

**The Rise of the Homevoters:  
How OPEC and Earth Day Created Growth-Control Zoning that  
Derailed the Growth Machine**

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**Abstract:** In the 1970s, unprecedented peacetime inflation, touched off by the oil cartel OPEC, combined with longstanding federal tax privileges to transform owner-occupied houses into growth stocks. The inability to insure the newfound value of their homes converted homeowners into “homevoters,” whose local political behavior focused on preventing development that might devalue their homes. Homevoters seized on the nascent national environmental movement, epitomized by Earth Day, and modified its agenda to serve local demands, thereby eroding the power of the prodevelopment coalition called the “growth machine.” The post-1970 shift in the American economy from manufacturing employment to knowledge-based services rewarded college graduates and regions that specialized in software and finance. Residents of suburbs in the larger urban areas of the Northeast and West Coast used existing zoning and new environmental leverage to protect their rising home values. The entrenchment of these regulations has slowed the growth of the economy and increased national income inequalities. I argue that the most promising way to stanch this trend is to reduce federal tax subsidies to homeownership.

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## 1. Introduction: Ngrams and the Origins of Growth Controls

Google has a free on-line feature called the Ngram Viewer. It graphs the annual frequency of the use of a word or phrase in Google's digitized collection of millions of books, scanned mostly from university libraries. (It does not include newspapers or periodicals.) The word or phrase can be used in any context, and simply being mentioned more or less frequently can be a measure of its salience in public discourse.

As an example, the Ngram in figure 1 tracks two phrases, "data is" and "data are." We Latin-trained amateur linguists have always insisted that "data" is a plural noun, the singular of which is "datum." Figure 1 demonstrates that in the corpus of American English (published in the USA) publications, "data are" still dominates "data is," but the former is now declining and the latter is rising. (The convergence trend is less apparent in British English.) Whether the two lines will cross is perhaps moot: The note provided by Google at the bottom of all Ngrams informs users that "Raw data is available for download here."

Ngrams may also offer clues about changes in the nature of land use regulations in the United States. I have argued that zoning's rapid rise and spread in the 1910 to 1930 era was caused by the spread of low-cost automobiles and, more particularly, their adaptations as freight trucks and passenger buses (Fischel 2004; 2015, chap. 5). Trucks and jitney buses enabled industry and apartment houses to relocate from ports and central cities to the suburbs, to the dismay of prospective homebuyers who thought they were escaping such neighbors. Homebuyers' reluctance to commit to a large purchase that might be devalued by subsequent development was the main reason responsible developer organizations sought to promote zoning (Mark Weiss 1987).

But it appears that land use regulation become notably more restrictive during the 1970s. This is suggested by the Ngrams for terms related those restrictions, "growth controls," "farmland preservation," and "downzoning" (figure 2). These terms were statistically nonexistent before 1970, and all rose at the same time. Later arrivals include "NIMBY" (the abbreviation for "not in my backyard") "conservation easement," and "smart growth" (figure 3). The rapid rise in the salience of these terms around 1970 suggests that something important was going on. Similar Ngram patterns, not shown here, can be seen for terms such as "exclusionary zoning," "wetland protection," and "affordable housing." Land use regulation of the 1970s involved a major change from the immediate past, a change that invoked a new vocabulary that is now so pervasive that we may have forgotten that mid-century planners and scholars were unfamiliar with them.

The Ngram that encapsulates the thesis I advance in this paper is figure 4, which juxtaposes "stock market prices" with "housing prices." Before the 1970s, mentions in the general literature of housing prices were few relative to stock market prices. People talked and wrote about the stock market but not much about housing prices. In the early 1970s (all data are smoothed by three-year shoulder intervals), discussion of housing prices zoomed both in an absolute sense and relative to stock market prices. (The Ngram "stock prices" is so large as to dwarf the frequency of "housing prices." Generally speaking, Ngram analysis is most revealing with phrases of comparable frequency.)

A similar story is told by the quantitative data on the growth of housing prices and capital gains from homeownership, as illustrated by figures 5 and 6, respectively. Housing prices after World War II were flat or generally declining up to 1970. Capital gains from owning one's own home were modest. The early 1970s represented a sharp break with the past in the composition of financial assets. According to my colleague Jon Skinner (1994, 191), who compiled the

capital gains evidence in figure 6, “Between 1955 and 1970, the share of owner occupied housing in total household net wealth hovered around 21 percent. In the nine years between 1970 and 1979, housing wealth climbed to 30 percent of net wealth.” The ngram evidence shows that this shift was widely noticed. It corresponds closely with a fundamental shift in land use regulation. (The rise from 21 to 30 percent may not sound enormous, but it should be understood that, as with housing prices, capital gains from home values were much larger in the urban areas of the Northeast and West Coast, as discussed presently.)

My theory holds that inflation in the 1970s, driven initially by the rise in world oil prices by OPEC, made owner-occupied housing a highly desirable asset. The benefits of the tax-favored status of homeownership rise relative to other assets during inflation (James Poterba 1984). But this asset has a large downside that was the fundamental premise of *The Homevoter Hypothesis* (Fischel 2001): As an asset, an owner-occupied home is almost impossible to diversify and is subject to risk from changes in the neighborhood and the community in which it is located. Unlike fire and theft, adverse community and neighborhood effects cannot be insured by homeowners. Homeowners had since the 1910s cared about keeping footloose industry and apartment houses separate from their neighborhoods, but they lacked the organizational ability to forestall community and regional growth that would threaten the upward growth of their home values in the 1970s. The unprecedented rise in housing prices gave homeowners additional reasons to care about public land-use decisions (Voith and Gyourko 2002). This was not confined to the United States. Elizabeth Taylor (2013) demonstrated that housing prices, not just income, were important in determining political resistance to new development in Melbourne, Australia.

## **2. The “Growth Machine” Prevailed before 1970**

Conventional public choice theory predicts that interest groups will tend to capture the regulatory authority of their industry, and housing should be no different. Housing developers had the advantage of being well organized and strongly motivated to control the development process. The sociologist Harvey Molotch (1976) invented a term for this control, “the growth machine.” Developers in the early twentieth century were originally in favor of zoning because it served as a kind of insurance policy for prospective homebuyers (Marc Weiss 1987; Fogelson 2005). With zoning in place, homebuyers could be assured that subsequent neighborhood changes would be less likely to adversely affect their large investment.

Developers did not promote zoning with a starry-eyed faith in planning. They knew that letting this particular genie out of the bottle could be hazardous. J.C. Nichols, a pioneer in developing (privately) planned suburban communities in Kansas City, also advocated zoning, but, as his biographer points out, “Real estate operatives slowly came to realize that by accepting zoning *and getting themselves appointed to zoning boards and commissions*, they could influence governmental and public decisions in their favor to an even greater degree than before.” (William Worley 1990, p. 90; [my emphasis].) They seem to have succeeded. Marina Moskowitz (1998, 311) describes how 1920s land use commissions were dominated by the “professional-managerial class.”

In the pre-1970 era, established homeowners sometimes did oppose development, but they were comparatively unsuccessful. In his lengthy history of the planning profession, Mel Scott (1969) describes a few instances of suburban homeowners opposing apartment developments (p. 458) and public housing (p. 418), but the mentions are surprisingly few, and the opposition normally did not halt all development. Growth controls are not mentioned at all even though

Scott was influential in the movement to preserve San Francisco Bay. His history laments that planners had little to do with zoning, and his wide-ranging examples could have been taken by Molotch as evidence in support of the dominance of the developer-dominated growth machine. (Molotch in his original paper was more concerned with exploring the implications of his idea than testing it against alternative hypotheses. A later elaboration of the theory with John Logan did discuss some contrary evidence about the effect of growth controls, but Logan and Molotch [1987] dismiss it as a minor issue, a conclusion they reaffirmed in the preface of the 2007 re-issue of their book.)

