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Dear Polly:

By your past record you will call with birthday greetings before receiving, let alone digesting all the enclosed. So I can say there is something in the mail, and I am coming back to life. About time. You would have gotten the one on land valuation earlier but it waited for the one on Land Gains etc.

You may also enjoy my parting blasts upon leaving city government (enclosed). Mary Nichols, a lawyer who was Jerry Brown's Director of Environmental Protection, has been named recently as Tom Bradley's campaign manager. A mutual friend, Jane Vise Hall, served as Mary's Deputy, and will be serving to write position papers etc. for Bradley. I may get roped in. Nichols has a mixed reputation -- know her? She knows which way the wind blows.

How go the job search, the romantic search, the parenting, etc?

Love,

Mason Gaffney 1985

IN PRAISE OF ARROGANCE

(Archaeologist's note: The following cri de coeur was found partially preserved in a Heinekens bottle when it bobbed up in the Riverside sewage treatment plant. It is reproduced here for such value as it may have for modern scholars, and even such [posthumous?] gratification as it might afford the unknown writer. Many key names and dates, unfortunately, were destroyed by action of the elements.)

This note is consigned to the waves and addressed to whom it may concern, rather than any person, because after years at (note: word destroyed, eaten by termites) I despair of finding anyone who might get the point, or care. Yet a blind faith drives me: somewhere among all the jaded careerists, grantsmen, consultants, beach-combers, camp-followers, schemers, climbers, pensioners, poison-peddlers, and calumniators there survives one eccentric who yet pursues truth, and might welcome finding this comfort and companionship in the bottle.

Or perhaps there will be someone in the next generation, century, or civilization. To such vicarious comradeship are truth-seekers reduced, but then, that's what attracted us to scholarship, once, the way we were, before The Quest grew stale and the trail grew cold.

The immediate occasion is an accusation of "arrogance". The papers fairly rustled as this charge was leveled, but it was cattle that were being rustled, and we were the cattle. It would be "arrogant" to organize a graduate curriculum omitting any part of what is orthodox, standard, customary, traditional, and accepted, as well as what is chic, modern, a-go-go, topical, fashionable, and a la mode in "respectable" Departments of Economics. Such topics are "minimal essential knowledge for a modern economist", with which "all students should be familiar". Heavy! To resist would be "arrogant".

I thought I had heard that line before, but I searched only in vain through my list of rhetorical ploys for a generic identifier. The basic argument of course is petitio principii, if not downright tautologia ("respectable" is as respectable does, being defined, of course, as having a curriculum which is orthodox, standard, customary, etc., as well as chic, modern, a-go-go,

etc.). The appeal to general practise was quickly identified as apodixis, and its intended result is mimesis. But the point was shame of arrogance, and its use to control a listener. Greek rhetoricians never identified this -- evidently they were shameless.

One colleague displayed elegant philophronesis (groveling). There was implicit syngnome (forgiveness of injuries). There was apomnemonisis (appeal to authority) on all hands. The customary macrologia (periergia, pleonasmus) was practised, of course, and cacozelia (malapropism through affected diction) prevailed, as in all academic discourse, with frequent displays of hysteron proteron.

The Greek orators, masters of dirty tricks in their day, evidently never thought of this guilt trip. It took the Catholic clergy, I believe, to introduce it. Priests used to club smart kids with it, before John XXIII.

There is also evidence of its use in 17th Century Holland. The evidence is a letter to Benedict Spinoza from a former student, Albert Burgh, who had reverted to Catholicism. He addressed Spinoza thus:

> "How dare you set yourself up above all the patriarchs, prophets, apostles, martyrs, doctors and confessors of the Church? Miserable man and worm upon the earth that you are, yea, ashes and food for worms, how can you confront the eternal wisdom with your unspeakable blasphemy. ... What devilish pride puffs you up to pass judgment on mysteries which Catholics themselves declare to be incomprehensible?" (cited in Durant, Story of Philosophy, p.159).

The synagogue of Amsterdam, in excommunicating Spinoza, also remarked on the "insolence with which these heresies are promulgated" (op. cit. p.153). No one was to "read any document dictated by him, or written by his hand." Thus the same mindset that imputed insolence moved quickly to censorship, a point not to be overlooked in the modern context.

