



## **Tax Reform to Release Land**

By Dr. Mason Gaffney

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**COMPACT CITIES: A NEGLECTED WAY  
OF CONSERVING ENERGY**

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**JOINT HEARINGS**  
BEFORE THE  
**SUBCOMMITTEE ON THE CITY**  
OF THE  
**COMMITTEE ON**  
**BANKING, FINANCE AND URBAN AFFAIRS**  
AND THE  
**SUBCOMMITTEE ON**  
**OVERSIGHT AND INVESTIGATIONS**  
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**INTERSTATE AND FOREIGN COMMERCE**  
**U.S. HOUSE OF REPRESENTATIVES**  
**NINETY-SIXTH CONGRESS**  
**FIRST SESSION**

DECEMBER 11 AND 12, 1979

**Serial No. 96-42**

(Committee on Banking, Finance and Urban Affairs)

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and the Committee on Interstate and Foreign Commerce

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## TAX REFORM TO RELEASE LAND

MASON GAFFNEY

Taxes on land and buildings are important influences on land use, and are within the control of government. Real estate taxes are a major source of revenue to local governments (LGs) in the United States, as well as being a major cost of owning property. Currently under legal attack in the United States is the local real estate tax as the backbone of public school finance. The premise is that children should not be deprived of reasonable education because their school district lacks an adequate tax base. Regardless of any reforms in this system of local taxing for local services, it seems probable that real estate taxes will persist at some level of government — they are too important a source of revenue to be abandoned. They might or might not be reduced.

Real estate taxes do more than raise revenue; they influence land use, often strongly. Their influence arises not merely from their level, but from the relative tax on land versus that on buildings, from the relative tax on unimproved land versus that on improved land, from the frequency and reasons for reassessment of property, and from other aspects of the imposition of such taxes. Some of the land use effects may be unintended by the legislators and administrators responsible for the taxes, but many of the effects seem clearly to be desired and sought. Real estate taxes cannot absolutely compel some land uses nor absolutely forbid others, as can zoning or building codes; but they provide powerful economic incentives, which are

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operative constantly over long periods of time and in the long run may be as effective as absolute prohibitions or mandates.

Local real estate taxes affect the landholder directly, and also indirectly by affecting the way local governments (LGs) use other land use controls. Most local zoning today has become fiscal zoning, calculated to fortify the local per capita tax base. That is not news, but it is only the most familiar example of the role of the real estate tax in the pattern of local particularism.

The purpose of this paper is to describe the many ways in which real estate taxes influence urban and suburban land use. Some of these effects are rather obvious and expected; but others, on analysis, turn out to be different than a quick and intuitive judgment would predict. In general and in total, real estate taxes as administered in the United States tend to favor the land speculator over the builder, the larger owner over the smaller, and the suburbs over central cities. De facto, real estate taxes as ordinarily administered are an instrument of economic discrimination. They might, if properly restructured, become instruments for socially more constructive land use.

## MOTIVES OF LOCAL GOVERNMENTS

The art of central government is one of motivating local governments to act in the wider public interest — to serve the nation by serving themselves. Local governments (LGs) have objectives and operate under constraints and incentives just like persons and firms. Economists have analyzed persons and firms since Adam Smith at least and examined how public policy can work with the market to harness private motives to public ends. But they have neglected the analogous question about LGs, and so have political scientists.

Local governments borrow the sovereignty and police power of the state, and are assumed in law to represent a public interest. But what public? Each represents a small and particular public. There are even cases — in California, of course — of special service districts that are armed with sovereignty and its trappings, immunities, privileges, and exemptions representing as few as one landowner.

Since local governments borrow the sovereignty of the state, the states have the power and duty to structure local incentives to constrain LGs to serve all by serving themselves. And so the states do, in many ways, but they have fallen behind the problem. Today the tension between parochial LG interests and broader public interests approaches the flash point. It is past time to be defining the tensions and aiming to resolve them. This is the point of this forum and this paper.

The local viewpoint differs from the national in that the local turf is more completely open to the movement of labor and capital. The LG is defined as

an area of land. Men and wealth come and go, and the level of their returns is set by national market forces, much as the waters of the sea find a common level by interflowing. So the benefits of local spending lodge mainly in higher local land values, because land alone is stationary for long. By the same token, the cost of taxes lodges in lower land values. Land is the equity interest in the municipal corporation. Land income is the bottom line of its income statement. Many municipal motives may best be understood, therefore, as efforts to maximize land income and values.

There is a harmony here between local and national interest. The private owner maximizes net income from a given land area by carving it up and improving and using it so as to maximize its net service flow. The private owner's greed, harnessed by the market, makes him allocate his land for housing and complementary life-support facilities in a surprisingly socially oriented way. One sometimes hears "highest and best use" belittled as though it were a public nuisance, but basically it means the use serving the most human needs. That basic rule must be qualified to account for external effects, but the qualifications are not the rule.

The same rule holds for the LG, which is a group of landowners in league to preside over the collective capital that they use jointly. The LG is a halfway house between the individual landowner and the state. Landowner control is modified by democracy, which gives the whole system some of its characteristic tensions and compromises. But landowners, as the permanent party of every LG, take a strong and steady interest in local government out of proportion to their numbers. It is reasonably accurate for many purposes to think of the LG as a collective landowner, maximizing land income. In so doing it serves the national good.

While there is that basic harmony of local and national good, LGs feel at least four pecuniary incentives that make their goals clash with the larger metropolitan and national welfare. LGs want to avoid dilution of tax base. They want to minimize tax export. They want to fence off local public goods from aliens. And they want to avoid pure competition among their members. No doubt there are more, but these are prominent, and a sufficient basis for the problems of local exclusivism that vex us today. The factor of ethnic bias is treated in other papers in this book.

### *Avoiding Dilution of Tax Base*

The states delegate to LGs certain service duties and certain tax powers to finance them. Many duties, such as drainage, vary as functions of area rather than of people; but others, notably education, vary with population. The property tax is redistributive. So old settlers in each LG are sedulous to see that immigrants contribute as much in taxes as they require in added spend-

ing. Indeed, they go further. They try to limit new entry to those who will enrich the tax base by the maximum possible amount. Added to this is often a crabbed and misanthropic outlook on strangers, and a lack of urgency to develop annexed vacant land, which has led to extremes of exclusivism.

Whoever said Americans idolize motherhood never looked into suburban zoning. Whoever said the property tax is regressive is not listening when the rich grumble about taxing property to finance services to persons. For the state to require LGs to "tax the rich man's property to educate the poor man's child" is to invite them to fence out poor families. The tension is partly resolved by the fact that good schools are, like other local services, capitalized into higher real estate values. The bromide that property benefits only from services to property and not from services to people is false. But it is true that school benefits are in proportion to children and not to taxable real estate. The municipal manager finds it his duty to keep out children without a large complement of taxable real estate, and wears a black armband on Mothers Day.<sup>1</sup>

This attitude is not limited to suburbs. President of the U.S. Conference of Mayors, Milwaukee's Mayor Henry Maier, advocates removing "whole square miles of people" from central cities.<sup>2</sup> Big city mayors have been doing that for several years, with federally subsidized programs for highways, urban renewal, land clearance, slum clearance, code enforcement, airport expansion, open space purchase, attraction of industry, campus expansion, harbor expansion, street widening, and so on. It is not just the lure of the suburbs that has lowered the density of central cities so far below what it was 30 years ago.

This exclusionary attitude is not an urban monopoly by any means. Cities have at least some tradition of welcoming immigrants — that is how they became cities. Some rural and sylvan areas never have wanted growth, which is often one reason they remained rural or sylvan. Northern Maine is a celebrated case, owned by a handful of timber companies who have opposed the incorporation of any towns that might tax them to finance schools and attract immigrants. In the settlement of the West the very formation of counties was fought by large ranchers whom the counties might tax. The Homestead Act, planting smaller farmers everywhere, overcame the resistance in most counties, and the need for farm labor softened the exclusionary

<sup>1</sup> Indeed, our current Malthusian agitation may derive its plausibility and social status by committing the fallacy of composition on the problems of school finance in suburbs where many social leaders live and form their views of the world, seeing it as a spaceship suburb threatened by school taxes. It is an unfair extension: children do not dilute world wealth in the same way they dilute suburban tax bases.

<sup>2</sup> Presidential Address, U.S. Conference of Mayors, New Orleans, *Washington Post*, June 18, 1972, p. C12.

attitude. Today, as the average native student demands longer and costlier schooling, and as migrant labor competes, every rural county feels a new impulse to exclude the poorer. Migrant labor does the job without requiring schools and without voting.

### *Minimizing Tax Export*

LGs like to help their constituents avoid paying taxes to higher levels of government. This takes several forms.

Within counties using the property tax, smaller LGs try to underassess real estate. Boards of equalization fight this competitive underassessment with overt success but sometimes fail to redress covert underassessment. Low-use zoning is underhanded underassessment, because it depresses resale values during the period before the zoning is breached or lifted. The LG in effect sets its county assessment low by its own motion. This ploy is invidiously reserved for LGs whose citizens can collectively afford to forgo resale value during a prolonged holding period before the zoning is changed.

A complement of low-use zoning is tax assessment based on present use rather than market value. Local assessors often find this acceptable to boards of equalization that would reject more overt forms of competitive underassessment.

Any local tendency to encourage commerce is discouraged in states that levy heavy sales taxes and, unlike Illinois and California, do not return a share to the LG where collected. With no return, any local sacrifice of environment to build up commerce would only pour more taxes into the state treasury.

