RSF
ROBERT SCHALKENBACH FOUNDATION

Why Research Farmland Ownership and Values?
By Dr. Mason Gaffney

Article citation:
Gaffney, Mason. “Why Research Farmland Ownership and Values?” USDA-IAAO Assessment Workshop. No date, p. 91-109.

Fair Use Disclaimer
The Robert Schalkenbach Foundation, a non profit private foundation, is publishing this article, at no cost, pursuant to the Fair Use provisions of Section 107 of the Copyright Act which states that under certain circumstances, the fair use of a copyrighted material for purposes of criticism, comment, teaching, scholarship and research is not an infringement of copyright. If you have any concerns about the publication of this article, please contact us at **info@schalkenbach.org.**

The Robert Schalkenbach Foundation’s Digital Collections and Archives is an extension of the Robert Schalkenbach Foundation’s Engel Georgist Library. It collects, organizes, preserves, and provides free online access to researchers and the general public of Georgist literature including books, newspapers, pamphlets, scholarly articles and archival materials.

RSF is particularly proud to offer free online access to the works of the late Georgist scholar Mason Gaffney, made possible through the generosity of the Danica Foundation and with the consent of the Mason and Letitia Gaffney Trust.

Robert Schalkenbach Foundation: https://schalkenbach.org/
Engel Georgist Library: https://www.librarycat.org/lib/EngelGeorgistLibrary
RSF Digital Collections and Archives: https://schalkenbach.starter1ua.preservica.com/

*Mason Gaffney**

Why Research Farmland Ownership and Values?

The Many Important Functions and Implications of Land Data

Why are we interested in "taking inventory" of land? Land is hardly an inventory of the usual kind. My real estate man may speak of "warehousing" vacant land—we never call it speculating—and we speak here of "taking stock." It is even true that land values appear on balance sheets along with canned goods as economic "funds" rather than "flows." Yet land is no inventory in the usual sense: it never turns over, but remains constant in physical quantity while real "stocks" or "funds" come and go and come again, like Brahma. Land is not subject to theft, at least in the usual sense, and we do not take inventory to detect pilferage or spoilage.

There is irony in making this point here in the shadow of the Midway because Frank Knight, the granddaddy of Chicago economists, took great pains to destroy the concept of turnover and its reciprocal, the period of investment, and thus to erase the distinction between land and capital. But in this company I can assume we recognize there is something distinctive called land which warrants our interest. But why?

A. Concentrated Holding

The Founding Fathers put great stock in a wide diffusion of landholding as the basis for a viable economy, social welfare, and a workable democratic polity. That ethic has not altogether died, although its detractors are mighty. But the march of concentration and absenteeism, seemingly inexorable at times, has recreated conditions here increasingly like those that Jefferson and his peers found objectionable in the Spanish colonies and in England.

The U.S. Census avoids studying land titles. Its data are organized by operating units, not ownership units. Tenancy and leasing are recognized, but fifty tenants means fifty farm units, be there one landholder or fifty. The Census is not stingy with information about many things, such as the excellent detail on indoor plumbing, but it is silent concerning who holds title to how much of the basic resources that constitute the essence and definition of the nation. It contains little or nothing on the citizenship of landholders, a matter of growing concern as foreign investments flood into our territory. So here is a data vacuum worthy to be filled: a challenge worthy of your steel.

* Mason Gaffney is a professor at the University of California at Riverside.

B. Property Taxation

To place values on land and study its characteristics is to realize that it yields an economic surplus. It dawns on some as quickly as a bursting tropical daybreak, and on others more like a boreal twilight, that a surplus may be taxed, and that the property tax on land garners that social surplus for the public treasury without impairing any functional private economic incentive.

It may, indeed, often sharpen incentives, Here we meet a perceptual bias. It is like my family where when father speaks, no one listens; but when he burps, everyone comments. Likewise when the land tax helps the market work better the free-market preachers look elsewhere; but when it drives scarce class-A farm soils into vulgar urban uses, everyone takes notice.

But no one ever said life is fair. So let us just note that the whole movement for preferential assessment of farmland is a grudging tribute to the power of land taxes to sharpen market incentives. If you like the market's decisions, you credit private enterprise; if you don't, you blame the assessor. Assessors, after all, only make wages and seldom leave large bequests.

For any government to place values on land, whatever the ostensible purpose, is to provide the infrastructure prerequisite to taxing it and to refute by demonstration the claim that valuation is impracticable. Hence there is a certain exaggerated sensitivity to land valuation programs. In 1909, indeed, the House of Lords committed virtual kamikaze in a desperate defense—ultimately successful—to forestall any valuation of land in England.

To some people all taxes are equally terrible. But one unsung virtue of land as a tax base is becoming daily more compelling as the I.R.S., increasingly desperate, grows increasingly importunate, intrusive, and unloved. The land tax is not like the income tax, a personal liability, but is just *in rem*, levied on the objective thing, not the person as such. That means that the government's remedy for unpaid taxes is limited to seizing the *rem*, the land, and it cannot do even that without following specified legal procedures safeguarding rights of individuals.

The I.R.S. operates under no such carping inhibitions. It seizes land upon simple administrative discretion of collection agents protected from personal liability. It also seizes chattels and intangibles and cash flows and accounts receivable and wages and salaries and you name it. Victims struggling from its nets are labeled as cheats and dishonest and even criminal. It can and does harass and intimidate and threaten and commandeer and close down and garnisee and pry and spy and hire informers.

The garnisee miscreant is allowed to keep personal effects, not to exceed $1,500 in value, and current income of $75 a week. Try living on that. You also get $25 for each dependent, a thoughtful touch. Bankruptcy is no excuse or escape. And all this can be credibly threatened over nothing more substantial than a clerk's misreading your social security number or shredding your appeal late Friday afternoon. Next time you see your local property tax assessor as the major threat to traditional American rights and freedoms, think on those things.