Why not overlooked? Because this is, after all, the University of (those termites, again) which once on the recommendation of the Faculty Committee on Privilege and Tenure, fired professors who refused to sign a loyalty oath; it occurs in (Foul?) Hall, named

to honor the University President who originally supported that oath; it occurs under the (Hollow?) Plan, an elaborate roundabout scheme designed to give a color of legality to the (Garbage-in?) Addendum to the External Review Committee Report, an Addendum never repudiated by any administrative or faculty group that successively endorsed the Report.

Durant expands on Spinoza's arrogance:

> "Like Nietzsche, Spinoza has not much use for humility; it is either the hypocrisy of a schemer or the timidity of a slave; it implies the absence of power -- whereas to Spinoza all virtues are forms of ability and power. ... 'humility is very rare'; and as Cicero said, even the philosophers who write books in its praise take care to put their names on the title-page. 'One who despises himself is nearest to a proud man,' ... And whereas Spinoza dislikes humility he admires modesty, and objects to a pride that is not 'tenoned and mortised' in deeds." (ibid., pp.181-82).

Spinoza laid down a few rules of conduct, the first of which is "To speak in a manner comprehensible to the people ..." If this be arrogance, the standard curricula referred to are humble indeed, as are also the readings proposed by the others, one must admit. Both sides make a fetish of "rigor", evidently on the Calvinistic notion that dogma and suffering improve the character.

Or do they know what "rigor" means?

> Rigor: "Harsh inflexibility in opinion, temper, or judgment; the quality of being unyielding or inflexible; severity of life; strictness, severity or cruelty; a condition that makes life difficult, challenging, or uncomfortable; strict precision; rigidness or torpor of organs or tissue that prevents response to stimuli." (Merriam-Webster's Collegiate, 9th Ed.)

None of those values look very positive except for the "strict precision", and even that might well be sacrificed if the rest of the baggage comes along, as it usually does. Even strict precision may be worse than useless in evaluating unprecise but important economic ideas and phenomena such as expectations, taste formation, the interface of law and economics, paranoia and the military budget, or the case for inheritance taxation.

Where is the rigor in the undoubtedly relevant and important observation that "Corporations have neither bodies to be kicked, nor souls to be damned"? Where do we stand on Matthew Arnold's thought that "Inequality materializes our upper class, vulgarizes our middle class, and brutalizes our lower class"? Or Confucius, "The superior man understands what is right; the inferior man understands what will sell." Or Cicero, "...there is nothing so characteristic of narrowness and littleness of soul as the love of riches; and there is nothing more honorable or noble than indifference to money." Or Francis Bacon, "There are four classes of idols which beset men's minds: Idols of the Tribe, of the Cave, of the Market-place, and of the Theatre." Is our supposed rigor just another Idol, after all, and we Idolaters?

Returning to Spinoza and plain talk, is it really appropriate that the people's University should reject the common tongue, and communicate only internally and in private glossalalia? It is a point, I allow, which favors neither side in the present dispute for neither hews to Spinoza's Rule #1. But error is more dangerous in proportion to the truth that it contains, since one in the wrong may more easily be convinced than one half right. It may be that in our competitive pursuit of the specious prestige and respectability connoted by "rigor" both Marxists and straights alike have used incomprehensibility in lieu of precision in any relevant sense.

Spinoza even arrogantly refused the chair of philosophy at Heidelberg, even though he was assured "the most perfect freedom in philosophizing, which His Highness feels assured you would not abuse by calling in question the established religion of the state." (ibid., p.161). Thus arrogance leads to self-deprivation, and heartless ingratitude even to the most indulgent patrons, and might well be reprobated by moralists as reaping the punishment it deserves.

Yet should we not rather admire and support those who deny themselves conventional rewards in order to guard their freedom to pursue truth? History has treated Spinoza with more respect than did the organization-men of his day, and than history has treated them, who are forgotten except as his arrogance exposed their presumption, tyranny and hypocrisy.

The added requirements, it was hotly said, were hartly worth

our disputing because they would only require a few weeks. "It doesn't matter", we were told, "so be reasonable and do it my way," this being delivered with deep feeling, adhortatio and protrope, just as though it did matter, which indeed it does. Because time is finite, "Exclusion is also part of knowledge", an observation worthy of an economist but originating instead with a physicist, Michael Faraday.