There is little doubt that zoning regulations were relatively permissive before the 1970s. This is not to say that developer interests always got what they wanted. But they were able to manage opposition through negotiation with local authorities. A well-known example was the development of the original Levittown (as it became known) housing tract in Hempstead, Long Island (Barbara Kelly [1993, chaps. 1 and 2]). The Levitt company acquired experience building wartime housing for workers and adapted its mass production techniques for suburban houses. The company needed Hempstead to change its zoning laws to accommodate its construction methods, particularly the town's requirement that units have basements rather than the concrete slab foundations that Levitt wanted to use. There was some opposition to the project from neighbors, but the town council and planning authorities gave the builders almost all of the changes they requested. Levitt packed one town hearing with recent World War II veterans who were looking for housing. The fledgling suburban newspaper, *Newsday*, was eager to expand its subscriber base and wrote numerous articles and editorials in support of Levitt. The newspaper's occasional screeds against unnamed "elitists" in nearby communities who opposed expansion of Levittown indicate both that there was opposition and that it was largely ineffective.

### **3. Homevoters Joined and Sustained the Environmental Movement**

After 1970s inflation caused homeowners to demand more protection of their assets, they needed to break the hold of the prodevelopment forces on zoning regulation. The increasing value of their homes created a common interest among homeowners, but they needed access to institutions to control growth. Part of the access came from the local political process. In smaller governments, such as those of the suburbs, homeowners simply elected officials who were more attuned to their interests. In a series of nuanced histories of regulation by suburbs in the Boston area, Alex von Hoffman found that around 1970, developer-friendly zoning was displaced by procedures that reduced total homebuilding. One long-time developer whose family had been local farmers plaintively lamented the popular opposition to further development, "Paradoxically, I sell to people who become my enemies" (Alex von Hoffman 2010b, 17).

Where the "growth machine" was better entrenched, homeowners needed to adopt devices that could do an end run around zoning or add layers of review so that the local government's decision to rezone or otherwise accommodate new development would not be the final word. In political affairs, homeowners became an interest group that I have labeled "homevoters." They use their local votes and other political activities to protect and promote the value of their owner-occupied homes.

The environmental movement in 1970 provided an important vehicle for homeowners to add the layers of regulatory review to slow down the growth machine. The environmental laws themselves were not obviously designed for this purpose. They were largely motivated by concerns that were either nonurban—wilderness preservation and public lands management—or

were applicable to urban development only in an indirect way, such as water quality and air pollution (Sax and Conner 1972).

Environmental organizations had always been at a disadvantage when they were opposed by development organizations. Even with new laws that offered them more leverage, they suffered from the fact that what they were seeking was the provision of a widely shared public good that represented a small fraction of the public's consumption budget. But they did have an organization, and this offered a mutually advantageous merger of interests with homeowners. Homeowners had a rising demand to control development in their neighborhoods but not an effective anti-growth organization. Environmental groups provided the organization, and they were willing to extend their goals to include protection of suburban open space as well as that of the nonfarming rural areas. Bernard Frieden (1979) was one of the first to systematically describe the new use of environmental review to stop housing developments in the San Francisco Bay Area. Richard Walker (2007), who is enthusiastic about the new regulations, confirms that stopping development remains high on the Bay Area's environmental agenda.

The alliance between environmental organizations and suburban homeowners created an offset to the growth machine. The new anti-growth machine passed state laws mandating second review of local zoning decisions (Bosselman and Callies 1971), expanded the legal standing of objectors to growth both within the community, and, somewhat paradoxically, embraced preservation of farmland on the edges of urban areas. It is paradoxical because in truly rural areas, environmental interests—in water quality especially—have often been at odds with the interests of commercial farmers and ranchers. As public choice economists might expect, the concentrated interests of homeowners overrode the agenda of environmentalism in locations where farmland preservation promoted the value of residential real estate. Wind turbines may help save the planet from carbon overdose, but not if they interfere with my view of Nantucket Sound.

One might ask whether the alliance of homeowners and environmentalists was simply an extension of previous trends, amplified by a new environmental consciousness of the 1970s. It is difficult to prove a negative, but histories of environmental thought indicate that the tension between industrialization and the pastoral ideal began in the early nineteenth century (Leo Marx 1964). As a political movement, early environmentalism was often the domain of high income elites, who often expressed a general contempt for the lower classes through a sometimes painful-to-read eugenics argument (Jedediah Purdy 2015). Environmentalism for the first two-thirds of the twentieth century was concerned mainly with nonurban areas.

Christopher Sellers (2012, 272) argues that populist environmentalism took root in the suburbs in the 1960s, and that provided an opportunity for new directions: "As national conservation groups watched the many local and regional groups singling out pollution and other suburban issues, they realized that this new environmental agenda had recruitment potential." The Sierra Club's membership both grew from about 113,000 in 1970 to almost a million by 2000. In 1969, its former director, David Brower, founded a more activist organization, Friends of the Earth, whose motto, "think globally, act locally," brilliantly summarized the coalition of environmentalists and homeowners. Other organizations formed specifically to "act locally" were San Francisco's People for Open Space (now the Greenbelt Alliance), and they have been quite successful. By 2006, the nine Bay Area Counties had more than a million acres (of about 4.4 million total) perpetually protected from development, an area that exceeded the existing urban and suburban land area in the nine counties (Walker, 2007, 108).

One reason for the success of the marriage of environmentalism and suburban concerns was that the former offered a unifying ideology that allowed homevoters to avoid talking about home values directly. Growth controls are the product of collective action at the local level, and establishing collective action requires a public discourse that is not divisive. Declaring that the goal of preserving local open space is to maximize voters' property values is actually somewhat divisive. It seems selfish in a public setting. It invites invidious comparisons among residents. ("Oh, your home is so much more important than mine?") Environmental justification for policies that just happen to increase existing home values is a shield against outside criticism and a source of unity among homeowners with otherwise unequal interest in the policies. It serves the same function as the "hearth and home" ideology that brought homeowners together to establish zoning in the early twentieth century (Constance Perin 1977; Martha Lees 1994). Sanctifying single-family homeownership—"the backbone of our nation" according zoning advocate Charles Cheney (1920, 36)—made it easier to disregard warnings that zoning would "classify the population and segregate them according to their income or situation in life" (*Ambler v. Euclid*, 297 F. 307, 316 [1924]).

#### **4. Sources of National Variation: Shifts in Industry and Differences in Local Government**

My explanation for the rise of growth controls, then, is that they were the interaction of a shift in demand for home value protection in the 1970s and an increase in the supply of regulatory devices that operated outside the traditional growth machine framework. But this addresses only one part of the puzzle. The now-conventional wisdom among urban economists is that stringent land use regulations account for the excessively high housing prices in Northeast and West Coast urban areas compared to those in the rest of the United States.

Peter Ganong and Danny Shoag (2013) have shown that states that now have the highest housing prices and most land use litigation (an indicator of land-use regulation) had not, before 1970, led in either of those categories. Their model shows that the regional regulations have had important effects on internal migration, significantly reducing the ability of Americans in poor states to better their lot by moving to richer areas. Numerous other studies confirm the unusual differential between housing prices on the coasts and elsewhere in the nation. As Chip Case (1994, 29) observed, "Prior to 1970, house prices moved slowly at about the rate of inflation or slightly below, and regional differences, while they existed, were relatively modest by current standards."

But what caused land use regulations to ramp up so much more in those states after 1970? My answer is that exogenous forces shifted the national demand for labor in ways that made the metropolitan areas of the West Coast and soon after the Northeast more attractive to high income, college-educated people. I approach this explanation by introducing the dog that did not bark. The energy crisis of the 1970s induced a substantial relocation of manufacturing employment from the rust belt—the cities of the Great Lakes and Ohio Valley—to the sunbelt. States of the South and Southwest experienced substantial population growth from internal migration. But this immigration did not result in an unusual increase in housing prices. Developers in the South responded to the higher immigration by building more housing, which kept new and existing home prices from rising unduly (Glaeser and Tobio 2008). Demand for housing shifted out, and supply responded fairly quickly.

Another internal industrial shift occurred at almost the same time. The largest cities of the West Coast and Northeast were at the forefront of the shift from manufacturing to high-tech driven services. The introduction of computer technology reduced the demand for lower-skilled

manufacturing jobs. Manufacturing was replaced in cities by high-skilled service jobs such as finance and computer software development (Glaeser and Gottlieb 2009). Global forces such as the reduction in trade barriers and the rise of Asian manufacturing capacity further accelerated the American shift from manufacturing to knowledge-based services, which played to the historical advantages of the large, trade-oriented cities on the West Coast and the Northeast. Such shifts in regional advantage have long been a part of American economic growth, as the historical geographer Daniel Meinig (1995) has shown.