Certainly, at any rate, land is the oldest tax base, and we keep coming back to it even after Howard Jarvis and all that. The property tax in the United States now

raises some $93 billions/year on a base of $7 trillions, a large share of which is land value (in California nearly half).

C. Land as a Credit Base

Everyone knows that federal debt may be "monetized" when bought by banks, and the papers are full of the effect of federal deficits on the money supply. Here we are victims of another perceptual bias. Now, as defaults accelerate and the system starts to crumble, we suddenly become aware that most of what banks have been monetizing in recent years is not federal debt at all but, rather, real estate! Anyone wanting to predict the future of money and banking had better be expert on land valuation because that is what it is now all about.

In 1933 Professor Herbert D. Simpson of Northwestern University told the American Economic Association that the banking collapse was an echo of the real estate collapse, and there was none to deny what none could hide, much as some wanted to. Homer Hoyt drew on Simpson and also adduced much more evidence on the subject in his monumental *100 Years of Land Values in Chicago, 1833-1933*. Hoyt found the same cause producing banking collapses also in 1837, 1857, 1873, and 1893. Philip Cornick's *Premature Subdivision and its Consequences* records the same process in New York State in the 1830s and 1920s. Homer Vanderblue's articles on "The Florida Land Boom" show banking expansion and contraction being led and driven by boom and bust in land values.

One of the crimes of the Chicago School has been to stuff all that down the memory tubes of history. Lloyd Mints in his *History of Banking Theory* pillories and stigmatizes those who have warned against letting land values be monetized, and many "mainstream" economists dutifully cite him. In Friedman and Schwartz bank expansion and collapse depend on the ideologies and personality quirks of Fed governors, with all else following along.

Don't you believe it! A giant Chicago bank that did now survives only by virtue of the largest federal bailout in history. The world's largest, our own California pride—The Bank of America—is declaring its first losses since the Great Depression. Our whole financial system stands on the brink of disaster or socialization for one main reason: overextension of defaultable loans on the collateral of real estate values whose determinants and trends the bankers obviously did not understand. During the joyride, 1976-81, loan officers just plain projected unearned increments into the misty future, farther than the eye could see. It was only a dream, but the ensuing nightmares are real. How much safer we could all feel today had they had more exposure to good solid research in land valuation.

D. Raising Consciousness of Latent Values

Not all land is allocated all the time to its highest and best use. Whether through ineptitude, somnolence, or surfeit of wealth, some landholders doze on their assets. It is often the tax assessor, simply doing his job according to the law, who awakens them. The landholders' first reaction is to attack the assessor, a vulnerable official who does not enjoy the intimidating sovereign power over individuals' total lives and assets and income that Congress has delegated to I.R.S. agents. But the assessor is only doing for a public purpose what corporate raiders like T. Boone Pickens

and Carl Icahn do for private profit—ferreting out latent values in misallocated land to make the market work better. And in this land of free enterprise we are all supposed to believe in market decisions—except, of course, when we lose the decision.

The raiders get attacked, too, but they need no defense from me. Chicago, naturally, has risen to claim they are simply improving resource allocation. The claim is half true, which is all Chicago needs. But only Heaven protects the poor working assessor and the law he administers, which mandates impartial uniformity in assessment—or did before preferential assessment came into legislative vogue with never a peep from the Midway.

E. Protecting Federal Revenues

Income taxation presupposes accurate valuations of land for the simple, basic reason that depreciation is deductible and land is not depreciable. What with accelerated cost recovery of building investments, and even investment tax credits for certain kinds of buildings, the allocation of basis between land and improvements becomes increasingly critical.

Of course the cost of a new building is not that obscure a figure. But I can show you mathematically that the major loss to the Treasury comes not from the first round of accelerated cost depreciation but from the redepreciation of resold buildings by new buyers. This is where the slippage comes, when the secondary buyer is allowed to depreciate land by undervaluing it, thus allocating land value to depreciable building value.

How do they do it? With all its terrifying powers the I.R.S. fumbles this one. In practice, according to I.R.S. manuals, the non-depreciable portion is not land value in the absolute: it is what the local tax assessor *says* is land value. There follows a heavy local pressure on assessors to undervalue land relative to buildings. The situation is analogous to that in our states in the ancient times, now dimly remembered, when there were heavy state property taxes based on values determined by local assessors. The situation led to competitive underassessment, which in turn led to state boards of equalization to solve the problem.

Today it is a federal problem. Local assessors help their constituents avoid federal taxes by overvaluing depreciable buildings relative to non-depreciable land. That is today's version of competitive underassessment, one that may only be solved by some sort of national agency charged with valuing land or monitoring local assessors who do.

F. Forecasting the Future from the Cycles of the Past

Only Gypsies predict; economists forecast. Projecting trends is the first forecasting fallacy to foreswear, of course. Projecting cycles is safer because any wave can be called a cycle, but mechanical projection of cycles is as bad as any other mindless procedure. Having said that, it *is* essential to have a good historical data base on which to build. Lacking that we have little basis for forecasting except some totally unrealistic *a priori* assumption such as that expectations are rational. The most cursory review of economic history and social psychology dispels that.

An excellent review of relevant economic history is Homer Hoyt's classic *100*

Years of Land Values in Chicago, 1833-1933. Here we learn that there is (or was) a land value cycle whose amplitude, in the appropriate relative terms, far exceeds that of any other cycle of comparable weight. There is a cycle of value; a cycle of sales (measured by deeds recorded); and a cycle of subdivision or platting, the last being the wildest of all, a matter also researched by Lewis Maverick, Ernest M. Fisher, Herbert D. Simpson, Philip H. Cornick, Benjamin Hibbard, Arthur H. Cole, and others.

Hoyt also documents a social-psychological process of increasing credit financing of land purchases, and monetization of land value collateral, during the upswing of a cycle. In Chicago School terms you could say that an upswing is a period during which the views of Lloyd Mints become increasingly accepted until they totally undermine the quality of bank credit and bring on a collapse. For Lloyd Mints' position, which is central Chicago orthodoxy, is to heap scorn and opprobrium on any concern about qualitative credit control or the vulnerability of banks that borrow short to lend long, especially on the collateral of real estate.

