 70 years.

One way out of this box for economists is to invoke the contractarian approach of Buchanan and Tullock (1962) and Rawls (1971). Their approach allows economists to consider the distribution of initial entitlements rather than just the opportunities for exchange. It assumes a 'veil of ignorance' in which the people affected by zoning are to make rules about its operation without knowing what their position will be after the 'veil' is lifted and they go about their business. Thus persons making decisions about the proper distribution of entitlements do not know whether they will be landowners, initial community residents, or later community residents who would arrive after the zoning laws are established. (This mirrors one of Frank Michelman's (1967) approaches to the question of just compensation, to which Fischel and Shapiro (1989) applied a formal economic model.)

The people at this convention would balance the benefits of having a nice, low-density community against the benefits of being able to purchase housing in the same community at a reasonable cost. They would do this because they face a risk of being outsiders to the community (and thus have to pay more for housing) as well as being insiders to the community (and thus worry about preserving residential amenities). They might also be concerned that they would end up being owners of undeveloped land, which would induce them to ask themselves whether it is fair for them to bear most of the cost of providing the benefits of a low-density community. This invocation of the Golden Rule offers only a starting point for evaluating questions about land use, but it at least avoids arguments about the 'original intent' of the millions of people whose formal and informal actions over hundreds of years crafted today's property regimes.

8. Decentralized Zoning can Cause Metropolitan Sprawl

Behind the question of whether zoning is 'justified' on efficiency grounds is the question of why spatial proximity matters for the economy. Zoning would be both unnecessary and uncontroversial if all sites had close substitutes. People dissatisfied with neighborhood conditions would just move, and developers shut out of a site by zoning would yawn and go to the next community. Both of these are not what one observes at zoning hearings, and so economists of the law and economics persuasion should understand

some principles of urban economics. (Urban economics texts that also discuss zoning are Mills and Hamilton, 1993 and O'Sullivan, 1995.)

The first is a geography lesson. Urban activities, which account for most of the value-added in the economy, occupy only a tiny fraction of the land area of the United States. Less than 5 percent of the 48 contiguous United States' land area is urbanized by even the most generous definition of 'urban', which includes urban parks, commercial activity, factories and the transportation network as well as house lots (Fischel, 1982). If Americans feel crowded, it is because they seem to prefer crowded places to the 95 percent of the country that is barely occupied.

The concentration of capital and labor on a small land area defies the law of diminishing returns in that urban wages are higher than rural wages, and wages in larger cities are higher than in smaller cities. Firms and other employers can pay higher wages only if there are some agglomeration economies that offset the higher costs. Agglomeration economies - the higher productivity of conducting business in close physical proximity to other businesses - are the reason that cities exist and, arguably, the reason that modern economies are productive.

The impact of zoning on urban agglomeration economies is necessarily ambiguous. In an optimistic view, zoning can be seen as a means by which city dwellers reduce the public diseconomies of crowding while maintaining relatively high concentrations of housing and businesses. Zoning may be the least costly - in terms of minimizing efficiency losses from location conflicts plus administrative costs - means of dealing with urban disamenities. If this is so, then cities and the nations composed of well-zoned cities can become even more productive than they would be.

Making cities more livable attracts more people to live in them and allows for even higher densities, thus taking greater advantage of agglomeration economies (Henderson, 1974). In this sense, zoning is just like an effective sewer system, which allows for larger cities by making high densities healthier and more amenable. Zoning in this light is simply a public good-housekeeping rule: a place for everything, but everything in its place. (But see the arguments that alternative systems might work better, discussed in Section 4 above.)

The less optimistic view holds that zoning does its job of separating 'incompatible' uses too well. The modern enthusiasm (since circa 1970) for 'growth controls' is an example. Growth controls employ zoning powers to restrict the overall development of the community rather than to channel development to particular zones. The supposedly incompatible uses - which often include new housing much like that occupied by the majority of existing residents - are excluded entirely from the municipal boundaries. Because of the multiplicity of zoning instruments and the amount of

discretion involved, it is difficult to distinguish a 'growth control' ordinance from a 'good housekeeping' ordinance. Nonetheless, the qualitative distinction remains clear to most participants.