The growth of West Coast computer industries, for example, increased their demand for highly-educated workers in the 1970s and 1980s. The workers bought housing at a time when national inflation fueled the demand for owner-occupied housing. As its value rose, homeowners on the West Coast demanded even more protection (David Dowall 1984). As described above, organizations such as the Sierra Club and People for Open Space were available to offset growth-machine politics. The judiciary in California and later Oregon and Washington became more hospitable to growth controls as part of its embrace of the environmental movement (Joseph Dimento et al 1980; Sara Galvan 2005). (I had in *Regulatory Takings* [Fischel 1995, chap. 6] put most of the blame for California's regulatory excess on the judiciary itself, but the rapid conformity of judges in other states to demands for more land use regulation makes me suspect that the courts were followers rather than leaders of this movement.)

In the Northeast, the fragmented structure of local government and traditions of local democracy made it possible for local homevoters to take the reins of zoning and planning. The knowledge-class of workers colonized the suburbs and adopted growth controls, and their state representatives and the judges they appointed soon undermined the growth machine (Alex von Hoffman 2010b). Towns formerly hospitable to apartment house development reversed course, largely in response to local voters' demands (Jenny Schuetz 2006). Even larger central cities such as Washington and New York have turned from their formerly enthusiastic embrace of development as they have become repopulated with affluent homeowners (Been, Madar, and McDonnell 2014; Hills and Schleicher 2010.) The supply reduction in the metropolitan West Coast and Northeast was further facilitated by the fact that the new workers were affluent and highly educated, just the stratum most eager to protect the value of their owner occupied homes. In contrast, the migrants from the Rust Belt to the Sun Belt were typically lower income. Both political participation and demand for environmental quality tend to rise with personal education and income.

The Sunbelt had another historical quality that made it less hospitable to growth controls. Local government in the old South was historically weak compared to the North. The reason, I have argued, is because of slavery and its legacy, racial segregation (Fischel 2009, chap. 5). Blacks and whites were not evenly distributed across the South, and so there would inevitably be localities where a large majority would be African-American. Despite voter disfranchisement efforts, some blacks could vote, and they could thus influence the outcomes of local elections. Their votes would not just create pressure for integrated schools. It would, even in the absence of integration, divert resources from white institutions. Thus southern state legislatures were loathe to grant localities much leeway to provide schools and other local public goods (V.O. Key 1949, 143).

The county, with its usually state-appointed officials, was the primary unit of local government in the old South. The county was maintained as the primary unit for school districts and thus the focus of other local government after the Civil Rights laws undermined racial segregation. Subsequent local demand to create smaller units was largely frustrated by the Voting Rights Act

of 1965, which required the approval—rarely given—of the U.S. Justice Department for local government reorganizations (Hiroshi Motomura 1983). Thus both racial segregation and desegregation have made the county the default unit of government in the South. Exurban counties tend to be more prodevelopment in their politics (Michelle Anderson 2012), and this appears to apply especially to the South.

The other institution that the South generally lacks is the voter initiative (<http://www.iandrstitute.org>). The larger units of government in the West, where counties rather than cities often governed the exurban land, might be dominated by developer interests. But county and city land-use policies in the West are hemmed in by the use of the voter initiative. Homeowners and environmental organizations can thus bypass the influence of the growth machine with ballot initiatives to create open space and even stop individual projects. The county governments of the old South remain in the grip of the growth machine because they lack the initiative. Even where land use issues are sometimes settled by subcounty governments, as in Texas charter cities, the use of the initiative in land-use issues is highly constrained by the state's courts (Callies et al. 1991, 75).

### **5. Growth Controls after Inflation Declined: The Importance of Irreversibility**

The catalytic event in my account of the rise of the homevoters and growth controls is unprecedented peacetime inflation in the 1970s. Inflation has since dropped, and it might reasonably be asked why this has not led to a reversion to the growth-machine model of zoning that prevailed before the 1970s. The growth-control model has weathered disinflation, three serious recessions in which housing values declined, especially in 2008 but also in 1981 and 1991. What processes keep the growth control regime afloat when home values are actually declining and inflation is moot?

One was the deliberate attempt to make growth controls irreversible. From an economic point of view, irreversibility makes a lot of sense for homevoters. They need to convince buyers that the rules that make their home valuable—the rules that create future scarcity—will not be easily changed. (The classic article on the need to create irreversible commitments to establish monopolies over durable goods is Coase [1972].) Ordinary zoning laws from the start were intended not to be easily changed. Minor exceptions administered by zoning and planning boards are subject to rules of procedure such as written notice to neighbors and demanding criteria about unique characteristics of the property in question (Osborne Reynolds 1999). Major rezonings are likewise subject to more rules than most other changes in police-power legislation. One example is the “twenty percent protest clause,” which empowers nearby property owners to demand that changes in zoning be adopted by a supermajority of the governing body (Ernest Bartley 1953, 370).

These forces of stability have been supplemented since 1970 by both procedural and substantive changes in land use law. A rezoning in some states (New York and California) often involves a state-required environmental impact statement, whose adequacy can be challenged by citizen groups (Kenneth Pearlman 1977). In others, like Vermont, a state or regional review body can review and veto a prodevelopment decisions. Some states have taken more seriously the requirement for conformity with the master plan (although this can also protect developers from downzonings), and hostility of small-scale rezonings is embodied in the pejorative term, “spot zoning.”

A more innovative device is the use of conservation easements, whose use has soared since 1970, as was suggested by the Ngram in figure 3. These convey the parcel's right to develop to a



conservation organization, which promises to prevent development, usually in perpetuity. This resolves the anxiety of prospective buyers that the nearby cornfield or stand of trees might someday be rezoned and used for more homes to compete with the existing homes or sully their views. Conservation easements have been made financially attractive to donors in many states through the use of tax deductions and even tax credits (Jeff Pidot 2005). Some local governments have seized on them as a way of tying the hands of future officials (Christopher Serkin 2010). Conservation easements have been widely used in farmland preservation near cities. Historic districts (rather than just single monuments) have also added to the transaction costs of redeveloping older areas for more intensive infill development.

The persistence of growth controls is also due to evolving community values. Once open space and conservation districts are established, the homebuyers who most care about them are apt to end up in communities that establish them. This sorting by preference for local public goods is part of the well-known Tiebout model (Charles Tiebout 1956). Even if the original growth controls were created solely to protect home values (and not from preference for open space), the later homebuyers who bought with the expectation of open space as part of their purchase are more likely to want existing land uses to persist.

## **6. Alternative Explanations for the 1970s Growth Controls**

The two alternative—or supplemental—explanations for the rise of growth controls in the 1970s are (a) the rapid completion of the interstate highway system and the suburbanization it facilitated and (b) the Civil Rights movement and the accompanying unrest in central cities and the political response to it. Both of these surely contributed to some of the demand for growth controls, but both founder on the regional question, which is why growth controls became so virulent on the West Coast and the Northeast but not so much elsewhere.

The interstate highway system was an enormous undertaking and was special in two important ways (Earl Swift 2011). One is that it was largely built within a relatively short period of time, between 1956 and 1972. The other was that it was almost entirely financed and directed by the federal government. Limited-access highways are highly disruptive to the cities and neighborhoods through which they are built. Locations immediately adjacent to them have their neighbors displaced or effectively cut off from everyday commercial and personal connections. Railroad construction did that in the nineteenth century, too, but was different in several ways. Local grade-crossings were more feasible for railroads, and the location of their routes was subject to some degree of local control because the railroads needed local facilities (sidings and stations) to be integrated with the through lines. The railroad builders could be high-handed bullies, but the need for continuing local cooperation stayed some of their excesses.

The builders of the interstate highway were almost entirely federal and state agencies. Their need for local input and cooperation was much less. As an engineering-based plan, the designers were short of models of behavioral response. The designers anticipated that the highways would promote urban growth, but they did not anticipate the suburbanization that it caused. The decision to run many of them through central cities was based on the belief that doing so would eliminate traffic congestion in those places. Federal planners had contemplated—and rejected—using tolls to finance the system, but no thought was given to using tolls to manage the inevitable congestion that an urban freeway is subject to.