I put more stock in Hoyt, whose analysis suggests we may gauge the vulnerability of both land markets and the banks that finance them by the degree of overmortgaging. How much land is overmortgaged today, and what share of our money supply is based on it? After a decade of creative financing and deals with negative cash flows, obviously a lot. In a recent case the Bank of America foreclosed on a vineyard in the county (not the city) of Fresno on which it held notes for $18,000 per acre—at least twice the market value.

Would it be useful to have more data on such matters? Would it be useful to study how the crowd has reacted to similar stresses in past episodes? Clearly yes, except for those who still believe that sterile postulates about hypothetical rational investors can penetrate the fogs of reality.

G. Finding the Real Interest Rate

During the soaring seventies it was quite a game to guess at the real interest rate. Hardly anyone noticed that it pops right out of the standard formula for capitalizing land values under the assumption of steady future inflation. I will assume you know or can derive the formula:

$$V = \frac{a}{i - g} \tag{1}$$

where a is annual cash flow in the first year,

i is the nominal interest rate,

g is the annual growth rate of a, in this case the inflation rate.

The real interest rate is the denominator, $(i - g)$. But we can immediately solve for $(i - g)$: it is a/V. Therefore the real interest rate is the current cash flow of durable real estate divided by its selling price.

Of course it is not that simple: nothing ever is. But it is the obvious starting place that mainstream economists have missed in their fruitless quests for the real interest rate. And it immediately dispels the notion that so often falls out of mainstream essays that real interest rates are or could be zero or negative. Try solving for V when $g = i$.

H. Assessment Discrimination

We need better land value data to monitor and correct assessment discrimination. The U.S. Census of Governments has performed a signal service, since beginning in 1957 under the leadership of Allen Manvel, by collecting and publishing assessment-sale price ratios, classified by jurisdiction and class of property. Most of you know that this has become a most basic tool to evaluate the accuracy of valuations and the performance of assessors. But the old order passeth, giving way to new, and God fulfills Himself in many ways, lest one good custom should corrupt the world. The Census needs to be improved. It puts too much emphasis on owner-occupied residences, too little elsewhere.

The kind of assessment reform that the last generation gave us has, in my state, led to catastrophe. Assessors just laughed at the bumper stickers reading "BRING BACK THE CROOKED ASSESSOR" and the frustrated fulminations of Howard Jarvis and went back to professionalizing and computerizing and shortening the reassessment cycle and all those good things that would raise their scores in the quinquennial federal Census of Governments. But all this time they were increasingly discriminating against owner-occupied real estate and setting us up for Proposition 13.

Discrimination against owner-occupied real estate is the result, during a long inflationary period, of two factors: differential turnover and the use of capitalized income for assessing business property in tandem with comparable sales for residential property.

Differential turnover rates during an inflationary period obviously work a bias against the kind of taxable property that turns over faster. Ordinary inventories have always suffered most actutely from this bias, where ownership turnover is inherent in the constant physical turnover. There is constant market evidence of inflation. But the bias has been ameliorated by various kinds of exemption and evasion.

The marathon inflation of the period 1965-81, however, exacerbated a bias, formerly more tolerable, against middle-class housing, which turns over faster than commercial and especially industrial holdings.

Coupled with that was the custom of using capitalized income to assess commercial and industrial and "income" property. Perhaps it would have worked out fairly had assessors used cap rates of 3 percent and 4 percent as the market was doing, using something like our equation (1).

They should also have taken account of tax shelter values and resale plans and techniques to avoid capital gains taxes and leverage and prepaid interest and so on and on and on. But it is so much easier just to divide by 0.09, or whatever lenders were asking that year, and so much easier to defend in court. So non-residential assessments lagged behind. Needless to say, anything assessed by the third traditional method, historical cost, got a free ride.

The results are documented in a recent paper by John Behrens, *Assessors, Recorders, and Computers and Where They Now Stand*, August, 1984. It is not entirely clear if Behrens is making his point advertently or accidentally. His text might illustrate Winston Churchill's comment that "Many a man stumbles over the truth only to pick himself up and hurry along as though nothing had happened."

Nevertheless he does supply numbers from which we can exhume the following

data: From 1956 to 1981 overall assessment ratios in the United States rose from 0.30 to 0.37, but ratios for single-family dwellings rose from 0.30 to 0.44. (Calculated from the third and fourth pages of Behrens' paper, which lacks page numbers.) Since Behrens is Chief of the Taxation Branch of the U.S. Bureau of the Census, his numbers carry authority, and the numbers speak volumes with no further help from me.

I. Planning Public Works

The main payoff from many public works is their enhancement and sustenance of land values. Benefit/cost analysis, properly pursued, often boils down to finding that the net social benefit of a project is the difference in net land values with and without the project. We are all painfully aware that political forces often make a mockery of economic analysis, but, to the extent that economics sways the course of action, it needs land value data.

But if politics be held to be the key, let no one allege that the pursuit of land value enhancement is less than a major force in that field. *Time* magazine has called politics "The Great American System of Public Works for Private Profit," and who can say it better?

Major Biases in Land Assessment

Assessors traditionally enjoy a certain latitude which may be used as de facto "industrial policy" (as the current fashion has it), and has been for decades past, to the degree that assessors must be or are responsive to local political pressures. It is hard to generalize about such biases because the pressures vary according to local attitudes, and the vulnerability to them varies with the local political structure.

Up until 1955 or so the preferential assessment of farmland occurred in many jurisdictions without benefit of law, and the legislative movement kicked off by Governor Spiro Agnew of Maryland merely formalized and reinforced, to meet the new pressures of galloping urban sprawl, what had long been the fact. But in other jurisdictions we find assessment that is growth-oriented, where assessors find it difficult to locate new plants until a few years after they are built. In yet others assessment is oriented to "urban removal" programs with clear biases against unpopular minorities and/or putative generators of fiscal deficits.