Property assessment also plays a central role in avoidance of state and federal income taxes. Income property is tax depreciable. Law and Internal Revenue Service (IRS) practice allow repeated depreciation by successive owners, ridiculous as that may be. The law recognizes that land does not depreciate, so each successive owner can depreciate only the building, not the land. When he buys he must allocate the cost between depreciable building and nondepreciable land. Enter the local tax assessor. It is IRS practice to accept the local assessor's allocation of value between land and buildings. Local assessors, by undervaluing land relative to buildings, thus help their constituents depreciate land and so avoid a large share of the income tax due on real estate, and help convert it from a tax payer to a tax shelter. This is the modern version of competitive underassessment, one that costs the federal treasury billions annually and goes virtually unchecked. This practice creates a strong local bias to underassess land, which in turn tends, through its direct effect on landowner incentives, to keep land from serving the needs of the median consumer.

The income tax hits ordinary income much harder than capital gains — more than twice as hard, when one knows the angles on capital gains — and the name of the tax-avoidance game is converting income into capital gain. One's LG helps. Rather than use public money to help established industry and commerce earn ordinary income, the LG extends its capital infrastructure into new land to create capital gains, selling tax-exempt municipal bonds to raise the capital. The "unearned increment" on the land is the untaxed increment as well.

The LG also devotes extra effort to securing state and federal spending and public works that will raise local land values. To this end it reserves sites, holding them ready for a new branch of the state university, a military base, a highway interchange, a defense plant, or whatever. To this end it also seeks to attract citizens with influence at court, which adds to its bias for the wealthy.

Blending into the minimizing of tax export is the maximizing of outside aid. An entire culture of local politics has grown up around the art of pleading poverty. Cities are always "strapped," in "crisis," requiring "relief," and so on, in spite of the rise of their real estate tax base. This is silly, but a game people play in dead earnest as they compete for federal dollars. Underassessment is a central part of the game, sequestering latent fiscal assets. So is regressive assessment, assuring that local taxes hurt and arouse sympathy and an image of desperation.

### *Fencing Off Local Public Amenities from Aliens*

LGs provide many public services, such as schools, parks, police and fire protection, libraries, and others. These municipal amenities yield a flow of services to their users — a form of income to these persons that is tax free. Local taxes used to finance the production of these local amenities are deductible from the individual's taxable income, unlike cash payments for items of individual consumption. The availability and quality of these local services raise local land values, as anyone who seeks to buy a house in a neighborhood with good schools quickly learns; and the increases in land values are largely tax free, due to the capital gains provisions of income tax law. At a time when a penny saved is two pennies earned before taxes and tax-free income is almost the only kind worth having, these are weighty values.

The problem here is restricting the use of these local amenities to local residents. The goal is a tenure or right of use that is common but not too common — common within the small group of local residents, but private against outsiders. This source of pressure is often very strong. All residents of the local area have much to gain from exclusive use of local amenities, but only the large landowner has something to sell if aliens invade the local area.

by purchase of property. The tenant and small owner have little or no salable tenure in local amenities — only a shadow equity in the old swimming hole based on use and custom, familiarity, and their small numbers. They can suffer real losses from the invasion and crowding of their old haunts.

To maintain the unstable balance between common amenities and limited access, suburbanites have developed the cult of open space, a philosophy that transmutes the exclusionary particularism of the golf course into the nobility of Naturalism. The apotheosis of open space is to suburban particularism what “national defense” is to the federal budget. The anomaly of open space behind cyclone fences is only a contradiction to those who don’t get the subliminal part of the message. Every movement requires a philosophy and Naturalism has been recruited to serve the local treasury.

### *Avoiding Pure Competition*

The historical Mercantilistic city was a monopoly, using municipal policy to exploit its trade territory by restricting competition. Today the motive is less sharply defined due to greater mobility, but it is by no means dead. Owners of old buildings are sensitive to competition from new ones, which pull away tenants. They know that renewal at higher density adds to supply and helps lower rents, while renewal at lower density is removal, which delivers tenants into the hands of landlords. They mask this with talk of “good planning,” “human scale of density and size,” psychoses of crowded laboratory rats, birth control, saving historical shrines, aesthetic absolutes, and other diversions and digressions. So far they have gotten away with it.

## LOCAL MERCANTILIST POLICIES

Local governments have other, more basic incentives on which the four discussed above are superimposed. They want to serve their constituents well at low cost (subject to Parkinsonian tendencies among bureaucrats, of course). They seek efficiency, internal equity among voters (even including tenants), renewal, ordinary (i.e., productive) income, growth of the local market, and succession of land to higher uses (i.e., uses serving more human needs). There is a continual tension between the goals, to understand which is to understand much of municipal behavior.

LG response to these combined incentives is municipal “Mercantilism” or “particularism,” interchangeable terms emphasizing the pursuit of parochial self-interest at the expense of outsiders. LGs pursue Mercantilism by bending all their powers to the goal. These include establishing boundaries, taxing,

zoning, allocating capital budgets, planning public works, policing buildings, pricing municipal services, influencing utility rates, negotiating for new industries, and a few others.

### *Balkanization*

The basis of local particularism is segregating the tax base by creating and defending tax enclaves. Industrial tax enclaves are one type, but they get more than their share of the spotlight. Resources are a larger member of the family. "Trees don't go to school," says the timber owner, "why should I pay taxes?" Mineral owners don't say anything, they just lie low with nearly total success. Farm landowners, whose real estate weighs in at over \$200 billion, have sold themselves as a collective welfare case. (Their national average property tax rate is about 1 percent of market value.) Factory owners on the other hand are blamed for school children, as though hiring were siring.

It is a double standard to ponder, as national unemployment rises to crisis levels while the birthrate drops toward zero population growth. Creating jobs is not really antisocial, it just seems that way to the local school board. Those who deploy their capital to employ men are doing a favor to the nation, and are not adding a bit to national school costs. So the establishment of industrial enclaves, which exclude residences, should not be singled out for avoiding school taxes, any more than farmland, timber, minerals, and utilities. Employers should pay taxes because they own property, not because they hire fathers.

Enclaves established to provide tax havens do not resist "growth" of everything, but only of population. They love to annex land and attract taxable capital. From the parochial viewpoint of modern municipal Mercantilism, the best industry is the most capital-intensive industry that hires the fewest fathers per dollar of tax base. Such industries are hypersensitive to property taxes, and so tend to attract each other and cluster in low-tax enclaves. This is splendid for them, but hard on everyone else.

Some suburban residential enclaves, often mixed with rural ones, have effectively excluded racial and ethnic minorities and low-income people of every race. Such enclaves have recently been the center of legal and political efforts to desegregate races and classes and to tap segregated tax bases by invasion. The enclaves may well deserve the invasion, but let us not forget the larger tax bases not touchable in this way: forests, farms, minerals, vacation resorts, factories, utilities, stores, and warehouses. A move to statewide property taxation for schools will do more to equalize school resources than anti-zoning cases. And let us not forget that invading a segregated tax base will almost surely result in relocation of people and businesses in areas they

might well not have chosen but for the lure of the richer tax base they could share there. Again, statewide school finance has the advantage of equalizing fiscal resources without requiring or inducing people or businesses to move in quest of more favorable tax treatment. Some of the longest leaps in the annals of suburban sprawl have resulted from developers' pioneering in peripheral rural counties to enjoy their low tax rates.

### *Administrative Modification of the Property Tax*

Assessors have much latitude, *de facto*. Most assessors are, for better or worse, chameleons of municipal policy, and use their latitude to help effect predominant local goals as seen by the local powers.

Regressive assessment has been found in many LGs, although never in pure form. It is mixed with other biases. Some, like the bias against newer buildings, tend to countervail regressivity. But most biases probably reinforce it — for example, the bias for land, the lag in revaluing declining areas downwards and new areas upwards, the bias against subdivision, the bias against the unorganized and possibly against blacks, the "wholesale rate" given to large speculative acreage and larger lots, and basing assessment on present use rather than value.

Some recent studies showing or suggesting regressive assessment are by Oldman and Aaron in Boston; Theodore Smith in Hartford; the Urban League in Atlanta; and Gaffney in Milwaukee.<sup>3</sup>

It may be hard to prove regressive or racist motives. They may not even prevail, although I personally believe they are an influence. The point of consistency is fiscal particularism, the desire to protect and enrich the local tax base.

"Hearth-tax" assessment is a strong tendency. A site is assessed in part by value, but adjusted for number of families there. The result, and I surmise the idea behind it, is to remake the property tax into something more like school tuition.

Sites without buildings are assessed most lightly of all. No hearth, no tax. We shall see that taxing buildings reduces population while taxing land increases it. The LG fighting immigration will naturally hit buildings harder.

<sup>3</sup> Oliver Oldman and Henry Aaron, "Assessment-Sales Ratios Under the Boston Property Tax," *National Tax Journal*, vol. 18, no. 1 (March 1965), pp. 36-49; Theodore Smith, *Real Property Taxation in the Urban Center* (Hartford: J. C. Lincoln Institute, January 1972); "Report of the Atlanta Urban League on the Fulton County Property Tax," mimeographed (The Atlanta Urban League, September 1971); Mason Gaffney, "What is Property Tax Reform?," *American Journal of Economics and Sociology*, vol. 31, no. 2 (April 1972), p. 149; and "The Property Tax is a Progressive Tax," S. J. Bowers, ed., *1971 Proceedings of 64th Annual Conference of National Tax Association* (Columbus: National Tax Association, 1972), p. 415.