Laws that discourage all development would seem self-destructive if they were adopted by entire metropolitan areas. This may explain why such laws are seldom seen on a statewide basis. Discouraging development has high political costs because of reduced employment, wages, and state tax revenues. Most American metropolitan areas are, however, composed of many municipalities, each of which can adopt its own zoning laws. One sees some municipalities adopt growth controls while others either do not or positively encourage growth (Dowall, 1984). The net effects are not obvious. Development discouraged in one municipality can end up in another part of the same metropolitan area. The general pattern of land use may be unchanged and, given the Tiebout-driven heterogeneity of tastes among communities, the patchwork may be tolerably efficient.

Despite the foregoing concession to institutional self-ordering, I believe that zoning, at least the growth control variety, has a distinct and (I say with less confidence) deleterious effect on the larger economy (Fischel, 1990). Growth controls are most popular among high-income suburban homeowners (Ellickson, 1977; Dubin, Kiewit and Noussair, 1992). The peculiar pattern of development of modern American cities puts high-income people farthest away from the traditional central city. The uniformity of the 'noose' of high-income suburbs around the central city has been exaggerated, but it is nonetheless a perceptible phenomenon.

Because the majority of homeowner-voters in fragmented metropolitan areas work in other communities, they do not perceive an employment cost to adopting growth controls. This gives rise to a prisoner's dilemma: even if suburbanites were concerned that the sum of local growth controls harm the economic health of the metropolitan area and threaten their own jobs, they would be foolish to make the 'cooperative' move and relax their own zoning standards. The flood of development would overwhelm their community while nearby municipalities took the gains (higher wages, more jobs) without bearing the costs.

The net result of suburban slow-growth policies is that residential and commercial development is forced somewhere else. Although central cities are sometimes eager to take what the suburbs do not want, the jilted developers more often prefer a location with less crime, congestion and corruption. As a result, the development heads to more rural locations, though still arguably in the metropolitan area. The net result of growth controls, I submit, is suburban sprawl. (For theoretical urban models that obtain this result, see Moss, 1977; Sheppard, 1988; and Turnbull, 1991)

Suburban sprawl has been so overblown in the academic planning literature, much of which seems to cast all suburban development as presumptively-excessive sprawl, that economists are apt to discount it entirely. American cities began suburbanizing well before zoning was in fashion, and suburbanization is a worldwide phenomenon. The belief that land-use controls can reverse this trend so as to march businesses back to a single central district and herd commuters into subway cars can charitably be described as naive.

Nonetheless, there is evidence that American cities are more suburbanized than those in otherwise comparable countries, including Canada (Mieszkowski and Mills, 1993). The suburbanization gap cannot be entirely accounted for by America's subsidies to housing (obtainable in high- as well as low-density configurations), its higher income (not so much higher), or large stock of land. Farmland value, not the stock of land itself, is the more relevant economic constraint on the outward edge of suburbanization (Brueckner and Fansler, 1983).

America's freer land market leads to speculation, but that should lead to higher densities, not to lower density 'sprawl' (Ohls and Pines, 1975; Mills, 1981). Speculators buy up land at the urban fringe well in advance of development. They decline to sell to initial developers with low-density plans and wait until higher-density uses materialize. This creates a pattern of leapfrog development followed by higher-density infill, with the long-run result directing higher-density uses closer to city centers (Peiser, 1989).

Simply to say that American cities are more sprawling is not to say that local zoning-induced sprawl is inefficient. It could be that other nations' metropolitan areas are inefficiently dense as a result of national land-use policies (Hannah, Kim and Mills, 1993; Mayo and Sheppard, 1996). What leads me to the suspicion of sprawl's inefficiency is that numerous studies have found that the instruments of low-density zoning cause substantial losses to owners of undeveloped land (J. White, 1988; Brownstone and Devany, 1991). Only a few have attempted to compare these losses to the gains that simultaneously accrue to owners of previously-developed land (Frech and Lafferty, 1978), but there are no cases in which the apparent gains exceed the losses. Given that localized net benefits of public activity should to some extent appear in urban land values, there is reason to suspect that American growth controls are inefficient.