The heavy-handed tactics of the highway builders generated a species of protest in the 1960s called “freeway revolts” (Raymond Mohl 2004). These generic organizations were precursors to the anti-growth coalitions of the 1970s, and many of them continued their lives long after the

highways were built—or not built, if the organization was successful. The highway revolts are potentially important for my argument that growth controls were a bottom-up movement. They did overcome the torpor of local residents—what economists call the free rider problem—in combatting local change that threatened their home values. A proposed new highway was large enough and adverse enough that it got homeowners out from the front of their TV sets to attend hearings and protest meetings.

Thus the interstate highway system could have contributed to the growth control movement in two distinct ways. One was by increasing suburbanization by making it easier to live farther from the city (Nathan Baum-Snow 2007). The other contribution was by generating opposition groups that became part of the nucleus of some anti-growth organizations in the 1970s.

The difficulty with the suburbanization argument is that most of the evidence does not point to any special increase in the measured rate of suburbanization in this period (Mieszkowski and Mills 1993). The way that most economists measure suburbanization is through population density and price gradients, the rate per mile at which density of population or price of housing declines as one moves away from the center of the city. These measures began to decline (in absolute value) in the late nineteenth century with the invention of electric-powered street railroads, and they have kept declining more or less continuously ever since. There don't seem to be any blips associated with the period 1956 to 1972, when the interstate highways were built.

Local resistance to major highway development was indeed an catalyst for citizen action. But such concerns predate the growth control movement. The town of Weston downzoned a significant amount of its land in anticipation of growth caused by the building of the Massachusetts Turnpike in the 1950s (von Hoffman 2010a). Louise Dyble (2007) details the galvanizing effect on local politics of proposals to build new bridges and freeways in Marin County, north of San Francisco, in the 1960s. She concluded, “A close look at the dynamics of regime change in Marin reveals that power in the county shifted only when the real value of exclusivity, open space, and natural beauty became clear to property owners. Marin’s celebrated environmentalism was founded on the value of real estate” (59). Freeway revolts seem to be of a piece with concern about housing values.

The other phenomenon that may have made the 1970s land use policies different was the product of the Civil Rights movement. Desegregation of central city schools and civil unrest often pushed middle class whites to the suburbs (Boustan 2010; 2012). Even if the rate of suburbanization was not much changed by that, it is possible that the nature of suburban zoning was altered by it. A population increase in a developing suburb in the 1950s was not difficult to accommodate with new public facilities. More families meant towns had to build more schools, but the expanded tax base more or less covered the cost. An important offshoot of the civil rights movement, however, insisted that suburbs had to accommodate low-income people and minorities along with market-rate development (Lawrence Sager 1969; Anthony Downs 1973).

In the past, allowing more growth brought more of the same sort of people to the suburbs. After political and legal pressure began to be applied to accommodate a variety of housing, general population growth looked less attractive. The thinking by homevoters might have been, if we have to take blacks and the poor along with everyone else, maybe we would prefer to have no growth at all. Of course, public expressions of such ideas was unacceptable, so an alternative rationale for stopping growth was necessary. Preservation of the environment by preserving open space—even environmentally problematical open space like commercial farmland—began to be especially popular (Schmidt and Paulsen 2009).

As evidence for this, I would note that the two states that have imposed a longstanding obligation on communities to accommodate the construction of low-income housing, Massachusetts and New Jersey, are also the states with by far the largest number of local initiatives to preserve farmland and other open space (Spencer Banzhaf et al. 2006). The primary means by which communities discharge their state-imposed obligations is a tax on developers of market rate housing, called “inclusionary zoning.” Such a tax depends on making market rate housing scarce, which is what growth controls do.

On the whole, however, it seems difficult to pin too much on the Civil Rights backlash as a cause of growth controls. Real pressure to accommodate low- and moderate-income housing exists only in a few states. And I have argued that a suburban majority is not all that opposed to them even there. A Massachusetts initiative that would have eliminated the obligation to accommodate low-income housing was easily defeated in 2010, with substantial majorities opposing it even in all but one of the suburban counties of Boston (Fischel 2015, chap. 4).

## **7. Reflections on Reform: Regionalism and Takings**

A substantial number of economists now believe that regional housing supply in productive areas has been adversely affected by growth controls and that the excessively high housing prices have reduced American productivity and promoted inequality (Ganong and Shoag 2013; Hsieh and Moretti 2015). Relatively few of these studies have addressed what to do about it. The usual idea, often offered in passing, is that some higher-level government—the federal or state governments, perhaps a regional body—should intervene to override unreasonable local behavior. Most economists would concede that some form of public land use regulation is necessary—only a few suggest abolishing zoning in the belief that private transactions would handle local environmental issues—but they typically commend devices such as impact fees to cover the marginal cost of congestion and pollution. Developers willing to pay for their social cost should not be stopped by local governments or NIMBY forces. The higher government, able to internalize both the political benefits as well as the costs of development, would override parochial interests.

A different approach to the problem was suggested by Bob Ellickson (1977). He presciently identified the burgeoning growth control movement as both an economic and a legal problem. Voters in local government who wanted to control growth by downzoning available land can do so without having to face much fiscal cost. Police power regulations are generally not compensable, and rational governments—a concept embraced by the “median voter” model in public economics—are apt to respond to the low price by doing too much regulation. Ellickson advocated using the regulatory takings doctrine to make local officials (and presumably local voters) raise taxes (or forego other programs) if they wanted to unreasonably downzone local farmland to prevent development.

Neither of these approaches has worked. Land-use policies of the state and federal government have more often worked against development than for it (Fischel 2015, chap. 2). The multiple layers of review have generally been of the double veto variety: Only in rare instances do they allow developers to go from a local “no” to a state or regional “yes.” The expansion of legal entitlements and their wide and indefinite distribution has greatly extended the time that development takes, when it can be done at all.

The underlying reason for state governments’ reinforcement of local preferences is the geographic basis for representation in state legislatures. Americans do not select their legislatures from statewide party lists, as parliamentary systems do. American elect legislators from local

districts whose boundaries usually correspond to some set or subset of municipalities. The saying “all politics is local” is an Americanism—Ngram frequency three times that of British English—because it really is local in the United States. State legislatures remain amalgams of local governments even after the 1960s reapportionment decisions declared that they must be selected according to the principle of one person, one vote. It is possible that American law has to vigorously and frequently declare that local governments are “creatures of the state” because it needs to offset the many institutional arrangements that work to make the state the creature of localities. To expect the state to act contrary to the strongest interests of its localities borders on utopianism.

The viability of the takings doctrine is confounded by the numerous parties, most of them not a government that could incur Constitutional liability, that contribute to stalling development. Moreover, local land use regulation is so popular that court efforts to rein it in have led to state constitutional amendments and threatened supreme court reappointments. New Jersey voters adopted a state constitutional amendment in 1927 to authorize zoning after its courts had struck it down (National Municipal Review 1927, Fischel 2015, 77). Both state and federal courts have been reluctant to find regulatory takings, and several state courts have actively tried to bury the doctrine entirely. As a legal doctrine, even the best scholars have been unable to agree even with their former selves. Eminent law professors such as Frank Michelman and Joseph Sax have both retreated their 1960s formulations, which were more favorable to compensation for property owners, in the face of a tidal wave of public demand for regulation in the 1970s. (Compare Sax 1964 with Sax 1971 and Michelman 1967 with Michelman 1988.)

My economic-historical account of the rise of growth controls suggests a different approach to reform. It is surely true that growth controls cause housing prices to rise. But it is equally true, I argue, that growing housing prices cause homeowners to demand more regulation to protect their assets. They don’t care whether the additional regulation is more stringent zoning, private covenants, or environmental lawsuits. Home value inflation begets a demand for more regulation, which begets more home value inflation.

The large metropolitan areas of the Northeast and the West Coast are historically unusual in that the demand for housing in these regions shifted at a time when the balance of power in land use regulation shifted away from development-minded parties toward seated homeowners who wanted to protect the value of their largest and largely uninsurable asset. I point this out again to suggest that growth control policies are not usefully parsed by region. The states and cities of the Northeast and West Coast do not have fundamentally different legal frameworks. They have land use laws sufficiently similar to other states that law professors can put together casebooks and courses that can realistically prepare students to practice (after bar exam study) land use in any state.