People lose their freedom one step at a time, and this is not the first step. No, we are already hard pressed to cut off students at the back end of their freedom by lowering the normative time to degree. Now comes the other pincer from the front end, extending the apprenticeship training, curtailing the creative period of restless, troublesome innovation in the middle. Such are the ways of orthodoxy, suffocating and oppressive.

"Intelligence", says Henri Bergson, "is the faculty of manufacturing artificial objects, especially tools to make tools." But theory supplies the machine tools of thinking. Who controls theory has a powerful grip on how students are to think, and students drowning in a complex discipline seize the first help offered.

> "There are four chief obstacles in grasping truth, which hinder every man, however learned, and scarcely allow any one to win a clear title to learning, namely, submission to faulty and unworthy authority, influence of custom, popular prejudice, and concealment of our own ignorance accompanied by an ostentatious display of our knowledge." (Roger Bacon, Opus Majus).

How vulnerable most students are to the last, and what clever mimics some are. But what little prigs and pedants they quickly become if we train them only by heaping doctrine upon doctrine rather than urging them to frame and evaluate hypotheses that arise in their own minds.

Spinoza anticipated our present danger, writing "Academies that are founded at the public expense are instituted not so much to cultivate men's natural abilities as to restrain them." (op. cit. p.194). He advocated a freedom wherein "...everyone that asks leave is allowed to teach publicly, at his own cost and risk." Such arrogance! Obviously he believed his business would survive in the competition, perhaps because of his Rule #1.

Spinoza's arrogance was so complete it even spilled over the

assigned limits of his proper metier, philosophy, onto -- gasp -- our turf!

> "The military basis of democracy should be universal military service, ...; its fiscal basis should be the single tax. 'The fields and the whole soil ... should be public property, ... let at a yearly rental to the citizen; ... and with this exception let them all be free from every kind of taxation in time of peace." (op. cit., p.195, citing from Tractatus Politicus, ch.6).

It would seem that Spinoza was anticipating the brain drain problem that besets those cities, states, provinces and countries that support education handsomely, but do so only by use of repressive tax systems (like the high VAT of Ireland) which in turn abort employment opportunities for the graduates, who very sensibly then emigrate, along with their stored-up human capital.

Poor Spinoza, would he find refuge if at (illegible) today? In an unreasonable age, a man's reason let loose would undo him. He would be trapped between the monolithic conventions of Mrs. Grundy and the militant conventions of Marxism, both dedicated to trashing deviants. He would, I suppose, be forced to take refuge in the arrogance of trusting his own reason, stepping aside nimbly as he might where humble armies clash by night.

Another arrogant philosopher was Immanuel Kant, who prefaces his Critique of Pure Reason with this: "...there ought not to be one single metaphysical problem that has not been solved here." With such egotism nature spurs us on to creation, notes Durant. Observing the enduring reputation of Kant, perhaps arrogance is preferable to the humility of those who, in humbly pursuing only respectability attain only humble goals.

"Respectable", I suggest, is an offensive term because of the value-system it betrays. It idolizes the herd instinct. It is, one may object, an elitist herd, one that fancies itself above the common. But no herd was ever universal; only truth is that. Let us therefore seek not respectability, but respect.

And let us be arrogant enough to follow our own beliefs to the extent of framing a curriculum on what we perceive to be its merits. Let us be too arrogant to follow the moods and caprices of the day, as women change their hemlines and men their lapels. A great philosophy is not a philosophy without reproach; it is a philosophy without fear.

LAND GAINS, FAST WRITE-OFF, AND INCENTIVES TO BUILD

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Introduction

Once upon a time each building was written off from taxable income over something purporting to approximate its economic life. Then Congress and the industry began implementing the Commons variation of the George principle. They began shortening tax lives and steepening the gradient of depreciation paths. The light broke on most of us with the speed of a crepuscular Yukon sunrise, but finally it dawned that this was turning the income tax into a sort of "graded tax plan" whereby the income from depreciable buildings was taxed at a lower rate than the income imputable to (or derived from) non-depreciable land.