In California, assessors achieved a higher degree of professionalism, and insulation from local politics, by the combination of excellent state supervision and being elected in extremely large counties containing dozens or hundreds of local mayors and planning commissions. Yet this did not prevent, and probably worsened, the bias against owner-occupied homes, as aforementioned.

Hard as it may be, nevertheless, we must try to generalize if we are to use assessment data to estimate true values. We must first get an overview of the mosaic of complexity and *then* generalize. What follows is my effort to that end.

A. Regressive Assessment

Not every researcher finds this everywhere, and even my favorite, Herbert D. Simpson, and his now obsolescent *Tax Racket and Tax Reform in Chicago*, found

otherwise. But I myself have found it, everywhere I looked, and I am convinced it is the prevailing bias, even if not universal. It may be a matter of knowing what to look for.

A bias against homes, for example, is clearly regressive because the mean non-residential holding is much larger. In Milwaukee County industrial *land* is always underassessed relative to residential *land* across the street because the working rule is that subdivision triggers *land* reassessment (and our subject here is *land* assessment). In Oregon and some other timber states large timber holdings are routinely underassessed because the practice is to assume they will be used more slowly. In most of the Appalachian states the underassessment of coal reserves held by multinational giant corporations is a national scandal.

My own experience is that research grants dry up when one invades this area, which may account for why much of the evidence comes from marginal local crusaders and the Ralph Nader organizations. I was drawing beautiful Lorenz Curves and finding high Gini Ratios just before the Social Credit Party drove me out of British Columbia. It is a sensitive area which you enter at your peril, which reinforces my conviction there is something to it.

B. Raw Land

The most consistent and pronounced bias documented in the U.S. Census of Governments is that in favor of raw land. On this point there is, to my knowledge, no dispute, except that some people think it is a good policy so long as the land is "agricultural."

The line between raw land and cooked is a gray area, of course. It has been said that the wheel is the greatest invention because it converts real property into personal, a matter of great value in those jurisdictions that exempt some or all personal property from taxation. This point also bears on our present focus, which is land assessment. Building permanent improvements on land is often the trigger for reassessment of the land under and around the building. Running livestock or tractors, which are mere personal property, needs no building permit and triggers no reassessment. Ergo, certain kinds of farm enterprises receive more favorable assessment than other kinds.

In terms of regressivity the U.S. Census of Agriculture makes it very clear that building improvements go with small farms, while breeding stock (the kind that needs fewer buildings than feeder and milking stock) and especially machinery on wheels go with larger farms.

C. Slow-Turning Classes of Property

In many jurisdictions it takes a sale to trigger reassessment, which may therefore be avoided by sitting on lands quietly and avoiding attention. I know a Vermont farmer who will not sell the smallest corner of his now-exurban dairy farm for fear it might trigger a review of the whole, but that is small potatoes next to the steel corporation around Birmingham, timber companies around Seattle, estates in Orange County, and so on. The effects are not as extreme as the dead-hand grip of old English entails, but tending the same way.

I have already noted what differential turnover rates do to median home

assessments. Proposition 13 has further refined and legalized this now by providing that no upward reassessment (other than a nominal annual factor) can occur without a sale. If this seems to worsen the original problem, don't blame me. I am only a camera at the Cabaret. It also ironically reverses the old doctrine of the innocent purchaser whose chastity was supposed to sanctify all unearned increments. Now it is the ancient possessor, the least innocent purchaser, who is best protected from taxation. O tempora! O mores! But for technicians using assessment data the lesson is clear: restrict your data sources to the recent sales, then extrapolate from them yourself, the assessor isn't doing it for you.

Turnover alone may not generate the right information, either, where parcels traditionally are held in oversized units that resist subdivision. A reverse twist occurred recently when the 80,000-acre Irvine Ranch of Orange County, California, changed hands. The county assessor appraised the land at about three times the sale price, using comparable sales and highest use. The new owners won a court case requiring him to use the new sale price instead.

They relied in part on the peculiar language of our own Proposition 13. But this case is a cater-cousin of the Oregon practice cited earlier of underassessing large timber holdings on the assumption that they will be sold out slower, an assumption tailored to the needs of those who are holding out against negative plottage. In the Irvine case the tradition is never to sell, only to lease. In Hawaii, of course, that tradition is statewide, presumably with parallel effects.

A growing and vexing problem is that of corporate landholdings. Corporations are our largest landholders. Ownership turnover occurs mainly through shares of stock, seldom by direct sale of specific assets. When assets do move it is often in large, complex bundles. This kind of ownership as it grows keeps reducing the reservoir of comparable sales on which to base valuations. Some California assessors under Proposition 13 are claiming that real estate has been sold (and may therefore be reassessed) when some arbitrary percentage of the shares are sold. I wish them all success. The successful assessor must be resourceful and bold!

D. Different Assessment Methods

It is time for assessors to stifle the refrain that they can use three methods of assessment on one roll at one time and reconcile the results. The plain fact is that comparable sales and capitalized income and historical cost, when applied to different properties, do not provide fair assessments as between the properties. Pick one method for all, and the only justifiable method is comparable sales. If some class of property doesn't generate many comparable sales, that is a good sign that assessments are too low, but meantime do the best you can with what you have and spare us the old saws that seek to square the circle. If you have to fight in court, do it. But stop underassessing industrial and commercial property on the pretext that you must use capitalized income in a time of inflation.

E. Preferential Assessment

A lot of assessment bias is now legislated, of course, and assessors are innocent victims along with us all. We know about the institutionalized underassessment of farm land. In Spiro Agnew's Maryland this was supposed to save farms in suburban

areas, although a relative in Potomac has removed his four steers, dropped from the Hunt Club, subdivided his 110 acres and retired, while Montgomery County is turning to TDRs for salvation. In California, the homologous Williamson Act has been applied less in suburban areas than almost everywhere else. But no matter, the point here is that vast farming areas are underassessed by legislative mandate in more than half the states, so there is little reason to believe that farm assessments now yield any accurate index to farm values.