This suggests that if economic shifts occur that make Chicago and St. Louis the favorite destinations of high-skilled, college-educated workers, the cities of the Midwest will become the centers of growth controls and rising housing prices. I am, incidentally, unpersuaded by the idea that natural geographic conditions are important sources of housing price variation. California has a nice climate, but it’s not that much better now than in the 1950s, when the state had its greatest population growth and low housing prices. Boston and San Francisco are said to be hemmed in by their nearby bodies of water, but so are Chicago and St. Louis. The importance of steep slopes and water bodies stems more from the attraction of pleasant views and recreational opportunities they afford, which stimulates demand to preserve them for incumbent homeowners (Thomas Davidoff 2014).

## 8. Demand-Dampening Reforms to Mitigate Growth Controls

The purpose of this exercise in recent economic history is to understand what types of policies might work to make housing supply more elastic in regions that are now repelling firms and lower-income immigrants by their high housing prices. Accommodating growth in the Boston-to-Washington corridor and in the larger cities of the West Coast is important for national economic growth and for reducing the level of income inequality in the United States. It is clear from experience that the courts are not able or inclined to protect the interests of development-minded landowners. Federal and state policies that attempt to increase supply or lower local barriers are inevitably frustrated by the political power of the locals and the NIMBY alliance with high-minded environmental goals.

I have argued here that the reason rational people participate in stopping development is their concern with their home values. The policies that I mention below are designed to undercut excessive concerns, but it might reasonably be asked at the outset whether institutional change is actually possible even if homeowners were no longer excessively touchy about nearby development. I mentioned earlier that one reason for the persistence of growth controls in the absence of home value inflation is that the original institutions were designed to be difficult to undo. There is a built-in hysteresis to growth controls that may warrant just leaving them alone.

The evidence that we have about the growth of growth controls suggests that they are somewhat sensitive to home values (Byron Lutz 2015). Surveys in California show that voters are less inclined to adopt growth controls when home values are no longer rising (Baldassare and Wilson 1996). My own informal evidence is consistent with this. During the housing boom of 2001 to 2007, a new layer of local regulation was developed to provide additional protection for urban neighborhoods. They are called “neighborhood conservation districts” (Adam Lovelady 2008). What is conserved is the value of homes, especially in areas in high demand where city authorities might be inclined to shoehorn some unwelcome development or where existing zoning is not tight enough to prevent a teardown and oversize rebuild. They differ from historic districts in that the neighborhood does not have to be historic, and they differ from private covenants in that consent of all property owners is not required for their formation.

I undertook an online survey of them to see what they were doing, but I noticed an interesting break. After the housing crash of 2007, almost no new neighborhood conservation districts were formed. They seem to have been a response to rising home values, and neighborhood conservation districts stopped being formed after housing values stopped rising.

So perhaps the best that can be expected from demand-dampening policies is to slow down the growth of growth controls, not reverse them. This may be too pessimistic, however. There are signs that the centers of large cities are no longer repelling middle and high-income people. Indeed one of the manifestations of the back-to-the-city movement is that the affluent newcomers demand neighborhood growth controls to protect their investments. Unlike the suburbs, though, big cities have an array of other interest groups to offset the growth of the homevoter population. If homeowners in the bigger cities can be made less frantic about their assets by reducing its tax advantages, it is possible that creative reforms supported by developers, planners, and other stakeholders would have a chance (Hills and Schleicher 2014).

The demand-dampening reforms themselves are mainly to reduce the tax advantages of homeownership. The two big advantages of owning this asset as opposed to most others is the lack of taxation of the imputed rent that owners “pay” to themselves and the explicit exemption from taxation of almost all capital gains for homes. The first tax advantage—the lack of

recognition of imputed rent—would largely be undermined by eliminating the mortgage interest deduction from federal and most state income taxes. This is an imperfect way to tax imputed rent, since it leaves untaxed all the rent for people who have no mortgage—usually the elderly and the very rich (Follain and Melamed 1998). But actually taxing imputed net rent is administratively daunting. Doing so would require all homeowners to file their taxes as if they were small business owners, listing an invisible-to-them annual rent and keeping track of deductions for maintenance and depreciation costs as well as local taxes and mortgage payments. Verifying the imputed rent would require an independent estimate of what owner-occupied housing in the area would rent for. Federal authorities could use local property tax assessments as a basis for such an estimate, but this would require not just statewide equalization procedures but interstate standards for adjustment of the many variations in property tax systems. National health insurance would look simple by comparison.

The mortgage deduction is sometimes regarded as unimportant because only a small fraction of taxpayers—those in high brackets—find it worthwhile to itemize their deductions. If you don't itemize, goes the story, you don't get any benefit from the mortgage deduction. This overlooks the purpose of the standard deduction. Its existence and size are based on what the average taxpayer in each income bracket would have deducted (John R. Brooks 2011). The standard deduction was conceived as a device to save administrative hassle on the part of taxpayers. We cannot conclusively say that if the mortgage deduction is removed that the standard deduction will also be reduced, but doing so would be consistent with its basic function.

More important in my mind is to equalize the tax treatment of capital gains from housing with that of other assets. This is probably a larger source of political distortion than the mortgage subsidy. Homeowners through the 1970s enjoyed the mortgage deduction but faced a heavily constrained capital gains exemption in that a home of equal or greater value had to be purchased in order to avoid the tax. Homeowners excess attention to the value of their home began, I submit, when they started to think of their homes as a growth stock rather than a steady investment. A modest, income-contingent subsidy to homeownership in the form of a mortgage deduction (or, better, a tax credit) would serve the national interest in having an owner society (Glaeser and Shapiro 2002). The more reasonable and practical reform would be to treat capital gains on homes the same as capital gains on other assets. It may be that we want to tax capital gains more lightly than ordinary income, but equalizing the tax rates among all assets would have both economic and political advantages. American society could behave a lot more rationally and humanely if homeowners were encouraged to hold other assets besides their homes.

Practical people may argue that the tax subsidies to homeownership are too well entrenched to be modified significantly. Homebuilder organizations and the multitude of homeowners themselves create a formidable political barrier to reform. This may be too pessimistic. Homeowners themselves are powerful at the local level, but their interests are too diffuse at the national level to form a strong lobby. Homebuilders are well organized and formidable at the national level, but perhaps they would support some moderate reforms if they were persuaded by the arguments of this article. The subsidies to homeownership stimulate the demand for housing—good for homebuilders—but cause a political response—growth controls—that restrict supply. Homebuilders might have fewer regulatory problems, of which they complain often, if homes were not regarded as a major source of capital gains by their owners.