Land assessment based on present use is part of the pattern. It is not true that taxing ripening land ad valorem forces premature use, but it is true that raising land assessments at the time of subdivision or other conversion to higher use is a powerful force postponing such conversion. It creates a locked-in effect, like the capital gains tax that waits on sale. The assessor's propensity to assess land use rather than value is reinforced and abetted by low-use zoning, discussed below.

There is tension here, and ambivalence. LG taxpayers would like the undeveloped acreage to share the load. But they hold back, in an uneasy truce: we don't tax you; you don't crowd our schools.

The property tax is also modified by exemptions provided by state law. LGs are not omnipotent over this, but they have a choice of what exemptions to fight. The Milwaukee tax commissioner, for example, fights to disexempt dormitories, hospital annexes, and nursing homes — capital that serves people's needs. On the other hand he does not fight to tax cemeteries that preempt as much land as industry and hold most of it in reserve for future burials while life-support systems are taxed instead. Nor does he fight to tax the vast grounds surrounding many institutions, or to assess golf courses at market value. Cities blame the states and plead impotence, yet much of the exempt land is owned by agencies of the city itself: industrial land banks, harbor commissions, redevelopment authorities, and many agencies with advance sites. Thus cities evince a preference for the kinds of tax exemption that reduce the supply of buildings (other than private schools, which help hold down school taxes).

### *Forcing Property Consumption by Direct Control*

One way to enrich the property tax base is to require every resident to use no less than a standard complement of land and capital, and exclude those who will not. This is forced consumption.

It is a pretty expensive indirect way to collect taxes, something like Charles Lamb's description of a mythical Chinese practice of burning down a house to roast a pig. It could raise a family's yearly debt service or other yearly capital costs by \$10.00 in order to increase tax returns by \$1.00. The lower the tax rate, the greater the forced consumption of real estate required per dollar of tax revenue. And low tax rates do not weaken the motive, which is to avoid *increasing* rates, from whatever level.

LGs force land consumption by using zoning, subdivision control, building codes, and condemnation power.

**Zoning.** Low-density zoning is the focus of today's perception of this set of devices, and is discussed by others in this forum. It is simply forced land consumption. Indirectly it also forces the individual to consume more capital,

because large homes go with large lots. It very directly forces LGs to sink more capital in all public works, the costs of which vary as functions of area, not population.

It is ironic that low-density zoning is viewed by some as a defense against urban expansion. It forces urbanites to consume more land, and cities to spread out, even if working ideally. The way it normally works, it thwarts demand for better land and sends developers probing outward seeking weak spots in the zoning umbrella. High-density land use thus erupts capriciously here and there, and threatens everywhere, rather than clustering where it belongs. The protection of nature and open space against man, purportedly a reason for low-density zoning, is not achieved. Man is frustrated in his quest for land, and more of nature is displaced than if he were satisfied. Zoning to protect nature is a boomerang policy. Touted as a solution, it has become a large part of the problem.

It is ironic that zoning is used as a defense against higher school enrollments and hence against higher taxes, for low density inflates most other public costs. Jumpy, uneven, unpredictable sprawl inflates them even more. The added costs are net social costs to the nation; the school savings are just transfers, local gains achieved by imposing the cost on others, or depriving children altogether. The national result is a tragic waste of resources to no purpose.

Agricultural zoning is the most extreme kind of exclusionary zoning, followed by large-lot zoning in horse exurbs. But zoning is universal. Zoning extends clear to the center of the city, where it takes the form of floor-area ratios, height limits, and setbacks. At every stage it interdicts market choices for more intensive use. Usually this is a direct bias against the poor. Luxury high-rise apartments and some office buildings cater to the affluent, but the indirect effect of suppressing them also hits the poor, as the rich are forced to bid for more land.

As you might expect, LGs overzone for uses regarded as fiscal surplus generators, and underzone for deficit-makers. There is often a lack of careful counting of supply and demand, and a tendency to reserve most of the land for a small share of the market, regionwide. The fiscal motive is mixed with a variety of subjective value judgments and weakly based, strongly held opinions about high-rise apartment living, ethnic outgroups, and aesthetics. Some results of exclusionary zoning are capricious and hard to explain rationally, as with any human endeavor: what is regarded as a local liability often reflects more prejudice than analysis. But even with perfect knowledge, there would be a zoning bias.

Too much land is zoned for commerce and industry in most cities. Some rich suburbs zone them out as nuisances, but that is the exception: few can afford the luxury. The classic "good reason" for zoning is to protect ivy-

covered cottages from gas stations and rendering plants, but in most LGs the zoning gives these nuisance uses a wide choice of sites among dwellings. The ivy-covered cottages are the nuisance: they produce the fiscal pollutant, school kids. Many have to invade industrially and commercially zoned land, because so little is zoned residential.

The main limit on commercial zoning is imposed by influential merchants to stifle competition. Zoning boards entertain as quite legitimate, legal, and respectable the plea that commercial zoning be denied a newcomer because it would hurt someone else's business. The common law rule against monopolies is easily forgotten. This is in keeping with the historical municipal Mercantilism of monopolistic city-states.

Zoning often determines property tax assessments. From the land speculator's viewpoint, the ideal is farm zoning and a low assessed value during the ripening period, with the option to secure high-density zoning at the time of his choosing. Many have succeeded in achieving this. The rest of the community appreciates the speculator's not diluting the local tax base by developing, but would also appreciate his enriching it by paying taxes. There are other pros and cons in each case, too, and great variety in the compromises struck. But there is a common theme: zoning is used to hold down property tax assessments on ripening land. Zoning helped to change the property tax from a tax on present and potential land value to a tax on land use, activity, and human occupancy. It reinforces and legitimizes the assessment discrimination that occurs even without zoning. The assessment discrimination, in turn, helps keep land in low-density use or cold storage, withheld in either case from the poor.

*Subdivision control.* LGs have power to refuse subdivisions, and can make them meet standards. It is an obvious occasion for upgrading, and goldplating street improvements has become the rule. An aerial photograph shows vast areas in subdivision paving, planned to repel through traffic, used entirely for local access. The result: expensive lots, as intended.

Some LGs impose what are in effect special taxes on new building tracts by requiring donations of land for school sites. These add to the price of new houses, limiting supply and excluding poorer buyers.

A pernicious byproduct of imposing extra costs on subdividing is an exaggerated propensity to build without subdividing, where possible. This means stringing buildings out along trunk roads financed by city, state, or the United States. Interior land is sterile, or worse, divided into bowling alley lots. Settlement is linear, guaranteeing a minimum of linkage, and a maximum of interference and congestion. The resultant low density makes public transport uneconomic, leading to total dependence on private autos — another exclusionary device.

*Building codes.* The worthy purposes of codes, like other devices, are easily subverted to exclusionary ends, and probably have been. "Every building a Cadillac" is hard on Datsun budgets. Occupancy limits further require that the Cadillac have empty seats.

Grandfather clauses let standards be focused on new buildings, the cutting edge of supply, without threatening old ones. This, too, acts against renewal.

It is grotesque to watch HUD struggling with its Operation Breakthrough, as though cheap housing waited on engineering advances. The theory of Cultural Lag has been a commonplace for decades, yet technocratic minds keep seeking physical solutions to institutional problems. American industry has offered us a good cheap dwelling unit called a trailer for as long as the life of the theory of Cultural Lag. The reason it does not solve our housing shortage is not to be found on the assembly line, but in the Assembly Chamber. LGs will not let them in, largely because they dilute the tax base.

*Condemnation.* Many cities condemn old buildings for safety and health reasons. This does, where applied, bring euthanasia to structures forced into the geriatric stage by policy. But the emphasis is on clearance, riddance, and removal, not on rebuilding. Like federal urban renewal, condemnation lends itself to policies of exclusion.

LG authorities would condemn old buildings more vigorously if welfare were all locally financed. Large federal sharing in welfare makes old slums much less a local liability than otherwise. The main local liability remains the school child.

Condemnation operates in reverse when a forsaken gargoyle, cornice, aesthetic or "historical" antiquity is threatened by market forces. People who look the other way when poor families are driven from their condemned homes may often be found rallying to save a shrine that symbolizes what they define as history or tradition. If it stands in the way of a housing project, so much the better.

*Taste conformity.* Some LGs have architectural review or fine arts commissions and the like, with certain powers to save antiquities, prohibit non-conforming styles, and so on. Ostensibly they are concerned with aesthetics, and no doubt they are, but taste standards are subjective and often absolutist. As Veblen taught, an objective factor in taste is waste, preferably dignified by age and obsolescence, tempered by modesty in display. But modesty in display entails setbacks, leading to immodest land requirements, the ultimate symbol of financial respectability, reserve power under leash, and priority of status. Class bias may masquerade as anger at the greed of developers, and fear of children as love of beauty. The end result is another fence against the poor.

### *Regressive Regulatory Bias*

Utility rate regulation nearly everywhere ignores the fact that distribution cost gets lower as density rises and gets higher with distance from the load center. Yet at today's low densities, distribution (or collection) has become far and away the major cost in almost all utilities, so total costs are dominated by density of settlement. The cost varies as a function of area primarily, and only incidentally with volume per meter. Rates do not reflect these differential costs. Discounts, indeed, go to the large individual buyer, irrespective of density. Many large individual buyers are at low density and far out, and should pay higher rates.

Thus "rich territory" subsidizes the lean, and small lots subsidize the large. Utility rates are a regressive tax. Owners of large lots and of undivided vacant land are spared part of the costs of services available to them and hence are under less pressure to subdivide their land.