Fewer people know about preferential assessment for timberland. Second-growth timber in California has long been exempt from property taxation, which may be a good thing unless you believe in uniformity, but the timber landholders had another problem. It seems that the land under the trees was valued for homesites and recreation, which was pushing up values and assessments. The late Don Hagman, beloved professor of law at UCLA, played Paul Revere on this but in vain as the legislature quietly slipped through its "TPZ" Act which, as Hagman kept warning, affects more acreage in California than the Williamson Act.

The moving force was our largest timber holder, Southern Pacific, a fact not sequestered but bragged on in the standard literature of business administration, where it is treated as a good example of creative business problem-solving; and TPZ means simply Timber Preserve Zone, and not anything about Crown Zed. But the land in the zone must be assessed on its capitalized income from timber culture and nothing else. Now timber culture yields a return once every 50-100 years, depending on the site class, and if you cannot imagine what kind of a capitalized income that yields I will tell you—about zero.

Then there are golf courses. Clubbing smooth ivory balls into holes from a green cloth is a sign of misspent youth, so they say, but clubbing smaller dimpled balls into holes from green grass has redeeming social merit, our legislature believes, so California extends preferential assessment to golf course land. An 18-holer takes some 200 acres. The Los Angeles Country Club straddling Wilshire Boulevard near Century City and Rodeo Drive at a value of give-or-take $100 per square foot and 43,560 square feet per acre, I leave to your calculators. But you will find no such calculation on the assessment rolls.

F. Tax Exempt Land

The extreme form of preferential assessment is complete exemption, about which so much has been written and so little said. To raise this topic is to arouse every latent anti-cleric but the paranoia is seldom informed by fact, unless we blame the churches for the cemeteries, which really are vast. Cemeteries in Milwaukee, Wisconsin, with space for the corpses of ages to come, preempt more land than all industry. Otherwise let us leave the dead past to Henry VIII and survey the present.

While serving on a Commission on Property Tax Reform in British Columbia, I compiled extensive data on this matter and learned to look to the universities—not in their libraries, but in their real estate records, if they keep any. Accordingly in California, I find that UC-Riverside holds some 400 acres of urban land, splitting up and repelling needed industries from its matrix, the city of Riverside, and another 840 acres blocking the path of the new boom city of Moreno Valley. It

has no slightest intention of relinquishing any part of either tract because they are tax-free and the annual opportunity cost never appears in the budget.

But that is peanuts. Statewide, the UC system holds 58,000 acres in fee. Meanwhile back at the "Leland Stanford Junior Farm" there are 9,000 acres in Palo Alto, less than the UC total but in perhaps the most desired industrial and residential area in the country, whence electronics firms are spinning outwards to find industrial sites. The area of San Francisco, for comparison, is 27,000 acres.

Around older eastern campuses a wry city planner has remarked that "Slums must create great universities, because it couldn't possibly be the other way around."

But as bad as we academicians may be, we yield to the Pentagon, concerning which I will merely cite one small item—the Presidio in San Francisco—case closed.

Some assessors keep values on exempt land which often are not current because the incentive is weak to give priority to work with no payoff. On the other hand, for someone wanting to estimate the subsidy value of exemption, such values are very, very interesting. The social tragedy, however, is that the value of the subsidy to the beneficiary is usually much less than the cost to society.

G. Minerals

Minerals generally enjoy a high degree of preferential assessment. California is said to do an excellent job of valuing them but even here the man in charge, Robert Paschall, writes articles favoring a net proceeds tax instead. Things get worse as you go east, reaching rock bottom in Appalachian coal, noted earlier. The problems must be more institutional than physical; underground coal reserves are easier to measure than oil and gas. One notorious institutional problem is the provision of the Montana State Constitution that lands bearing copper shall never be assessed higher than the original price of $1.25/acre paid to the U.S. Land Office, a modest figure indeed for what was for decades "The Richest Hill on Earth" in "The Treasure State."

The preferential assessment of farmland based solely on farm income is an excellent way to keep mineral values off the tax rolls, at least until there is a mineral lease. The share of U.S. farmland that is prone to commercial minerals is perhaps 15 percent.

Minerals offshore in the OCS are in no state or local taxing jurisdiction. Upland federal lands are, and local assessors can get taxes from private "possessory interests" thereon. Not so under the salt, however, and that is where so much of the action is today.

H. Water

Where there is a surplus of dry land, water is limitational, so part of the economic surpluses attaching to land are shifted to the water, and licenses to appropriate water assume great value. Some of those values show up on the tax rolls, mostly where some resented southern intruder is tapping northern waters. Thus San Bernardino County taxes Riverside, and Inyo County taxes Los Angeles. But those are exceptional, and more symbolic than substantive.

Licenses are colloquially called water "rights," and the colloquialism is tendentiously adopted by some lawyers, but such usage is legally presumptuous considering

the precarious nature of licenses. The legalisms are complex and shifting, but the upshot is that many licensees have the best of both worlds: an asset with the economic substance of real property but a legal form that exempts it from the property tax.

Acquiescence in this condition is rationalized by presuming that the value of the water is reflected in the market value of the land to which it is applied and is, in some measure, "appurtenant." It is a half-truth. The other half is that many licensees hold large surpluses of wasting waters which add little to their land values and whose opportunity cost simply disappears from any social accounts.

It is widely believed that the removal of "legal obstacles" to free transfers of water will remedy the problem and that such relief is imminent in this libertarian and deregulatory era. It is a touching faith which I was once guilty of encouraging. It is redolent of the nineteenth-century dogma that "free trade in land" would solve the Irish land problem and reform and uplift English agriculture and modernize Europe and so on. Assemblyman Richard Katz of Sepulveda successfully carried legislation to remove legal obstacles to transfer of water rights in California. That was two years ago, but the first ensuing transfer has yet to occur.