## References

- Anderson, Michelle W. 2012. "Sprawl's Shepherd: The Rural County." *California Law Review* 100: 365–380.
- Baldassare, Mark, and Georgeanna Wilson. 1996. "Changing Sources of Suburban Support for Growth Controls." *Urban Studies* 33: 459–471.
- Banzhaf, H. Spencer, Wallace Oates, James N. Sanchirico, David Simpson, and Randall Walsh. 2006. "Voting for Conservation: What Is the American Electorate Revealing?" *Resources* (Winter): 7–12.
- Bartley, Ernest R. 1953. "Legal Problems in Florida Municipal Zoning." *University of Florida Law Review* 6: 355–384.
- Baum-Snow, Nathaniel. 2007. "Did Highways Cause Suburbanization?" *Quarterly Journal of Economics* 122: 775–805.
- Been, Vicki, Josiah Madar, and Simon McDonnell. 2014. "Urban Land-Use Regulation: Are Homevoters Overtaking the Growth Machine?" *Journal of Empirical Legal Studies* 11: 227–265.
- Bosselman, Fred P., and David Callies. 1971. *The Quiet Revolution in Land Use Control*. Washington, DC: Council on Environmental Quality.
- Boustan, Leah Platt. 2010. "Was Postwar Suburbanization 'White Flight'? Evidence from the Black Migration." *Quarterly Journal of Economics* 125: 417–443.
- . 2012. "School Desegregation and Urban Change: Evidence from City Boundaries." *American Economic Journal: Applied Economics* 4: 85–108.
- Brooks, John R. 2011. "Doing Too Much: The Standard Deduction and the Conflict Between Progressivity and Simplification." *Columbia Journal of Tax Law* 2: 203–246.
- Callies, David L., Nancy C. Neuffer, and Carlito P. Caliboso. 1991. "Ballot Box Zoning: Initiative, Referendum and the Law." *Washington University Journal of Urban and Contemporary Law* 39: 53–98.
- Case, Karl E. 1994. "Land Prices and House Prices in the United States." In *Housing Markets in the United States and Japan*, Yukio Noguchi and James M. Poterba, eds. Chicago: University of Chicago Press.
- Cheney, Charles. 1920. "Zoning in Practice." *National Municipal Review* 9: 31–43.
- Coase, Ronald H. 1972. "Durability and Monopoly." *Journal of Law and Economics* 15: 143–149.
- Davidoff, Thomas. 2014. "Supply Constraints Are Not Valid Instrumental Variables for Home Prices Because They Are Correlated with Many Demand Factors." Working paper, University of British Columbia.
- DiMento, Joseph F., Michael D. Dozier, Steven L. Emmons, Donald G. Hagman, Christopher Kim, Karen Greenfield-Sanders, Paul F. Waldau, and Jay A. Woollacott. 1980. "Land Development and Environmental Control in the California Supreme Court: The Deferential, the Preservationist, and the Preservationist-Eratic Eras." *UCLA Law Review* 27: 859–1066.
- Dowall, David E. 1984. *The Suburban Squeeze: Land Conversion and Regulation in the San Francisco Bay Area*. Berkeley: University of California Press.
- Downs, Anthony. 1973. *Opening Up the Suburbs: An Urban Strategy for America*. New Haven, CT: Yale University Press.

- Dyble, Louise N. 2007. "Revolt against Sprawl: Transportation and the Origins of the Marin County Growth-Control Regime." *Journal of Urban History* 34: 38–66.
- Ellickson, Robert C. 1977. "Suburban Growth Controls: An Economic and Legal Analysis." *Yale Law Journal* 86: 385–511.
- Fischel, William A. 2015. *Zoning Rules! The Economics of Land Use Regulation*. Cambridge, Mass.: Lincoln Institute of Land Policy.
- . 2009. *Making the Grade: The Economic Evolution of American School Districts*. Chicago: University of Chicago Press.
- . 2004. "An Economic History of Zoning and a Cure for Its Exclusionary Effects." *Urban Studies* 41: 317–340.
- . 2001. *The Homevoter Hypothesis*. Cambridge, MA: Harvard University Press.
- . 1995. *Regulatory Takings: Law, Economics, and Politics*. Cambridge, Mass.: Harvard University Press.
- Follain, James R., and Lisa Sturman Melamed. 1998. "The False Messiah of Tax Policy: What Elimination of the Home Mortgage Interest Deduction Promises and a Careful Look at What It Delivers." *Journal of Housing Research* 9: 179–200.
- Hills, Roderick M. Jr., and David Schleicher. 2014. "City Replanning." George Mason Law and Economics Research Paper 14-32.
- Galvan, Sara C. 2005. "Gone Too Far: Oregon's Measure 37 and the Perils of Over-Regulating Land Use." *Yale Law and Policy Review* 23: 587–600.
- Glaeser, Edward L., and Joshua D. Gottlieb. 2009. "The Wealth of Cities: Agglomeration Economies and Spatial Equilibrium in the United States." *Journal of Economic Literature* 47: 983-1028.
- Glaeser, Edward L., and Jesse M. Shapiro. 2002. "The Benefits of the Home Mortgage Interest Deduction." Working paper No. w9284. National Bureau of Economic Research.
- Fogelson, Robert M. 2005. *Bourgeois Nightmares: Suburbia 1870–1930*. New Haven, CT: Yale University Press.
- Frieden, Bernard J. 1979. *The Environmental Protection Hustle*. Cambridge, MA: MIT Press.
- Ganong, Peter, and Daniel Shoag. 2013 "Why Has Regional Income Convergence in the US Declined?" Harvard Kennedy School Working Paper No. RWP12-028
- Glaeser, Edward L., and Kristina Tobio. 2008. "The Rise of the Sunbelt." *Southern Economic Journal* 74: 610–643.
- Hsieh, Chang-Tai, and Enrico Moretti. "Why Do Cities Matter? Local Growth and Aggregate Growth." Working Paper No. w21154. National Bureau of Economic Research, 2015.
- Kelly, Barbara M. 1993. *Expanding the American Dream: Building and Rebuilding Levittown*. SUNY Press.
- Key, V. O. *Southern Politics in State and Nation*. New York: Vintage Books, 1949.
- Lees, Martha A. 1994. "Preserving Property Values—Preserving Proper Homes—Preserving Privilege—The Pre-Euclid Debate over Zoning for Exclusively Private Residential Areas, 1916–1926." *University of Pittsburgh Law Review* 56: 367–439.
- Logan, John, and Harvey Molotch. 1987. *Urban Fortunes: The Political Economy of Place*. Berkeley, University of California Press.



- Lovelady, Adam. 2008. "Broadened Notions of Historic Preservation and the Role of Neighborhood Conservation Districts." *Urban Lawyer* 40: 147–183.
- Lutz, Byron. 2015. "Quasi-Experimental Evidence on the Connection Between Property Taxes and Residential Capital Investment." *American Economic Journal: Economic Policy* 7: 300–330.
- Marx, Leo. 1964. *The Machine in the Garden: Technology and the Pastoral Ideal in America*. New York: Oxford University Press.
- Meinig, Daniel W. 1995. *The Shaping of America: A Geographical Perspective on 500 Years of History*. New Haven, Yale University Press.
- Michelman, Frank I. 1967. "Property, Utility, and Fairness: Comments on the Ethical Foundations of 'Just Compensation' Law." *Harvard Law Review* 80: 1165–1258.
- . 1988. "Takings, 1987." *Columbia Law Review* 88: 1600–1629.
- Mieszkowski, Peter, and Edwin S. Mills. 1993. "The Causes of Metropolitan Suburbanization." *Journal of Economic Perspectives* 7: 135–147.
- Mohl, Raymond A. 2004. "Stop the Road: Freeway Revolts in American Cities." *Journal of Urban History* 30: 674–706.
- Molotch, Harvey. 1976. "The City as a Growth Machine: Toward a Political Economy of Place." *American Journal of Sociology* 82: 309–332.
- Motomura, Hiroshi. 1983. "Preclearance under Section Five of the Voting Rights Act." *North Carolina Law Review* 61: 189–246.
- [*National Municipal Review*]. 1927. "Editorial Comment." *National Municipal Review* 16 (June): 353.
- Pearlman, Kenneth. 1977. "State Environmental Policy Acts: Local Decision Making and Land Use Planning." *Journal of the American Institute of Planners* 43: 42–53.
- Perin, Constance. 1977. *Everything in its Place: Social Order and Land Use in America*. Princeton, N.J.: Princeton University Press.
- Pidot, Jeff. 2005. *Reinventing Conservation Easements*. Cambridge, MA: Lincoln Institute of Land Policy.
- Poterba, James M. 1984. "Tax Subsidies to Owner-Occupied Housing: An Asset-Market Approach." *Quarterly Journal of Economics* 99: 729–752.
- Purdy, Jedediah. 2015. "Environmentalism's Racist History." *The New Yorker* August 13, 2015.
- Reynolds, Osborne M. 1999. "The 'Unique Circumstances' Rule in Zoning Variances—An Aid in Achieving Greater Prudence and Less Leniency." *The Urban Lawyer* 31: 127–148.
- Sager, Lawrence G. 1969. "Tight Little Islands: Exclusionary Zoning, Equal Protection, and the Indigent." *Stanford Law Review* 21: 767–800.
- Sax, Joseph. 1964. "Takings and the Police Power." *Yale Law Journal* 74: 36–76.
- . 1971. "Takings, Private Property and Public Rights." *Yale Law Journal* 81: 149–186.
- Sax, Joseph L., and Roger L. Conner. 1972. "Michigan's Environmental Protection Act of 1970: A Progress Report." *Michigan Law Review* 70: 1003–1106.
- Schmidt, Stephan, and Kurt Paulsen. 2009. "Is Open-Space Preservation a Form of Exclusionary Zoning? The Evolution of Municipal Open-Space Policies in New Jersey." *Urban Affairs Review* 4: 92–118.