In attempting to explain this alleged inefficiency, one must look at some larger issues that distinguish American cities (here to mean metropolitan area) from those of the rest of the world. The distinctive differences are American cities' more fragmented government, their higher violent crime rates and, compared to most developed nations, the wider variation in income, most probably associated with America's history of racial inequality.

High-density housing (especially publicly-financed housing) and commercial development are widely associated in the public mind with higher crime rates, higher taxes and lower quality public services, all of which lower the value of existing owner-occupied housing. While many courts and statewide policies are hostile to selective exclusion of the poor (Haar, 1996), they usually look benignly on general exclusion in the name of open space, small-town character, and farmland and wetland preservation. Rational suburbs have embraced the latter causes to help pull up the drawbridge. The frequent local alliance between promoters of farmland preservation and environmental protection - the former activity usually less tolerant of species diversity than a typical housing subdivision - may be accounted for by their joint effect of forestalling development and preservation of open space.

The success of exclusionary policies in turn encourages the maintenance of local government fragmentation. There have been many studies that have decried the inequalities that suburban fragmentation brings. Their authors, most notably Downs (1973, 1994), have proposed policies that would reduce the fragmentation of metropolitan governance. But if fragmentation is the result of rational concern about crime and the quality of public services by a majority of voters, it seems unlikely that such reforms will succeed.

I think that anxiety about crime and related social disorder is the most powerful reason for excluding growth (Skogan, 1990; Cullen and Levitt, 1996). Policies that have made local services and property taxes more uniform - especially California's Serrano decisions and Proposition 13 - have not produced any apparent reduction in suburban exclusivity. If a 'first cause' of suburban exclusiveness could be identified, I would suppose it to be anxiety about crime and related public disorderliness.

The consequences of excessive decentralization are widely regarded as involving excessive commuting and the external effects that come with automobile traffic. Evidence suggests, however, that automobile commuting has not risen much, largely because employment has become nearly as suburbanized as residences (Gordon, Kumar and Richardson, 1989). But decentralization of firms may itself have adverse effects. On a distributional level, it may make it more difficult for members of minority groups, who may find it more difficult to purchase residences in the suburbs, to find employment (Gabriel and Rosenthal, 1996). On an efficiency level, excessive decentralization of firms may reduce the agglomeration economies that make cities productive places. Changes in communications technology may be making such agglomeration economies less important, so it is difficult to evaluate the extent to which decentralization, whatever its cause, is inefficient.

9. Localism Trades Environmental Quality for Fiscal Benefits

The previous section addressed concerns that local zoning is too restrictive of development, especially in limiting the extent and type of housing. But there is another group of critics who have argued that zoning is not restrictive enough. Advocates of environmental protection express exasperation with local decisions that permit developments whose adverse effects spill over to the rest of the region (Reilly, 1973). This gives rise to at least two issues.

The first has it that competition among municipalities for commercial and industrial property will create a 'race to the bottom' in environmental quality, causing the environment of both the community and its region to be degraded. The second issue concerns itself with relations between the community and its immediate neighbors. It is commonly asserted that communities pursue a 'beggar thy neighbor' policy by zoning land on municipal borders for such unlovely uses as landfills, shopping centers, sewage plants and industrial parks. Because such policies may invite retaliation, the story goes, beggar thy neighbor also reduces the quality of the regional environment. I shall treat them in reverse order.

The ratio of evidence to assertion of the beggar-thy-neighbor idea is remarkably small. Sewage plants are, by casual observation, often close to municipal borders, but that is most likely because water runs downhill. The least costly place to put such a plant is at the lowest point in the community, and that is often the point at which a river leaves the jurisdiction and enters another. (As I tell my undergraduates, if it were practicable to require municipalities to take in drinking water downstream and release sewage in the same river upstream, each community would have the optimal incentives to treat its sewage. For less fanciful, common-law approaches to disputes among municipal neighbors, see Ellickson, 1979.) But it is worth unpacking this proposition because of the light it may shed on intercommunity relations and their consequences for environmental issues.