If the surpluses wrung from small users of land in this fashion went to local school boards, LGs might welcome the poor. But the surpluses are pooled, instead, over utility networks covering many LGs. The local school district is hit with the cost of the children living at high density, while the benefit of low per capita utility costs is diffused over a wide system. As a result many LGs use their power over certain mass systems, mainly sewer and water, to control immigration. They can block subdivision with "sewer power" by refusing sewers, pleading undercapacity — and then fail to increase capacity.

Meanwhile, building continues at the low densities appropriate to private individual water wells and septic tanks. Capital costs are high, and screen out the poor. Large-tract platting preempts land and precludes subdivision. In terms of sewer and water service this pattern of land settlement makes no sense at all. It is a device of local fiscal particularism, calculated to fortify the per capita tax base. And it is growing. Those who put much hope in cracking snob zoning as the route to reform, take note. LGs have several lines of defense.

### *Allocation of Municipal Funds*

The tendency of cities to tilt capital and operating budgets toward their upper classes is widely observed. In recent years, Milwaukee cleared a large urban renewal project area, evicting scores of families stacked up in the ghetto — but scheduled all its capital budget for city utilities into expansion onto raw land, zoned for large lots. The specifics are available but the point is not Milwaukee. If it were just one city we could laugh at the human circus. But this is a national epidemic, and where are these "whole square miles" of

poor people to find a resting place short of the whole square miles of tax-exempt land reserved for cemeteries?

### *Industrial Promotion, Federal Programs, and Other Policies*

In seeking industry, there is a hierarchy of desirables. It is based largely on capital intensity. Capital means taxes; labor means school children. Cities seeking industry use all their selling wiles to favor capital over labor.

Cities have primary control over sales of cleared land under federally subsidized urban renewal programs. Sales and conditions are dominated by fiscal bookkeeping, in keeping with other policies.

There are dozens of ways that city policy affects land use — too many to catalog here. Step by step, a city's motives determine the result. Today, the motive is to repel poor people, and many programs develop that thrust.

Without itemizing every policy, note the implication of the fact that there are many. If local government is to function meaningfully it must have powers and areas of discretion. Anti-Mercantilist policies of central government should aim at restructuring incentives, therefore, rather than at imposing federal control on every specific power, as by categorical grants. The virtues of local autonomy are those of independence, human scale of organization, contact with local needs, and quick responses. These are to be preserved and cherished. To overcome LG Mercantilism by direct controls is to destroy local autonomy, a price too high to pay, especially since we don't have to. The alternative is to make it fiscally advantageous for LGs to attract people so that they will compete for families instead of for capital and land. This brings us to the subject of taxes.

### THE PROPERTY TAX, LAND USE, AND MUNICIPAL MERCANTILISM

The property tax is at the heart of fiscal Mercantilism in today's American cities. It is a control over land use — the most powerful and pervasive of all, and the most flexible. It has been used as an exclusionary device, but it can be, and to some extent has been used as a promotional device, depending on how the assessor allocates real estate value between land and buildings. The property tax can be a lever for the reform of LG Mercantilism.

Property taxes affect several aspects of land use: intensity, frequency of demolition and renewal, size of parcel, choice of location of improvements, and the time when land is ripe for higher use. In the aggregate, property taxes affect the supply of buildings and floor space in each LG jurisdiction. The property tax not only raises money, it controls land use, redistributes wealth,

and dominates LG Mercantilism. It wants a close analytical look. Analysis may entail some pain. But, as your dentist says, it only hurts a little, and it should improve your bite.

The property tax is at least three taxes: one on land, one on buildings, and one on personal property (in practice, business inventories). Each has its distinctive effects. I treat the first two separately, and omit the last, which is the smallest, in the interest of brevity.

The effect of property taxes depends among other things on how high the real rate is. A rough national mean today might be about  $1\frac{1}{2}$ –2 percent with a wide dispersion about the mean. At these levels the tax rate is still not very high next to interest rates at 8 percent or so, and annual inflation at 4 percent or so. But the effect of the tax rate may outweigh the effect of interest at an equal rate if the interest is only forgone interest on equity, because the tax is a cash outgo. There are many LGs, too, where real rates are above 3 percent, or are threatening to be. There are a few up around 7 percent with Newark and Boston. Here the property tax is a major control.

### *Intensity of Use*

*Taxes on buildings.* The property tax on buildings is a percentage of their value and is therefore something like an increase in the mortgage interest rate. Interest is the largest cost by far in building, as it is with all very durable goods; over the life of a building, interest on investment is greater than the principal, the latter representing payments to construct the building. The property tax added onto this cost and recurring annually for 50–100 years is the second largest cost, unless rates are uncommonly low.

The effect of raising building costs is to reduce building. And when one does build, everything about a building that is marginal is made submarginal. Every individual site, considered in isolation, is less intensively improved. Chopped off are marginal increments to quality, beauty, safety, pollution control, convenience, fireproofing, quakeproofing, insulation, durability, height, and all aspects of intensity (excepting lot coverage, discussed separately). In essence, one applies less capital per unit of land. It is a matter of diminishing returns of capital applied to land.

It is a sad fact of life that egoism precedes altruism, and much of what is marginal to an owner is that which is there to impress, please, and avoid offending and endangering his neighbors. What is marginal to the owner is of more than marginal value to the health of neighborhoods, so the loss of marginal increments to one owner's capital is a collective loss of consequence. In some jurisdictions it has been found that building owners neglect exterior appearance specifically and selectively because they believe it influences asses-

sors. The celebrated case of the Seagrams Building assessment in Manhattan, although extreme, lends credence to this notion. The Seagrams Building assessment was raised 50 percent because of its good looks.<sup>4</sup>

Taxing buildings makes capital dearer, motivates people to substitute land for capital, and encourages horizontal spread. Vertical rise meets increasing capital costs, whereas horizontal spread enjoys decreasing capital costs, up to a point, and saves on capital by consuming more land.

This produces the anomaly that taxing buildings, although it lowers intensity, acts to increase lot coverage. By putting a premium on horizontal spread, it encourages the building to invade the yard. This might be overcome by enlarging the lot, but here one runs directly into his neighbor trying to do the same thing. A corollary is artificially forced demand for land, and higher land prices. In time this also leads to urban expansion and larger lots.

High rise is sometimes painted as a desperate expedient of poverty, but it is more accurately seen as a luxury that lets us enjoy the benefits of closer living without walling off all open space. The luxury is available when capital is cheap. Taxing buildings makes capital artificially dear and prices this luxury out of the market.

Where lot coverage is limited by zoning and buildings are taxed, horizontal spread cannot substitute for height. The net result is limited height and a reduction in the carrying capacity of the land of the LG. The tax is another form of forced land consumption — less direct than zoning, and with other side effects.

*Taxes on land value.* These would be neutral in their effect on land use under the simplifying but unreal assumption that there is a perfect market for capital. The tax cost does not add to the interest cost of holding land, but displaces it. Forgone interest on equity falls as the tax lowers the price of land. Simple algebra shows that the decline of interest cost exactly equals the increase of tax levy — that is the classic theory of tax capitalization (see Appendix, section I).

But in fact, interest rates vary among people. They are regressive — the poor pay more. Land taxes, assuming true assessment, are not regressive. Substituting taxes for interest therefore undoes the effect of regressive interest rates. It hits the rich owner harder than the poor. This is the theory of *differential* capitalization of land taxes. It gives the land tax a progressive quality (see Appendix).

Differential capitalization increases the bidding power of the poor for land, causing them to encroach on lands held by the rich. This occurs through

<sup>4</sup> *Life*, August 16, 1963, p. 4.

subdivision of large holdings, accelerated release of ripening land to higher uses, consolidation of very small holdings, and sales of land from the rich to the poor.

The effect of land taxes on intensity of land use is therefore not a simple plus or minus. The effect is equalizing as among classes. Land taxes let the poor, who live crowded on poor land, live less crowded and move to better land. They lower density for the poor by raising it for the rich, who own most of the land.

That is not widely understood. It is often advanced that land taxes "force land into use," and result in higher density. This simplicity is catchy and will not easily give way. But it is misleading. Land taxes crowd the rich, but open up more land for the poor. Only from the standpoint of the wealthy are land taxes simply intensifying. The land tax is rather redistributive.

In terms of finding land to house and serve the mass market and the poor, this kind of redistribution is a virtue. But at the local level, it runs counter to Mercantilist needs by increasing population, attracting immigrants of only average wealth, and whetting competition. This is why the exclusive taxation of site values has not been more widely supported by LGs. The state and national incentive structures are not gauged to make its results unambiguously attractive to them.

Land taxes focused on central land also tend to lower intensity of land use in fringe areas by meeting demand on central land and so weakening out-thrusting demand. Those who choose to go exurban thus achieve lower density, too.

### *Timing of Demolition and Renewal*

*Short-run effects.* When a building is old, the effect of building taxes is probably to lengthen its life, and certainly to defer the renewal of its site.

It is not the taxes on the old building itself that lengthen its tenure. On the contrary, they may cause premature demolition and replacement by a parking lot or a nothing if the owner can count on the assessor then lowering the valuation, a point on which local practice varies.

What does defer renewal is the threat of taxes on the successor building. Building on a parcel of real estate is the occasion for a large increase in the tax bill. This throws a weight into the scales of decision between old and new. The year that would be optimal for renewal in the absence of taxes now looks premature to the owner, because of the tax difference.