- Schuetz, Jenny. 2008. "Guarding the Town Walls: Mechanisms and Motives for Restricting Multifamily Housing in Massachusetts." *Real Estate Economics* 36: 555-586.
- Scott, Mel. 1969. *American City Planning Since 1890*. Berkeley: University of California Press.
- Sellers, Christopher C. 2012. *Crabgrass Crucible: Suburban Nature and the Rise of Environmentalism in Twentieth-Century America*. Chapel Hill: University of North Carolina Press.
- Serkin, Christopher 2010. "Entrenching Environmentalism: Private Conservation Easements over Public Land." *University of Chicago Law Review* 77: 341-366.
- Skinner, Jonathan S. 1994. "Housing and Saving in the United States." In *Housing Markets in the U.S. and Japan*, ed. Yukio Noguchi and James Poterba. Chicago: University of Chicago Press.
- Swift, Earl. 2011. *The Big Roads: The Untold Story of the Engineers, Visionaries, and Trailblazers Who Created the American Superhighways*. Boston: Houghton Mifflin Harcourt.
- Taylor, Elizabeth Jean. 2013. "Do House Values Influence Resistance to Development?—A Spatial Analysis of Planning Objection and Appeals in Melbourne." *Urban Policy and Research* 31: 5-26.
- Tiebout, Charles M. 1956. "A Pure Theory of Local Expenditures." *Journal of Political Economy* 64: 416-424.
- Voith, Richard, and Joseph Gyourko. 2002. "Capitalization of Federal Taxes, the Relative Price of Housing, and Urban Form: Density and Sorting Effects." *Regional Science and Urban Economics* 32: 673-690.
- Von Hoffman, Alexander. 2010a. *To Preserve and Protect: Land Use Regulations in Weston, Massachusetts*. Cambridge, MA: Rappaport Institute for Greater Boston.
- \_\_\_\_\_. 2010b. *Wrestling with Growth in Acton, Massachusetts: The Possibilities and Limits of Progressive Planning*. Cambridge, MA: Rappaport Institute for Greater Boston.
- Walker, Richard. 2007. *The Country in the City: The Greening of the San Francisco Bay Area*. Seattle: University of Washington Press.
- Weiss, Marc A. 1987. *The Rise of the Community Builders: The American Real Estate Industry and Urban Land Planning*. New York: Columbia University Press.
- Worley, William S. 1990. *J. C. Nichols and the Shaping of Kansas City: Innovation in Planned Residential Communities*. Columbia: University of Missouri Press.

Figure 1: Ngram for “data are, data is”

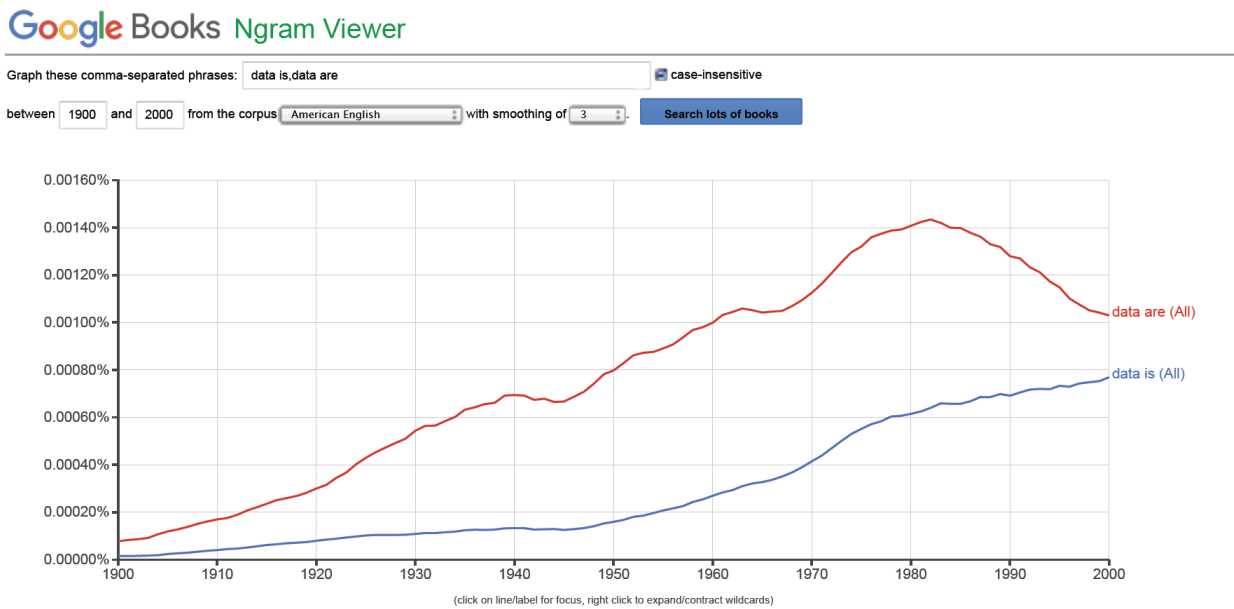


Figure 2: Ngram for “farmland preservation, growth controls, downzoning”

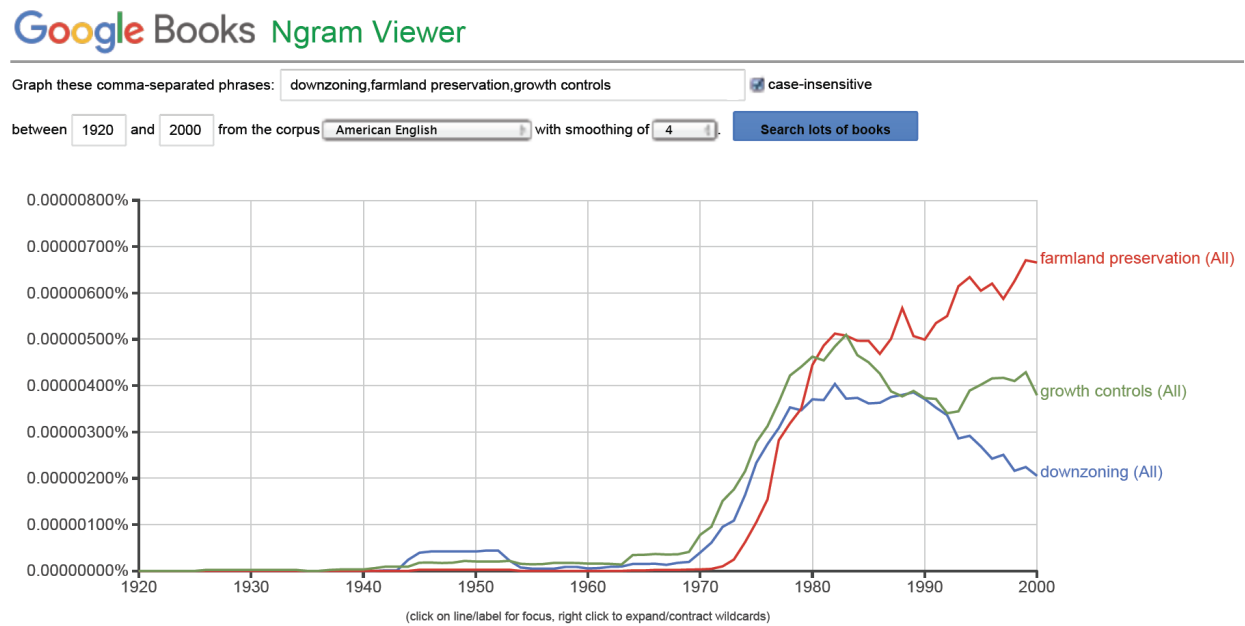


Figure 3: Ngram for “NIMBY, conservation easement, smart growth”