Imposing unilateral costs on one's immediate, permanent neighbors is perhaps one of the least profitable activities in the world, as any homeowner knows. The reason is that one has to live for a long time with such neighbors and, over the long run, there will be many opportunities for the neighbor to retaliate. The retaliation at the municipal level could be unfavorable treatment along other borders, but it more likely would be lack of cooperation in other intermunicipal activities. They include mutual aid agreements for fire and police protection, cooperation for specialized school programs and coordination of regional development activities.

This does not mean that all intermunicipal spillover will be internalized by a self-interested spirit of neighborliness. But self-interested

neighborliness is observed often enough in other activities that it would be strange to rule it completely out in the municipal land-use context. Where one would expect it not to succeed is when the costs can be imposed on a highly diffuse and remote group of communities. Upper-atmosphere and large-river pollution would not necessarily rise to being an affront to one's immediate neighbors. But hardly anyone disputes the idea that such spillovers require the attention of larger-area governments, and that most of the controls should be aimed at the activity that gives rise to the pollution, not the specific location of the polluter.

The 'race to the bottom' claim is a more common and more important criticism of local land-use autonomy (Esty, 1997). There is little doubt, as an empirical matter, that municipalities do seek to have commerce and industry locate within their borders in order to promote local employment and improve the local tax base (usually property taxes). Because many communities do so, it is likely that some of the competition takes the form of relaxed environmental standards, if one understands such standards to include all conceivable infringements on residential amenities.

Much of the criticism of this process comes from those who at least assert that any public sacrifice of environmental quality in exchange for other goods is unacceptable. It is generally agreed that some forms of exchange are desirable and that the presumption of a catastrophic 'race' to an environmental Armageddon is not warranted (Oates and Schwab, 1988; Revesz, 1992). But less extreme criticisms of regulatory federalism are possible. The more plausible anxieties focus on failures of the local political process to value the foregone amenities (Esty, 1997). Within the homeowner-dominated community, one would expect that amenities would be capitalized in the value of homes. Lower property taxes (or other ongoing fiscal benefits from firms) increase their home values, but the disamenities of firms that pay the extra taxes would tend to lower them.

Several theories hold that this trade-off provides efficient incentives in the homogenous homeowner community in which the median voter prevails (Fischel, 1975; Fox, 1978). The implication of this view is, incidentally, that most 'property rich' communities have in fact paid for the fiscal benefits of an industrial tax base in foregone amenities; the larger tax base is not a windfall. This does not mean, of course, that homebuyers in such communities received no gains from the exchange, only that redistribution of tax bases would cause some regret (and capital losses) among communities that had been willing to accommodate industrial uses (Gurwitz, 1980; Ladd, 1976).

All of this is not to suggest that there are no asymmetries in the local process. Voters who are renters might be indifferent to improvements captured in property values, so they might be more inclined to vote for land-use policies that increased their wages even if property values shrank. (This

could be partly offset by rent control, which gives renters a stake in property value changes.) On the other hand, compensatory payments by firms may be inhibited by the transaction costs of working through the public sector, thus biasing the result towards a residential status quo.

The more troubling issue in this vein is the charge of 'environmental racism' (Been, 1993). The charge is that communities with minority populations are forced to endure disproportionately large amounts of unpleasant commercial and industrial development. The evidence for this is typically that the poor, who are disproportionately minority-group members in the US, are more often close neighbors to commercial and industrial development than the rich. The larger question is whether this is the result of a political process that is biased against the poor generally and minorities specifically.

The difficulty with the environmental-injustice charge is that evidence of it hinges on a particular historical sequence of events. Some sequences would seem benign. Been (1994) developed evidence that low-income and minority households establish residence near waste incinerators after they have been established - they moved to the pre-existing nuisance. But how did the 'nuisance' get placed there in the first place? Was it forced upon local governments or did the locals actually invite it for tax or employment reasons?