So long as taxes depend on the use to which land is put, they intercede in the competition of the market in favor of the lower taxed use and alter decisions at the margin. Here it is a matter of one particular application of that general principle: the margin of decision between old and new. Building

taxes are heavier on the new and weight the decision against it. They may defer renewal for any number of years and decades, depending on particulars. Because of neighborhood effects, which are mutually reinforcing, what defers renewal of the individual site for 25 years may defer renewal of neighborhoods, and cities for 50 years or in some cases forever. The city may die. Some cities are dying in this way. Perfectly good land is abandoned, rendered unrenovable by the cumulative neighborhood effects of counterproductive tax policy.

Land taxes are more neutral than building taxes in the renewal decision, and in perfect capital markets they might be completely so. In practice they accelerate renewal because they drain cash from holdouts waiting for high bids from builders. According to the portion of tax theory that looks at marginal incentives and ignores the wealth and liquidity effects of taxes, land taxes are simply neutral, and in an important sense that is true. But taxes affect behavior in more than marginal ways. They affect it through changing relative wealth and holdout power and credit ratings. The effect of a cash drain on a holdout far outweighs the effect of an equal value of forgone interest on equity because the cash drain lowers his wealth and liquidity. The cash drain of land taxes also conveys information to many owners who are only vaguely aware that they are holding a resource of high salvage value to society. Land taxes build a fire under sleeping owners. Anyone who talks with owners of ripening land soon learns that many who are not in debt perceive their holding costs in terms of taxes more than forgone interest, though the latter be five to ten times as high; and in legislature assembled they put their faith in preferential low assessment of ripening land when they want to forestall its urbanization. If money talks, the tax dollar outtalks the interest dollar, at least the dollar of forgone interest on equity, which speaks in a whisper.

*Long-run effects.* Taxes also affect the planned life of buildings. Because they act like higher interest rates, they discourage durability, which may be perceived as substituting capital for labor. From this, it is easy to infer that building taxes act to shorten planned life. Easy, but wrong, for the taxes also force substituting land for capital. In the discussion of intensity of use, that meant spreading out in space. Here it means spreading out in time, letting structures stand a long time before demolition.

So we seem to have two contrary forces at work. Building taxes cause us to build less durable structures, but then to defer demolition. These two forces are consistent in that each helps save on capital. They are at odds in that the first appears to shorten life, the second to lengthen it.

The matter is resolved by distinguishing service life from carcass life of buildings. Taxing buildings makes us shorten service life, but lengthen carcass

life, thus creating a geriatric afterlife of buildings during which they occupy space without doing much good. Houses are built for faster recovery of capital but slower recovery of site, so that the shells of old structures, the ghosts of departed values, stand to haunt us after they have been drained of most of their serviceability.

This reinforces the short-run effect. Old buildings stay with us a long time, thanks to taxes on buildings, and they stay with us yielding less service.

There are those who oppose demolitions on the ground that they destroy housing for the poor. Federal Urban Renewal Programs and other removal programs have been frightful in this respect, and wanton demolition for "slum clearance" is surely to be condemned. The proposal made by John and Ursula Hicks to exempt new buildings while taxing old<sup>5</sup> is to be faulted for forcing premature demolition. But taxing buildings as generally practiced in the United States today is not defensible on the grounds that it defers demolition because it does so only by weakening the profit motive to rebuild and increase supply. Indeed, taxing old buildings, taken by itself, often causes premature demolition, long before land is ripe for renewal. In tandem with the tax threat against new buildings, it lengthens the dead period between buildings when land is held out of service.

As to land taxes, they are again more neutral, subject to the qualification that the market for capital be perfect. But taxes affect behavior in at least two ways. There is the effect on marginal incentives, discussed above; then there is the wealth effect. Land taxes are neutral in respect to marginal incentives, but they have a definite wealth effect, especially in contrast to the taxation of buildings. Taxing buildings drains wealth from, and creates liquidity crises, for builders; taxing land serves the same discipline to nonbuilders and to the holders of obsolete and inadequate improvements. By this mechanism land taxes affect the market sharply.

### *Size of Parcel*

We have seen that taxing buildings causes the substitution of land for capital. The immediate impact is increased lot coverage. The secondary impact is bigger lots. If there is just so much land in a city, lots cannot get bigger, and the result is simply higher land values. But if a city can spread out, it does, under this influence.

Similarly, taxing buildings discourages subdivision where that means more capital per acre. It discourages converting old estates to middle-class housing, for example, because the tax bill would rise.

<sup>5</sup> J. and U. Hicks, *Report on Finance and Taxation in Jamaica* (Kingston: Government Printer, 1955), chapter 10.

Apartments might seem to be an exception because they involve assembly, but the exception is only specious. The ownership of apartments is unified, as a rule, but the *use* is subdivided. So subdivision, broadly construed, includes the building of apartments. A tax on buildings is quite consistent in its bias against this kind of land use.

Land taxes are not neutral in their effect on the size of parcels, for a reason already cited. Interest paid or forgone is the main cost of holding land. Interest rates are regressive, and as a result, the use of land is regressive. This means that those who enjoy low interest rates spread out over land that at the margin yields them less service than it would yield their credit-pinched rivals. Land taxes displace the interest cost of holding land by a tax cost. They fall harder on those who enjoy lower interest rates and larger land holdings. They tend therefore — assuming true assessment — to equalize land holdings.

### *Choice of Location*

The effect of taxing buildings is not merely incremental in the manner treated so far. It changes the relative bidding power of different uses, and changes the structure of cities.

In a perfect market, uses needing high accessibility cluster around a center of maximum access. Access is mutual, so the presence of those seeking access is a net benefit to others seeking access, and clustering is self-reinforcing, up to a point. Likewise, uses needing specific mutual access, or access to the same people or things, cluster in specialized neighborhoods and districts. Aggregate transportation needs are minimized, for any level of linkage. There is a logic to market decisions — the “highest and best” use in the market sense also has a good claim to approximating highest and best use in a more ultimate sense of social good.<sup>6</sup> So it is a social cost of moment to deny the market allocation of land without some good reason like a playground, mini-park, or street.

Two rival uses compete on equal terms for land, and represent equally high and good use, when they have the same imputed site value,  $S$ .

$$(1) \qquad S = PVR - C$$

where  $PVR$  is the present value of revenues (net, discounted), and  $C$  is cost of construction. It is the *difference* between  $PVR$  and  $C$  that makes site value,

<sup>6</sup>For further discussion and sources, see Mason Gaffney, “Land Rent, Taxation, and Public Policy,” *Papers of the Regional Science Association*, vol. 23 (1970), pp. 141–153; and “The Sources, Nature and Functions of Urban Land Rent,” *American Journal of Economics and Sociology*, July 1972, pp. 241–57.

not the absolute size of either. Thus a gas station can sometimes compete with an apartment; though present value of revenues is less, so is construction cost. But the effect of building taxes varies with  $C$ , the tax base. As between two uses equally high and good, i.e., with an equal *difference* of  $PVR$  and  $C$ , the building tax intercedes in favor of the one of lower construction cost ( $C$ ). Although its revenue is less, the gas station outbids the apartment because the apartment would have paid more building taxes.

This is a matter of leverage. A given percentage increase in cost cuts deeper into the residual land value afforded by the more intensive use, because its cost is higher relative to the land value. Let us give that some precision and generality.

We begin by converting the stream of future building taxes to a lump sum, their present value ( $PV$ ). "Present value" of the stream means if you borrowed  $PV$  and paid it off on the installment plan over the life of the building, your annual payment would be the amount of your building tax. The  $PV$  of an annual payment of \$1 over sixty years is a lump sum of around \$13 (discounting future dollars at 7 percent per year compounded). So a property tax rate of 1 percent of building cost is equivalent to a present value of 13 percent of building cost.

This comes out of what a builder can bid for land. He reduces his bid by 13 percent of the cost of the planned building ( $C$ ). The higher is  $C$ , the more the disadvantage.

Let us couch this in terms of the percentage drop in what competing uses can bid for a site. The absolute drop, for each 1 percent of tax rate, is:

$$(2) \quad -\Delta S = 0.13C.$$

That drop as a percentage of site value is:

$$(3) \quad -\Delta S/S = 0.13C/S.$$

$C/S$  for a high-rise structure might run 8/1. Since  $8 \times 0.13 = 104$  percent, the tax reduces the bid by more than 100 percent and so wipes out the site value.

For a \$70,000 gas station on a \$140,000 hot corner,  $C/S$  is  $\frac{1}{2}$ . Since  $\frac{1}{2} \times 0.13 = 6\frac{1}{2}$  percent, the oil company can bid only  $6\frac{1}{2}$  percent less than if there were no taxes. The effect of building taxes is to give the less intensive use a comparative advantage over the more intensive.

That does not mean the total abolition of high-rise buildings everywhere. This is not the way the world works. It means gas stations get more land, and better land. (They also spread out.) Apartments get less land, and worse. (They also are built shorter.) Gas stations move into the center; apartments

move outwards. This helps account for the anomaly of intensive uses popping up on poor land and mixed in with much lower uses, while low uses preempt much of the central land. In general there is a poorer matching of buildings and uses with sites.

The above is a picture of urban disintegration. Our ways of imposing taxes play a role in making cities sprawl. Sprawl, in turn, with attendant suburban enclavization, weakening of metropolitan community ties and facilities, and automobile dependency, spawns many of the problems of class conflict that concern us now.

More directly, the bias against uses with a high building-cost/site-value ratio ( $C/S$ ) is a bias against the poor, who live crowded at much higher density than the rich and on land of lower unit value as a rule.