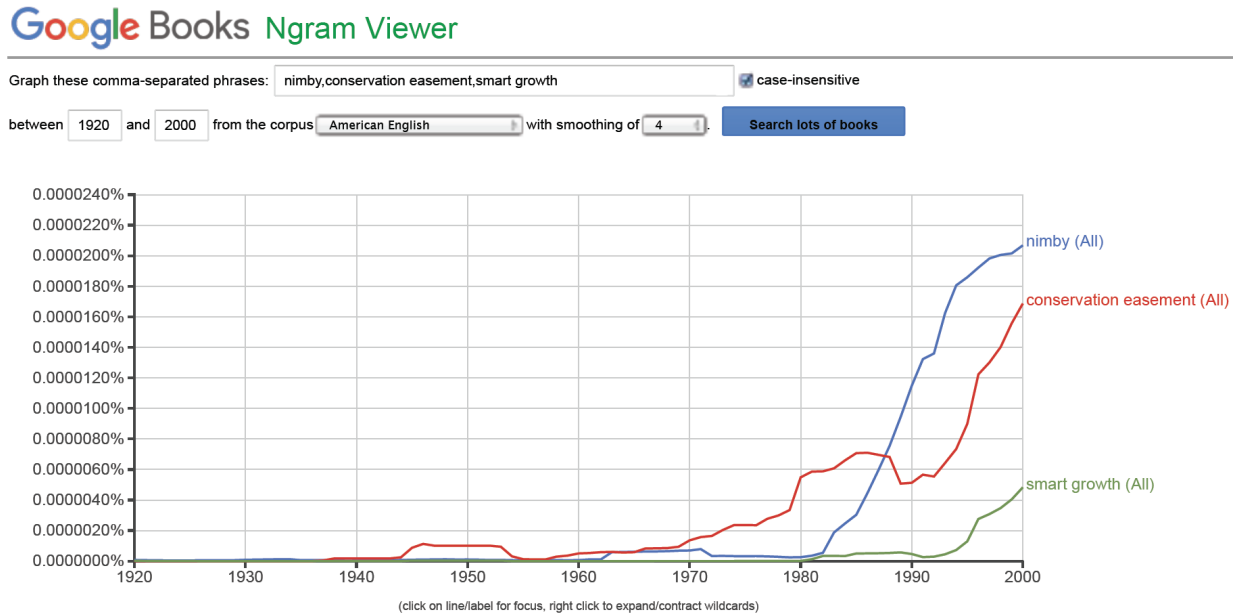


Figure 4: Ngram for “housing prices, stock market prices”

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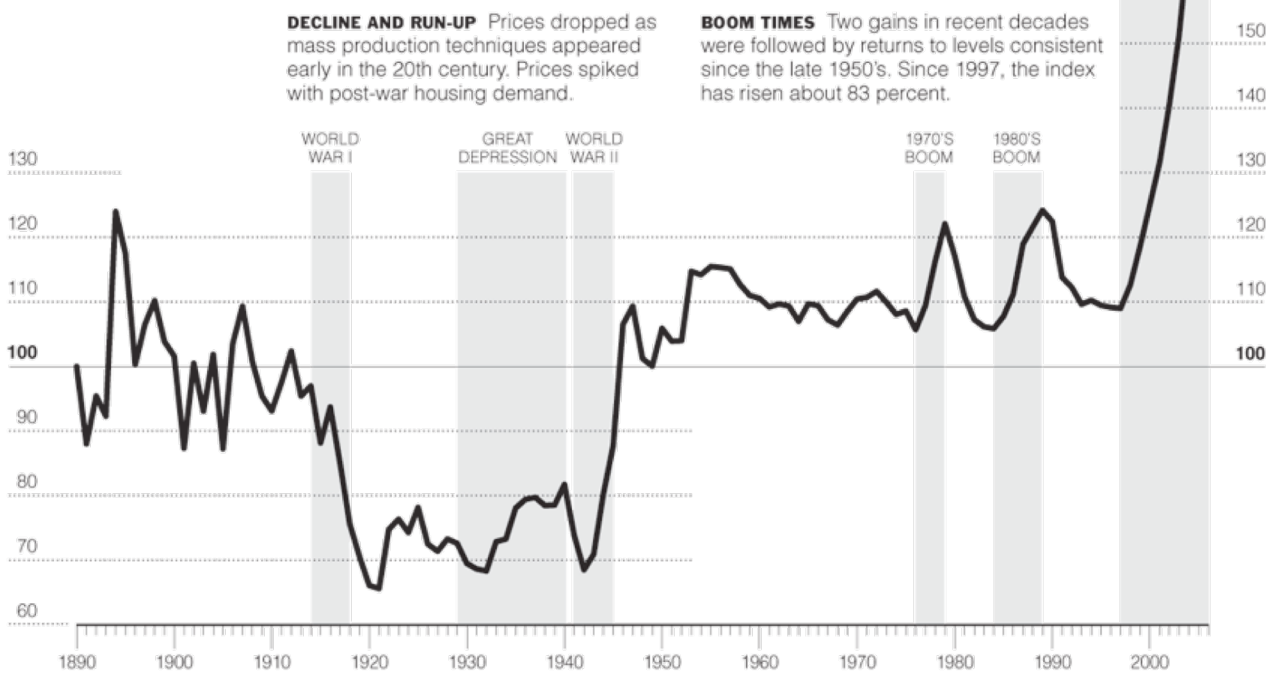
Figure 5: Real Home Value Index, 1890-2006

The New York Times

## A History of Home Values

The Yale economist Robert J. Shiller created an index of American housing prices going back to 1890. It is based on sale prices of standard existing houses, not new construction, to track the value of housing as an investment over time. It presents housing values in consistent terms over 116 years, factoring out the effects of inflation.

The 1890 benchmark is 100 on the chart. If a standard house sold in 1890 for \$100,000 (inflation-adjusted to today's dollars), an equivalent standard house would have sold for \$66,000 in 1920 (66 on the index scale) and \$199,000 in 2006 (199 on the index scale, or 99 percent higher than 1890).



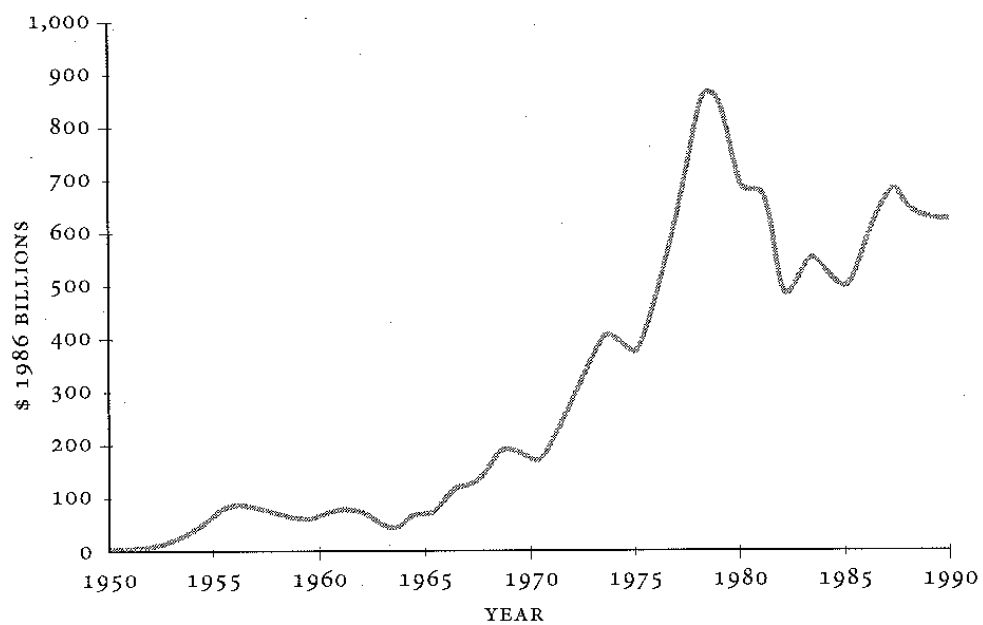
Source: "Irrational Exuberance," 2nd Edition, 2006, by Robert J. Shiller

Bill Marsh/The New York Times  
August 26, 2006

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Figure 6: Annual Capital Gains from Housing in the United States, 1950–1990



Source: Adapted from Skinner (1994)