There is plenty of frustrated demand. The problem is that it takes two to tango and the suppliers are in no hurry. Real estate agents abhor the unmotivated seller, and a resource-holder free of cash drains and with no moving deadline is the least motivated seller in the world. There is opportunity cost, of course, but keep your eye on California and see how fast that moves the market. Meantime, a substantial share of our limitational water resource remains without economic valuation because it is not assessed and it does not move in any market that creates recordable values.

That points up the mutual dependency of markets and assessments—a mutuality that is universal. We all know that assessments presuppose markets, but assessments help to make markets, too. Without assessments and land taxes, land markets turn to glue. Where there is neither one or the other some drastic exogenous force may be needed to start the system going. Was that not the historical mission of the Northwest Ordinance and the Homestead Act?

As valuable as water itself is the aquifer or reservoir site to store the water. Most of those escape assessment almost completely.

I. Radio Spectrum

This is the age of communication. Old locational factors are made obsolete, they say, as signals bounce off satellites and video conquers all. Allowing for the hype, there is a nub of truth there. But all these signals travel through a limited natural resource that has the essential characteristics of real estate: natural origin, permanence, fixed location, appropriability, policeability, and now salability—and at prices commensurate with the hype of the age of communication.

But little or none of those values appear on assessment rolls, except indirectly by adding something to otherwise ordinary land and capital used to utilize the spectrum. Spectrum is a major omission from any full accounting of national assets.

J. Rights-of-Way

Rights-of-way are traditionally valued with the rail or utility possessing them.

Whether one uses historical cost or opportunity cost one likely undervalues them in their highest and best use which is what they are, rights-of-way, created by delegation of the sovereign's priceless power of eminent domain. There is a large element of a peculiarly valuable form of plottage in the completion of a right-of-way.

To the extent that the undervaluation is shifted forward to consumers in lower rates, it is a self-fulfilling valuation and the lost value is shifted to the consumers' real estate and does not escape the assessment rolls. But misvaluations of inputs do bad things to resource allocation and the incentives of utility executives, and the whole tortured question of utility rate structuring and supply planning and system extensions may never be resolved until it is brought to focus on the neglected issue of proper valuation of rights-of-way. Meantime let us just enter a bold question mark over whether rights-of-way are being accorded the values they warrant. Those who have them seem loathe to relinquish them, and only grudgingly share their use with municipal utilities, such as that of which I am a Commissioner, and whose primary obstacle to acquiring cheap power is getting access to transmission.

K. Severed Property

Sometimes valuable portions of the real estate bundle of rights are severed, become intangible or invisible, and escape valuation. Here are a few examples.

A Milwaukee department store sold a block of land adjoining itself, encumbered with a covenant not to compete. The assessor accordingly downvalued the encumbered block but did not assess the beneficiary a corresponding premium.

Some jurisdictions are downzoning land and compensating the holders with TDRs, (transferable development rights). The downzoning will cause or sustain low assessments, but will the TDRs be assessed, or will they be called "intangibles?" North Carolina is about the only state that tries to tax intangibles. But if they are assessed and taxed, how long will it be before a decent market develops for this novel form of property? Judging from Montgomery County, Maryland, it can be a long time.

In some regions, notably the long-suffering Los Angeles Basin airshed, pollution rights are being recognized. Really, I am serious; it is Coase's dream come true. Ancient and honorable polluters are deemed to have established the right to continue, or to trade that right to another for valuable considerations. Thus they have established a de facto easement over the lands of their victims, or, excuse me, in Chicago, we say "receptors." The receptors' lands lose value, obviously. But the polluter (or "emitter" in polite society) now possesses an intangible asset that does not appear on the assessment rolls. The same is true of airport landing rights, of course, vis-à-vis the afflicted householders under the end of the runway.

Leaseholds are an effective way to split up the bundle of rights. A mineral lease removes the major value inherent in certain lands from the local jurisdiction to White Plains, Bartlesville, Houston, or other headquarters. Of course a record remains locally, and it is piously to be hoped that appropriate valuations and levies are applied, but are they? How about overrides? Deals can be made as complex as someone wants, and it would be a good guess that something is lost in the shuffle. It is an area involving prodigious values, so the expenditure of some effort might identify large unrecorded sticks in the bundle of rights.

Some leaseholds on public land seem to be "sweetheart" deals, some of long standing. School section lands in certain states have achieved great notoriety. Boat

moorings in big cities seldom seem to go to the highest bidder. Are these de facto possessory interests ever assessed and taxed?

The more one observes the more one realizes such examples could be extended indefinitely—a rich field for researchers in land data who want to go beyond the assessment rolls.

Farmland Assessment

Where does farmland stand in the bias scale? Somewhere in the middle. We have seen that assessors have trouble with "exotic" forms of property, and mobile and intangible and sophisticated and novel and invisible and underground forms. Farmland is the least exotic and most traditional form. Everyone, even the greenest elected assessor knows that farmland is land. Hammurabi taxed farmland in ancient Babylon and the cultural subconscious is inured to it. The mere vastness of land seems to justify a value, even when nothing else does, whereas the notion that a mere acre in downtown Chicago, New York, or San Francisco could be worth $40 millions (at $1,000 per square foot) has a reputation for intimidating assessors into lowering the peak values down toward the mean.

But on the other side there is the equally traditonal pathos (or bathos, as Hofstadter prefers) for protecting the sturdy yeoman and breeder of infantrymen. More operationally effective, I suspect, is political organized strength, an increasing share of it coming from that vast gray area that separates the city from the country where farmers are speculators and speculators may be farmers and both are philosophers of the capitalized income approach to land assessment.