I noted earlier that the tax on buildings affected incentives somewhat as would a rise of interest rates. Here we reach the limits of that parallel. The building tax is more specifically targeted against intensive use than is the interest rate. In the extreme, on an unpaved parking lot yielding income with no building, the building tax does not lower its value a bit, while a higher interest rate would lower the value. More generally, in (1), building taxes are proportional to  $C$ , while higher interest rates have an effect which is proportional to  $PVR$ . Thus the artificial scarcity of capital caused by the building tax is more disruptive to the integrity of urban linkages than is a natural scarcity of capital reflected in high interest rates. Indeed, high interest rates would also make roads and allied infrastructure costlier, raising horizontal transportation costs and raising the premium on central location.

### *Ripening of Land for Higher Use*

*Criteria of ripeness.* Under dynamic conditions, land is often in transit from one use to another and usually higher use. In anticipation of a move, it develops an "expectation value," or speculative value, that is higher than income from the current best use will support. When should the owner take the quantum jump and initiate the higher use? When is the land ripe for the change?

The choice of ripeness date ( $D$ ) is difficult because a durable building, indivisible in construction, must be placed on the land to shift its use. As demand for the site grows with each succeeding year, the hypothetical optimal improvement that one would put up if he were going to build in that year changes. Each succeeding year's optimal building yields more net present value to the land.

To avoid premature, preclusive underimprovement or other irreversible error one postpones building — but not forever. R. T. Ely identified himself with the doctrine of "ripening costs" in which he argued the case for deferral,

but he failed to supply a criterion for ripeness. *D*-date (ripeness) arrives when the value imputed to the site by each succeeding year's hypothetical optimal building stops rising faster than the interest rate.<sup>7</sup> (This is the same as selecting the date that maximizes present value of the land as of any fixed calendar year.) By not building in Year 1 you forgo — and thus in effect invest — the present value of site ( $S_1$ ) realizable by building in Year 1 to gain  $S_2$  in Year 2, or  $S_3, S_4, \dots, S_n$ . If any

$$(4) \quad S_n > S_1(1 + i)^{n-1}.$$

then the value of holding the uncommitted site grows faster than money in the bank and is a good investment.

In addition, there is current site income ( $a_1$ ) from the tag end of the prior use, or from some interim use. Adding these in, a site is not ripe so long as

$$(5) \quad (a_1 + \Delta S)/S_1 > i.$$

Note that  $\Delta S$  is not just the yearly rise of land value in the market, but is  $S_2 - S_1$  as defined in the previous paragraph.  $S$  is "use value." It is below market value until the optimal year of building, at which time use value has risen to equal market value. Market value is use value at *D*-date (ripeness) discounted, so market value grows at the investor's rate of interest. Use value ( $S$ ) grows faster than that until ripeness, by definition of ripeness.

*Taxing buildings affects ripeness.* We have seen that taxing buildings reduces site values derived from buildings and applies leverage against intensive building. It follows that taxing buildings affects the growth rate of site values, assuming that the optimal building-cost/site-value ratio ( $C/S$ ) changes with ripening. Thus taxing buildings affects the date of ripeness.

I shall show the following. As land ripens, the effect of taxes on the ripeness date depends on whether further waiting would lead to a higher or lower  $C/S$  ratio. Normally it leads to a lower ratio;  $C$  rises, but  $S$  rises by a higher rate. The effect of taxes is then to retard ripeness. They make one more disposed to sacrifice an earlier for a later use.

This is the kind of elusive relationship that algebra was invented to nail down. To simplify, assume no current income from a prior or interim use. To simplify the notation, the present value of the stream of future net revenues,

<sup>7</sup>Mason Gaffney, "Replacement of Individual by Mass System," *Proceedings of American Real Estate and Urban Economics Association*, vol. 4 (1969), pp. 21–68. This piece also treats the effect on ripeness of later generations of use, a point omitted here.

*PVR* in equation (1), is denoted simply as *R*. The growth rate of use value (*S*) is:

$$(6) \quad \frac{\Delta S}{S} = \frac{\Delta R - \Delta C}{R - C}.$$

Let *T* be the present value of future building taxes, expressed as a percentage of *C*. (We previously illustrated *T* as 13 percent for a 1 percent tax rate; about 15–40 percent is normal, depending on the tax rate and the discount rate.) After taxes, assumed to lodge in lower site values:

$$(7) \quad \frac{\Delta S}{S} = \frac{\Delta R - \Delta C(1 + T)}{R - C(1 + T)}.$$

Taxes proportional to  $\Delta C$  reduce  $\Delta S$ , because  $\Delta C$  comes out of  $\Delta S$ . But taxes also reduce *S*, the denominator of the rate. Which factor prevails? The rules of algebra provide an answer.

The effect of taxes is to raise the growth rate of *S* if:

$$(8) \quad \frac{\Delta R - \Delta C(1 + T)}{R - C(1 + T)} > \frac{\Delta R - \Delta C}{R - C}.$$

By cancellation (or inspection), (8) implies

$$(9) \quad \frac{\Delta C}{C} < \frac{\Delta R}{R}.$$

By inspection, (9) is true if *C/R* is falling. I shall call *C/R* the cost/benefit ratio. From (1), *R* is (*C* + *S*), the sum of building and land value, so:

$$(10) \quad \frac{C}{R} = \frac{C}{C + S}.$$

Thus *C/R* is simply the share of building cost in real estate value. Falling *C/R* implies falling *C/S* as well.

Intuitively we think that land ripens into higher intensity, but intuition is a blind guide here because it compares incommensurables: building *value* per unit of land *area*. Economic intensity compares commensurables: building value and land *value*. Our *C/S* and *C/R* are proper indices to economic intensity.

For several reasons, I believe ripening usually entails a drop in  $C/R$ .  $C$  rises, but  $R$  rises at a higher rate, so  $C/R$  falls. These reasons are developed in section II of the Appendix. So the usual effect of taxing buildings is to retard ripeness by raising the percentage growth rate of the use value of the site. I conclude that the paramount effect of building taxes on ripeness is to defer it.

The demonstration above must be tempered to allow for the evasive action of the taxpayer faced with the threat of a tax on buildings. This modification is in section III of the Appendix.

Occasionally, ripening would lead to a higher  $C/R$ . Then the effect of building taxes is to advance ripeness by making the later use relatively less attractive. The point of consistency is that intensity loses either way. Taxing buildings makes landholders more patient to wait for lower uses, but less patient to wait for higher uses. But section II of the Appendix shows that excessive patience is the rule.

Neighborhood effects add to the retarding influence of building taxation. Part of ripening is not waiting so much for greater demand but for greater certainty. Certainty means waiting for neighbors to commit themselves. But Alphonse waiting for Gaston simply perpetuates uncertainty when Gaston is waiting for Alphonse. Much of the rationale for ripening is a hyperindividualistic one that does not bear examination from a social viewpoint and can only be painted a social good by committing the fallacy of composition. "We have no plans," said a San Francisco land speculator, "we're waiting for other people's plans." In such a context, whoever leads off ripens his neighbor's land and shortens the sterile downtime of land between major improvements. Building taxes that retard the improvement of one site thus retard the ripeness of neighboring complementary sites by generating uncertainty. Uncertainty of this kind in a highly complementary urban neighborhood is an external nuisance every bit as noxious as odors, fumes, noises, and shadows.

I remarked earlier that the property tax on buildings affects investor behavior somewhat as would a rise of the interest rate. In respect to ripening that is not true. A higher interest rate would also require the use value of sites ( $S$ ) to grow faster to remain unripe; but a higher building tax rate has no such effect. Indeed, the macro nationwide effect of having buildings taxed in all jurisdictions is to lower the level of interest rates that investors require land to earn.

Turning to land taxes, they would be largely neutral if credit markets were costless. It is widely believed that they speed up ripening, but the belief has been wrongly rationalized. It rests mostly on assuming that land taxes are piled on top of interest costs of holding land. But land taxes are capitalized into lower values, and thereby supplant interest costs rather than supplement

them, as already noted. The reason that land taxes hasten ripening is that ripening land is mostly held by strong hands whose comparative advantage lies in holding assets where the main cost is paying interest on loans and forgoing interest on equity. Hastening the ripening of such land is simply an aspect of the transfer from rich to poor that land taxation effects via differential capitalization (see Appendix, section I).

Frequently the date of ripeness is outside the owner's direct control and depends on when public works are extended. Today, in many suburban areas, sewers are controlling. Here, land taxes cannot speed ripening until sewers are built. But they can then speed private building to match public building and effect great savings on public capital of all kinds.

Land taxes also have important distributive effects. Future sewers have a present value to landowners. Values rise above farm levels — not once and for all, but incrementally along a line wiggling around a basic compound interest growth curve. This annual accrual of value is a current income, in the true economic sense, just as depreciation is a current cost. Land taxes levied ad valorem on the base of this selling value are a way of tapping this accruing income for the public. Appreciation is proportional to value; the tax is proportional to value; therefore the tax is proportional to the appreciation.

Arguments against taxing appreciating land do not therefore hold water on the grounds on which they are usually presented — i.e., that ripening land yields no income. They do, however, make sense to the local interests whose welfare is the bottom line of the municipal enterprise. Land taxes redistribute income from landowners to other voters and immigrants. From the parochial Mercantilist view this is bad. From the national view, where the welfare of migrants and labor are a greater concern, it might be valued more positively.

It is traditional to blame premature building and sprawl on ad valorem assessment of ripening land. Premature extension of public works is more guilty, coupled with postmature conversion of ripe land close-in, made unripe or submarginal by taxes on building.