It is known that low-income communities are often more willing to accept - not forced to accept - fiscal and employment benefits in exchange for permission to develop commercial and industrial properties (Fischel, 1979b). This means that poor communities, which often have disproportionately large minority population, would, under a median voter model, end up with disproportionately large amounts of unpleasant commercial and industrial development. They would get it because they wanted the fiscal and employment benefits. (The lower participation rate of low-income voters in the local political process does, however, raise the question of whether silence means consent.)

Within larger, more heterogeneous municipalities, the issue would seem to turn on the efficacy of logrolling and neighborhood representation in siting unwelcome but necessary uses. One could imagine a process in which mutually advantageous logrolling results in industrial development largely in the low income areas whose residents value the employment benefits more. Less optimistically, one could also imagine underrepresented minority areas getting the short end of the stick, all of the costs without much benefit. Hinds and Ordway (1986) found that commercial rezonings, often not desired by residential neighbors, were once more likely to occur in black districts in Atlanta than in predominately white districts. They noted, however, that the disparity was eliminated once black neighborhoods were

better represented on city council as a result of eliminating at-large elections and adopting council districts.

10. Conclusion: Municipal Corporations are Key Institutions

It has been my contention that viewing zoning as a municipal property right provides better insights into zoning than other approaches to zoning that neglect property rights issues. This has been a somewhat one-sided test, though, since I have not explicated other theories. Most other approaches are based on the principle that externalities in the land market can be corrected by government planners (Pogodzinski and Sass, 1990). The property rights approach attempts to unpack that sentence by asking what, precisely, constitutes an externality, and what institutions are best for dealing with conflicts among neighbors, whether they be adjacent property owners or cities and their suburbs.

The development of a law and economics approach to land use controls has been hampered by scholarly neglect of the role of the municipal corporation, which is in contrast to the vast literature on private corporations. Many law and economics treatments of land use proceed as if the nature of the problem were private, as between two adjacent landowners, and the only recourse the parties had was to a common-law court that had a choice between equitable (injunctive) and legal (damages) remedies (Cooter and Ulen, 1988, ch. 4). I believe that the private-law focus of mainstream law and economics has resulted from the application to practical issues of the theoretical treatments of the property rule/liability rule issue, which often uses land-use disputes as an example (Polinsky, 1979; Krier and Schwab, 1995). The touchstone of the property rule/liability rule issue is Calabresi and Melamed (1972), who also used land-use conflicts as examples, and the two pre-eminent examples of the distinction are the leading case in nuisance law, *Boomer v. Atlantic Cement*, and its forlorn but fascinating cousin, *Spur Industries v. Del Webb*.

Boomer concerned the nuisances of blasting and cement dust that the cement company inflicted on Mr Boomer and a group of pre-existing neighbors. *Spur* concerned a smelly Arizona cattle feedlot next to which Del Webb built a retirement city. The legal remedies - cast as 'property rules' and 'liability rules' - in both cases are much discussed in the literature, but such remedies are in fact almost entirely beside the point in the real world. The reason is that such uses are subject to zoning in most communities. (Indeed, the *Spur* court pointed out that Del Webb, the developer of houses adversely affected by the feedlot, was less deserving because he had skipped

out of the zoned area of Phoenix, and for that reason Del Webb had to pay Spur to move its feedlot.)

The problems of organization, information gathering, strategic bargaining, decision making and other transaction costs that are said to hobble private bargaining are in fact almost always channeled through municipal corporations. The channeling does not 'solve' such problems, but it does cast them in a different light for scholars. All municipalities possess the powers of eminent domain, taxation, and police-power regulation. Almost all of them are subject to democratic governance procedures, and the extent of their authority is broad (Ellickson, 1982b; Briffault, 1990). No applied theory of zoning or discussions of general land-use policies should neglect this long-standing institution.

Acknowledgements

I am grateful for comments from Dan Esty, Jim Krier, and David Mills.

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