So we cannot say with confidence that farmland overall is under- or overassessed relative to some mean (which we do not really possess). But we can say that ripening land on the fringe between uses ("the margin of supersession," we were once taught) is underassessed relative to land in more stable areas, whether rural or urban. Assessments here are something of a laugh, to the extent that we are permitted to laugh about serious matters. Here are some problems with the capitalized income approach which seems dominant in this area even where not mandated by law.

A. Amenity Values

Capitalized income is based on cash income. But proximity to cities, and/or the good roads that lead to cities, has always been a major element in farmland value, without any reference to anticipated urbanization. Farm people shop in cities, see doctors there, work there part-time, bank there, and generally benefit in many ways other than marketing food and fibre.

When Montgomery County went to TDRs they assumed that developers would buy them at a good price from the "sending" areas to apply in the "receiving" areas, but so far the prices have not been good at all. This suggests that the severed development rights were not as large an element in the values of the sending areas as assumed; that, rather, the imputed amenity and locational value for living under Hunt Club conditions and within reach of the Kennedy Center are a large part of the value.

B. Expected Rising Cash Flows

Values capitalized from current income, using current mortgage rates, can be unrealistically low under inflationary conditions, and therefore have been for a long time into the past. When you buy common stock it is no mystery that your income comes in two forms, dividends and appreciation. If you rearrange terms in Equation (1) above so that the denominator on the right side is *i* alone, rather than (i − g), you will find the numerator has become (a + gV). But gV is the annual appreciation, which says that value is found by capitalizing the sum of ordinary current income plus appreciation, using the mortgage rate.

But assessors cannot do anything so "speculative." And so in those areas where they have to use the capitalized income approach they have been underassessing farmland *as farmland* using floating urban value as an excuse. They have acted and talked as though speculative expectations were evidence of urban influence, even though some were of rural origin.

Today an assessor might well reply "Aha, you see now, the market was wrong and so I was right." I cannot agree. The assessor is supposed to follow the market, not outguess it, and if a certain madness prevails he is supposed to go along. *In so doing he will not worsen the madness but, on the contrary, cure it quicker than anything or anyone else possibly can*. It was the lack of such a quick remedy that let the land bubble of the 70s soar so dangerously high above reality.

C. Tax Shelter Values

The value of farmland as a tax shelter is not news, but perhaps never so dramatized as in a paper by Finis Welch and Robert Evenson finding that the farm income reported on the 1040s of farmers in certain states was about 2 percent of the respective state's farm income as estimated by the USDA. California was one of those states; Florida was another.

Such advantages can hardly fail to stimulate the demand for farmland, and thus to be capitalized into farm land values. The capitalized income approach, however, generally sifts them out.

D. Mineral Rights

As noted earlier, mineral rights, before being severed to a lessee, add value to farmland over vast areas, perhaps 15 percent of the country. Proneness to possible bonanzas raises market values, but adds nothing to the current income that is capitalized. In respect to regressivity it bears noting that in some areas farmland was so cheap that oil companies never bothered taking leases but simply bought titles, surface and all. In some other cases, like the Kern County Land Company, now part of Tenneco, a large rancher *became* an oil company. Texaco of White Plains, New York, now holds 77,000 acres in Kern County. It would be a pity were all that to be assessed purely on its net income, even potential income, from farming alone.

E. Entitlement Values

Much dry land in Southern California is "entitled" (in some sense) to future

water by virtue of membership in a district that has paid some dues down on the California Water Plan to finance its works. Such entitlements are claimed to be "binding contractual obligations." Just how binding may depend on future voters, but there is at least a fighting chance there of future waters.

Of such figments are speculative land values made. But there is no current income to capitalize. This is representative of a whole class of "floating values" to which various landholders feel "entitled," and which they may actually acquire some day. Future events cast their shadows before them in the speculative price of land.

On Publicizing Public Land Records

A major concern of this group is how best to access public land records. I yield to no person in admiration of computers, but others speak more eloquently to that. I will rather say a word for the ancient mystery of cartography, computerized of course, but still cartography. It sounds even more ancient if we put values on a map and call it a "cadastre," and downright spooky to call it a "doomsday book."

Richard Hurd wrote in 1902 that urban land values are characterized by continuity in space, both concentric and axial. Rural land values, too, vary with mappable location factors like climate, slope, soil, water supply, roads, drainage, and so on. Even zoning is locational, whether urban or rural. Here, however, we can identify examples where zoning goes with the person rather than the place, and then mapping is in trouble. When we fall to the depths of Imperial Rome with its *ius Italicum* which exempted from taxation and various other public servitudes whatever lands were held by Roman potentates, mapping is through. So was Imperial Rome after a few generations of that. So were Louis XIV and Czar Nicholas II. Would America withstand it better?

The usefulness of cadastres presupposes a social psychology of objectivity about land, a cultural heritage from before the 16th Amendment with its *in personam* approach to public finance. The ancient thought was that land value is based on the highest bid, not the personal circumstances of the present holder, and that adjacent lands are normally close substitutes. It was even thought that lot lines are or should be fluid enough in an active market so that assessors could presuppose optimal sizes and shapes and, by valuing accordingly, make the supposition come true. Subdivision and assembly were accepted not as extraordinary traumas and crises but as ordinary heaving and squirming and wrestling in the quest for economic optimality.

Perhaps I romanticize the past, but it would be hard to imagine a Richard Hurd or Babcock writing today, *for the trade*, in their quasi-scientific mood and tone, calm and objective without hysteria or misanthropy. Today it would be centered on tax avoidance, the secrets of operating from Curaçao, which partner gets the depreciation, how you can profit from the impending tsunami, and so on.

But if we could rise above such obsessions we would find that maps based on the square foot or front foot are the quickest, easiest way to give everyone easy access to public records. I have several such maps on file and they tell more on less paper than almost anything known to man.