Aside from wealth effects, land taxes are neutral in their effect on date of conversion, so long as they are not contingent on the date selected. Noncontingency is the same principle that makes land taxes neutral towards other land use choices. Suppose someone were panicked by rising land taxes into premature urbanization of farmland, as is sometimes feared. What would he gain? Either he would overimprove and lose money the first few years; or he would gauge his building to the slim early market, and in a few years be locked into an underimprovement while his land assessment and taxes kept on rising.

If he behaves rationally he will not convert land sooner because of tax carrying costs. The time permanently to convert land use, with or without

taxes, is when the rapid rise of value begins to taper off. Then the land is ripe. This happens when the city has grown out to abut the land in question. Land taxes should tend to help conversion be less disorderly than now by equalizing carrying costs among owners of different credit ratings. Land assessments should also be given a quantum jump when public works are supplied, triggering action, prompting owners to fill in compactly and developers to sell quickly, lest the public investment in the works be sterile.

Land taxes would encourage premature conversion if the assessor maladministered them, i.e., if he raised them until the owner improved the land, then locked the assessment at that level. Under that system, the owner could buy himself a low assessment by early underdevelopment. Some assessors do maladminister like that. The solution is the building-residual method of assessment: assess the land at what it would bring if vacant; then assign the building the residual value.

### *Aggregate Local Effect of Property Taxes on Supply of Buildings*

**Building taxes.** The overall effect of taxing buildings is to reduce the service flow from a municipality of given area. We have seen this in several aspects.

Intensity falls, in terms of quality, durability, and height especially. There is some compensatory tendency toward increasing lot coverage, the strength of it depending on whether people have somewhere else to go. If they do, lots get larger as buildings ramble.

Site renewal slows down greatly. This slowdown, coupled with less durable buildings, creates slums and out-of-service land. Each old building robs neighboring sites of their renewability, and the extreme result is nonrenewable, abandoned neighborhoods.

Building taxes magnify the motive to withhold land for ripening. The virtue of avoiding premature commitment is distorted into the vice of postmature commitment. Within a neighborhood the delay can be indefinite, as each separate owner, waiting for certainty, imposes uncertainty on others. In the still larger scene of the entire metropolis, postmature building in truly ripe areas disperses demand outwards. Development takes place in outer areas that are made to look ripe from a local viewpoint, even after taxes, but are grossly premature in the regional plan. This is the more likely when central city tax rates become substantially higher than suburban.

Taxing buildings tends to favor larger parcels and discourage subdivision and apartments.

Last, taxing buildings weakens the relative bidding power of more intensive uses in competing for land, and changes the structure of cities. Gas

stations and parking lots push high buildings out of the center. Out-of-service lands break up complementary clusters, and cause urban sprawl.

The combined effect is to reduce the service from any given amount of land and to diffuse demand over a wider area than is necessary, economical, or socially desirable. This result is a kind of forced consumption of land, plus forced consumption of capital, as sprawl inflates the infrastructure costs of urbanization. This heavy capital cost dashes the hope that moving out to cheap land in the old frontier tradition may open up land for housing the mass market.

*Land taxes.* The overall effect of taxing land is toward equalizing the intensity of use between rich and poor by displacing regressive interest costs with the tax. That means intensifying the use of land, because most land is held by the rich; but it means more land per family for most families, because the median family is far below the mean in income and even lower in wealth.

Taxing land is redistributive, the more so when the proceeds go to finance schools and welfare. So long as localities were infected with a wish to grow, and an egalitarian philosophy, land taxes found strong support. In today's mood of local Mercantilism, which questions growth and leans to elitism while still seeking local efficiency and community, tension and ambivalence surround the local taxation of land.

### EFFICIENCY, EQUITY, AND POLICY

Policies of forced consumption of land and capital achieve their ends at high cost in social efficiency. They reduce density below what sovereign consumers evidently desire, running up heavy public costs in the process. They retard renewal and create slums. They frustrate the mass market desire for cheap land and cheap housing.

They make cities disintegrate in several ways. Building taxes weaken the relative power of intensive uses to compete for the most accessible land. Underemphasis on land taxes, as by underassessment and zoning dodges, causes the most rentable land to go to the strongest hands with superior financial power, rather than to the most productive use. A weak seller far out often looks better to a builder than a strong holdout close in. Zoning as we practice it is self-defeating, because a builder's biggest profit comes from breaking the zoning rather than following the rules and paying a high price for land already zoned to his needs. Long extension of the ripening period creates too many niches for shoddy interim uses that disfigure the American city.

The policies force consumption of more land and capital than consumers want. And they inhibit adequate development of mass systems like transit and sewerage that depend on high density.

The set of policies also militates against social equity and sense of community. They are consistently biased against the poor and school-age children and their parents, contributing to class division and the generation gap. They are biased against people, contributing to the unemployment problem that federal policy alone has now proven powerless to abate. If Tawney was right that a society is rich when material goods are cheap and human beings dear, then these policies work to impoverish society. They treat people as a pollutant.

Remedial policy can be at once radical and conservative. It needs to be radical in the sense of being pervasive and transcendent. That is, we need policies that will change local incentives and nudge local decisions in the humanist direction, as opposed to a series of running battles forcing local officials to go against what they perceive to be their interest.

Policy can be conservative in the sense that small changes can tip the balance between exclusionary and philanthropic policies. Cities have powerful incentives to attract people, as well as to resist them. The two large forces are about evenly balanced. It was not long ago, after all, that the growth booster was an American stereotype. Heaven protect us from his most barbaric manifestations, but he does display a set of motives for welcoming immigrants. What is needed now is to tip the scales of local incentive in favor of receiving human immigrants, as opposed to exclusive emphasis on capturing capital, public works, and territory.

Policy can also be conservative in retaining local control over local matters. There is great administrative efficiency in having each local government handle as much as possible, motivated towards efficiency by having its own bottom line to maximize. It is not important that the profit or equity be large. It is important that profit vary with, reward, and motivate local efficiency.

It would not work to withdraw local zoning power. Zoning and other exclusionary devices are means to ration access to local public schools, and in lesser measure to parks, streets, and other common properties. To take away the LG's exclusionary powers would cause them to starve the teachers and sell the parks for commerce. They would not pay for good schools if these simply attracted more large, poor families to share the schools and dilute the tax base. Fighting the good fight against snob zoning will boomerang on the warriors if it results in lowering school support. The object after all is not just access to land for housing, but also to good schools. The object is not just to equalize school access, but to improve schools.

The most important feasible radical-conservative policy change to achieve these goals today is to shift "foundation" school financing to the state level, and the property tax along with it. A year ago that was far out. Suddenly it is imminent and probable.

School children entering a community complete with a generous voucher for tuition, social dividend, or other device for allocating state funds by school population would be a local fiscal asset. LGs would compete to attract them. It would become financially respectable to be a human being.

Much else would then fall into place as a result of voluntary local action. And the property tax itself, as a state institution, could be remodified: all the exclusionary features that characterize local assessment practice could be changed. The site value tax with exemption of buildings would make more sense than it does now from the local viewpoint. And rates could be much higher than now, with less fear of repelling fiscal surplus generators. Property could carry more of the tax burden, lightening the load on regressive sales and payroll taxes.

A concurrent change should be a higher emphasis on user charges gauged to social cost. Exclusionary policies now are an indirect device to ration use of local commons. They are very inefficient devices with more side effects than effects, and readily perverted to antisocial goals as we have seen. If we don't like autos we should tax autos, not houses.

User charges today are perverse. We tax water supply and exempt private wells, tax sewer use and exempt septic tanks, tax mass transit and exempt autos and streets, and so on. Within mass systems, rate regulation makes rich territory (which houses poor people) subsidize lean territory and rich people. All this needs to be worked over, on marginal cost principles. The effect on land use would be a conservative, economical, accountant-directed humanitarian revolution.

Changes in federal tax policy are also needed. Congress needs to take the fun out of land speculation by hitting capital gains in a dozen ways, thus encouraging cities to use their capital budgets to serve their median citizens rather than the strong hands who hold speculative land and inveigle councilmen. Washington might also share the social dividend of school finance, raising the revenue by kinds of tax reform that encourage better land use.

Cities could expand with sharp edges, coordinating zoning and tax assessment with extension of municipal services, developing close-in land compactly for median citizens, letting the wealthy average-raisers outside pay their own way.

Congress needs to stop the competitive underassessment of land by local assessors, described above, which makes a mockery of the federal income tax by letting people avoid taxes by depreciating land not just once, which

amounts to complete exemption of land income, but several times, which amounts to a large subsidy for holding title to land. There is no substitute for federal review of assessments — a federal board of equalization, in effect. Otherwise, local assessors will continue overvaluing buildings relative to land to inflate the depreciable share of real estate owned by their local constituents.

These economic policy suggestions do not displace the legal steps discussed by others here, but supplement them in our mutual quest for the lost sense of American community and purpose. These are exciting times, and there will be much excitement in implementing and detailing the policy shifts sketched above. Nobody said it was going to be easy.

## APPENDIX

### *I. Differential Capitalization of Taxes on Land Value*

Let  $a$  = annual net income of land before land tax (but after other taxes)

$i$  = rate of interest

$t$  = rate of yearly property tax on land value

$V$  = market value of land = assessed value of land.

With  $t = 0$

$$(1) \quad V = \frac{a}{i}.$$

This is simple "capitalization" of income into value.

With  $t > 0$

$$V = \frac{a - tV}{i},$$

$$V(i + t) = a,$$

$$(2) \quad V = \frac{a}{i + t}.$$

Equation (2) is the classic algebra of tax capitalization: the tax is capitalized into a lower value.

Now assume that credit rationing divides the capital market into two groups, Poor and Rich, who pay (or forgo) two different interest rates,  $p$  and  $r$ .

$$(3) \quad p > r.$$

Equation (2) now tells us what each group can bid for land, using  $p$  or  $r$  in place of  $i$ . This is *differential* capitalization. Rich outbids Poor for land yielding each the same net income ( $a$ ), and even for land yielding Poor more income, up to:

$$(4) \quad \frac{a_p}{a_r} \geq \frac{p + t}{r + t}.$$

But taxes ( $t$ ) lower the bids of Rich more than bids of Poor. Bids of the Poor are cut in half when  $t = p$ , but bids of the Rich are cut in half at the lower  $t = r$ . More generally, equation (4) says that raising  $t$  dilutes the effect of  $p$  being higher than  $r$ , tending to equalize bidding power of Rich and Poor.

I have simplified by omitting that the lower bidder must figure on taxes on a value established by the higher bidder, but the simplification merely understates without changing the conclusion.

To restate in terms of yearly carrying costs,  $c$ ,

$$(5) \quad c = V(i + t).$$

The poor pay more to carry a given piece of land, because the cost is mostly interest. Again I understate by simplifying. The poor not only pay higher rates, they borrow on shorter terms, so their carrying costs include a heavier amortization factor as well. The self-financed landowner has no debt to amortize, and no cash drain but taxes.

But as  $t$  is made larger,  $V$  falls, so  $Vi$  falls, and the impartial tax cost displaces the regressive interest cost.

The effect of the tax is greater when land is appreciating. Let  $V$  rise yearly by  $g$ , a percentage. Deduct this from  $c$  (we could instead have added it to income). Now

$$(6) \quad c = V(i - g + t).$$

(6) shows that  $g$  leverages or fortifies the effect of  $p$  being greater than  $r$ , in contrast to  $t$  which dilutes the effect.

Thus appreciating land gravitates to "strong hands," i.e., those who borrow at the prime rate, or don't have to borrow at all. And by the same token the equalizing effect of land taxes is most pronounced when applied to appreciating land. A numerical example based on (6), when  $p = 0.08$  and  $r = 0.05$ , follows.

$$\text{Ratio of Carrying Costs } \frac{c_p}{c_r} = \frac{0.08 - g + t}{0.05 - g + t}$$

| $t \backslash g$ | 0     | 0.02  | 0.04  |
|------------------|-------|-------|-------|
| 0                | 8/5   | 6/3   | 4/1   |
| 0.02             | 10/7  | 8/5   | 6/3   |
| 0.04             | 12/9  | 10/7  | 8/5   |
| 0.06             | 14/11 | 12/9  | 10/7  |
| 0.08             | 16/13 | 14/11 | 12/9  |
| 0.10             | 18/15 | 16/13 | 14/11 |

## II. Why Land Generally Ripens into a Lower Intensity

Let  $C$  = capital cost of building

$R$  = present value of future net revenues or cash flow from building

$S$  = use value of site =  $R - C$

$$\frac{C}{R} = \frac{C}{C + S} = \text{cost/benefit ratio } (C/R).$$

1. There is a hierarchy of land uses, qualitatively different. While each one is of variable intensity, they are discrete, with a quantum jump from one step to the next, as from grazing to row crops, row crops to orchards, acreage to lots, singles to walk-ups, walk-ups to high-rise, and so on.

Demand is generally rising, and land succeeds from one generation of use to another. Each use has an inner margin where it is the lower use, less intensive than its inner rival; and an outer margin where demand is weaker, or land is less suited, and it is the higher use, more intensive than its outer rival.

"Marginal" land connotes low intensity, but the connotation is misleading. It is based on a physical or per acre concept, while economics is concerned with values. The essence of economic marginality is that  $C/R \rightarrow 1$ , the cost/benefit ratio approaches unity. In these terms, marginal land is the *most* intensively used. As demand rises and costs fall, land yields a surplus. As the rings in the hierarchy of land uses expand, and a site shifts from the outer to the inner margin of its ring, it becomes less marginal and more rentable, and  $C/R$  falls.

2. Land ripens because of falling building costs as well as increasing demand. Obsolescence is a continuing expectation, an ineluctable factor in all decisions (independent of inflation and overstated fatalism about union wage rates, not at issue here). Of course, falling  $C$  means lower  $C/R$ .

Another general reason to expect falling  $C$  is economy of scale. As demand grows, a larger building is appropriate. There are great economies of scale in building.

Land can also ripen into a new generation of use at lower density. A quarter or more of many central business districts has ripened into parking lots, for example, and many a house has been knocked down to expand a gas station apron.

Another kind of falling cost generally to be expected is lower borrowing rates of interest. This results from better creditworthiness of land as the proposed use becomes less marginal, innovative, or experimental in an area. As the land ripens into a better credit rating,  $R$  rises because it is the discounted value of future revenues, and a lower discount rate is relevant.

This last factor is partly circular, but that is the nature of credit ratings. It depends on the cumulative process of forming conventional opinion among lenders, few of whom supply much venture capital.

3. Empirical studies generally show that  $C/R$  is lower on better lands. It is very low in Champaign County, Illinois, or Benton County, Indiana, the best grain land. It is very low in Kuwait, the best oil land. It is quite low in Manhattan, the best urban land; generally lower on retail land than residential; lower in central cities than fringes; lower in rich suburbs than poor ones. It is lower for Site I timber lands on the western slope of the Coast Range in Oregon than for Site VI lands in the high Cascades. To some extent that may reflect underutilization of better land due to cartel behavior, the soporific effect of surplus income on owners, and other institutional factors, but it probably is more basic than that — basic as that is!

4. Time generally brings public works, paid by others, to lower costs. This is one factor in increasing demand, already postulated, but it is also a factor in lower costs. Thus extension of city sewer and water precludes septic tank and well.

Figure 1 is a schematic representation of these relationships.

### *III. Effects of Building Tax on Intensity and Ripeness Combined*

In equations (7) and (8) in the text, I proceeded for simplicity as though  $C$  and  $R$  in each year would be the same despite the threat of building taxes. Actually, the landowner would turn to less-intensive alternatives so  $C/R$  would fall. This would almost certainly entail an absolute decline in both, as well.

Thus, consider all cases where

$$(1) \quad C(1 + T)/R > 1.$$

That means

$$(2) \quad R - C(1 + T) < 0.$$

i.e., the use value is negative, taxes have made the particular use of land submarginal. But they have not made the land itself submarginal. The owner can find a lower use whose

$$(3) \quad C(1 + T)/R < 1.$$

Now posit a base intensity-path, without taxes, following the course charted in Appendix II, with  $C/R$  falling; apply building taxes, and let the

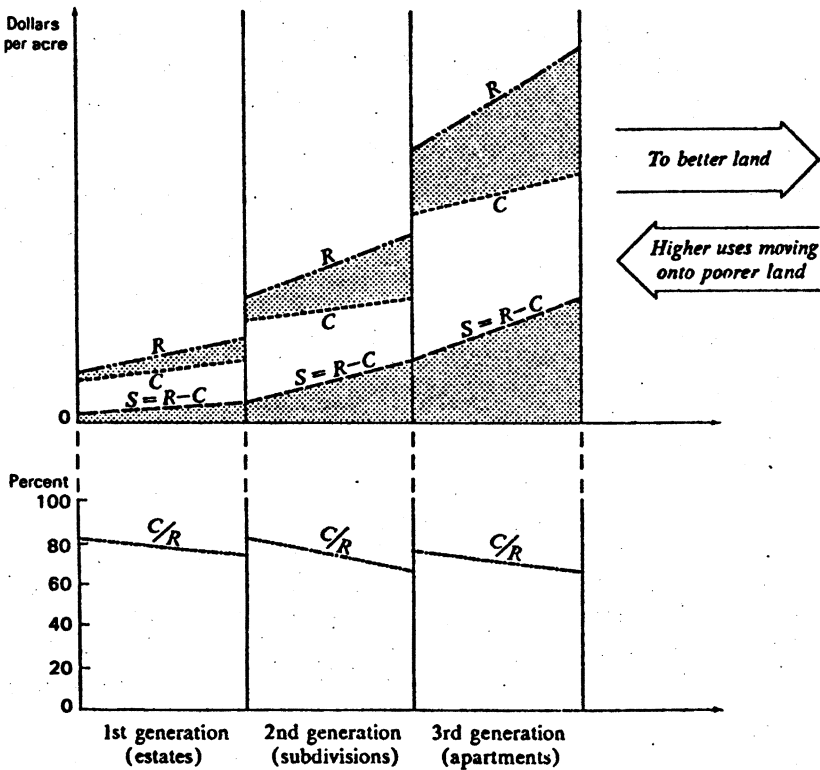


Figure 1. Costs, revenues, use values of sites, and intensities (or cost-benefit ratios), comparing succeeding discrete generations of uses as land ripens into higher uses.

taxpayer change his path, to avoid taxes optimally. He will lower  $C/R$  where it is highest, i.e., at the beginning of the path. Thus  $C/R$  will be lower at the start and will drop less along the path. This, in turn, reduces the high after-tax growth rate of  $S$ , and reduces the retarding effect on ripening.

The net effect of all this is a combination of two evasive wiggles. In general, he builds less, later. The emphasis depends on particulars. He may build much less and a little later; or a little less much later; or any combination.