More important, such maps are a valuable tool of assessment. No one should be allowed to assess land without one. A unit land value when pinpointed on a

map is spread around and multiplied into information relevant to other unit values around a wide radius, and the cumulative value of several hundred such points is overwhelming. That presumes that the unit value has been duly standardized to correct for parcel idiosyncrasies, a mystery within the expertise of assessors. Then the map makes the most of all sales information.

As to land records, the clear implication of mapping is that the primary unit for records should be the location on the map, rather than "parcels" based on ownership. Parcel records are needed too, but they are a shoddy sort of primary reference. Maps are inclusive and unambiguous and constant; parcels are none of the above.

Square feet are forever. So are base lines and meridians, townships, ranges, sections, and grids within sections. Meantime parcels come and parcels go like shifting sands. Here is a current case I had to learn by heart with more than an academic interest.

"C," a developer, spotted the empty interior of an oversized block. The land is in the back halves of eight long, narrow "bowling alley" lots, seven of which have houses on their fronts. Over some time C acquired the backs of the seven, and all of the eighth for street access. Five of the seven are encumbered to the sellers (C is quite a talker). Title is in HS Ltd., with C as general partner.

C then planned a unit development with 70 condos, went to public hearing and got a Certificate of Compliance (COC) under the California Subdivision Map Act. Needing more cash in a hurry (they always do), he offered the three unencumbered parcels to X, an individual lender, to secure a note. The Title Company duly advised X in an addendum that, although X could foreclose on his three parcels, he could never use them without severing them from the whole.

X went to W in City Planning to see what this might involve. W pointed out that it would require a new COC, a new public hearing, a new Council vote, and a requirement of providing access to the five landlocked parcels which might now have separate owners. Mr. S, X's lawyer, grumbled "It could get nasty" and advised keeping out.

C then offered X a deed of trust covering all eight parcels to secure the note. It would be a second on five and a first on three. In the event of default X could conserve the plottage so laboriously assembled by C by assuming payments on the five senior notes. What X decided to do is anticlimactic here. The point is that parts of eight parcels were joined into a new one, which is to be turned into 70. The original eight will still exist but seven have been split. making fifteen. Five of the subject eight are separately encumbered and continue as separate parcels on title records.

Tax bills continue coming on each of the eight parcels, for tax parcels do not adapt to Subdivision Map Act parcels. Each deed presented for recording must have an assessor's parcel number and a title search. The Title Company moves in a different world than City Planning. X hasn't talked to the assessor yet but that may be a third world or a fourth, I am losing count.

That is what happens if everything goes as planned. If C should suffer from cardiac arrest, bankruptcy, or burnout or dissolution of partnership then, as S warned, things could get nasty. Nasty or as planned, the parcel picture is undecipherable without

a map-based unit of assessment, and unnecessary with one. Don't miss the next lesson—we're going to do strata titles.

Meantime the block and the map under all this roiling and shuffling rest unvexed and unchanged. But it is doubtful if the sum of parcel records at any time is or could be made to yield up a fair record of the block. The parcel is a disorderly and unsystematic basis for land records.

A parcel boundary is an artifact, more comparable to a building than to land itself. To rule otherwise is to relieve individuals of responsibility for the matter and treat lot lines as acts of God or government, neither of which acts in the matter of unrealized plottage. I sympathize with landholders afflicted by difficult neighbors and tricky plottage problems, but that's real estate. We cannot have a system work without responsibility.

A parcel-based system may not be comprehensive, either. Some parcels have no surveyed boundaries. Some lands are not listed at all until discovered by analysis of aerial photographs. There is an *in personam* quality about parcel listing that denies the *in rem* character of land registry and taxation, and was so used deliberately by the ancient Romans and the French of the *ancien régime* who exempted lands held by potentates. We have to wonder, too, about the effects of separate (but equal?) white and colored assessment rolls used not long ago in some southeastern jurisdisctions.

Who could oppose a splendid idea like mapping? Resistance to mapping springs, logically enough, from slower-adapting landholders in zones of dynamic change. It is part of the eternal struggle of Abel, the shepherd, against Cain, the tiller; of cowboys against homesteaders; of timbermen against nesters and recreationists; of small-grain growers against irrigators; of growers against city subdividers; of single-family residents against apartment builders; of all residents against office builders. We all know of assessors who routinely screen out land sales at high values for use as comparables in such areas, responding to such pressures. Whenever density rises, misanthropy flourishes. A few empty beer cans is all it takes, and I don't like them either.

But here we meet one of those ironies and anomalies of the human tragicomedy where resistance to a perceived problem is itself the problem.

Recall my earlier comment about markets that rise irrationally high. Were the assessor to share the madness of the crowd in such times he would not reinforce it but shower it with cold water, a statement that no other participant can make. The fast-moving tax assessor is a sobering, equilibrating force.

The analogy is nearly perfect between the above excesses in time, and the spatial excesses of urban sprawl and other sprawling margins of supersession. The quicker the assessor follows the peripheral market forces outward the quicker will he motivate land sellers to meet the out-thrusting demand and the shorter it will travel outward before being soaked up by supply. It is almost that simple. Higher assessments and resulting cash drains are what turn holdout speculators into motivated sellers and move the market. Thus the opponents of sprawl, by holding down land taxes and encouraging holdouts in ripe areas, become the major cause of sprawl as they send it coursing out beyond them to the next eligible area, where the same performance may repeat, until settlers finally find a home fifty miles or more from where they work and/or want to live.

Thus we need not apologize for using cadastral maps as assessment tools, provided we do so reasonably near the center of demand. At the periphery of demand, we might do better to avoid this kind of assessment. At locations in between, it becomes a matter of judgment in each case where reasonable people can and do differ.

Of course we can still use maps for organizing land data, in all areas. But to be realistic we should remember the kamikaze behavior of the 1909 House of Lords, when faced with a valuation of land. The French have a word for it. The verb *percevoir* has two meanings: to perceive and to collect taxes. So let us not imagine that when we go about merely perceiving things we are not influencing policy. How then should we perceive these things? I have made my own preferences reasonably evident. What are yours?