The movement accelerated with Walter Heller, the soaring sixties, and the Kennedy era when "conservative Keynesianism" was in flower. It offered a consensus that seemed for a time to reconcile the polarities of the previous generation at a convivial Table Round in the New Camelot. Georgists were also being patronized at the local level in their correlative efforts to untax buildings and update land assessments, but local progress was halting and grudging. The action was in Washington.

The movement peaked when the chant of "10-5-3" pierced the Potomac vapors -- was it really 12 years ago? This merely arithmetical slogan was as territorial and overreaching in its way as "54-40 or Fight!", but buildings actually did get 15 year lives for quite a while, and 18 years is now common (but not uniform -- is anything anymore?).

The results, or at least the ensuing events have to get a mixed review. We have built up the largest surplus of office space in world history. The surplus is wasting billions in capital which has higher uses elsewhere, but that is not the worst of it. With the surplus we have destabilized the

macro-economy and the banks. The vacant space constitutes one of the most fragile and perilous elements of collateral behind bank loans. It perhaps outdoes farm loans, energy loans, shipping loans and foreign loans in its contributions to recent bank failures and hazards.

We have managed to magnify investment opportunities in a "conservative-Keynesian" way without however solving the problems of unemployment, homelessness, malnutrition, poverty, bad education, unaffordable medicine and so on. We cannot even rev up the macro motor to get out of an extended period of "slack business" (the pre-Keynesian euphemism) or "slower growth" (the current one).

Evidently there is more to tax reform than just protecting certain kinds of buildings and fixtures from the full fury of the rates. Come to think of it, it is a left-handed sort of benefit to workers to have wages taxed higher so that capital in buildings and machinery may be taxed lower. It is of doubtful macro-economic benefit to divert limited capital from circulating inventories to fixed forms, or so the classical economists taught. Even 10-5-3 offered nothing to encourage investment in inventories, the working capital required to stock new buildings and "advance subsistence" to workers (as Smith, Ricardo et al. put it). Today's equivalent of "advancing subsistence" would be supplying the market with consumer goods and holding down inflation.

So, without any assumption as to good or bad, let us look at the effects of tax life on the incentive to invest in buildings. In their disenchantment our leaders are now proposing to lengthen tax lives from 18 up to 28 years, so we will look specifically at those numbers, as well as some other benchmarks.

A. Defining Rate of Return after Income Tax (RRAT)

Our method is to find the rate of return after income tax (RRAT). "Tax" here means only income tax; property taxes are not analyzed in this paper. I choose RRAT instead of present value because RRAT is standardized for different periods of time. Another acceptable approach would be to use the annual value of an investment, but that is not calculated here. It would be a useful exercise to recalculate the findings in

terms of annual values, and see to what extent that changes anything. It could cause minor changes in the relative weight of different factors, but basically taxes drive a wedge between income before-and-after taxes, whichever technique is used to express the effects.

RRAT is calculated from Equation (1), below. (1) is basically the standard formula for finding the yield-to-maturity of a redeemable bond which has both a periodic coupon and a redemption value. This fits the case of a building which yields both a periodic cash flow and a resale value. The equation is modified to show the effect of taxes.

$$RRAT = \frac{\frac{a}{P}(1-t)(1-I^{-n}) + \frac{t}{x}(1-L)(1-I^{-x})}{1 - \frac{F}{P}[(1-s) + Ls]I^{-n}} \qquad (1)$$

where a=cash flow before taxes
P=present cost of building plus land
t=tax rate on ordinary income
I=1+i, where i is the same as RRAT
n=years before sale
x=tax life
L=land element (non-depreciable) as a fraction of P
F=future sale price after n years
s=tax rate on capital gain

(1) does not purport to be a global comprehensive statement of all relevant factors. It leaves out the investment tax credit; depreciation paths other than simple straight line; recapture provisions; risk and uncertainty; leverage from debt; property taxes; the effects of inflation; and no doubt other points, each of which is of overarching significance to someone. The purpose of course is to simplify by omitting lightweight and peripheral elements.

I hope that others who see the need for adding other factors to (1) will do so and improve on the present work. It should be straightforward to add other elements to (1), and elaborate on and develop the procedures used below. The present purpose is just to get well started by putting the basic elements in a sound framework. William Wheaton, Jr., has suggested that inflation is the additional element most

needing explicit treatment.

(1) was cast in its present form by dividing top and bottom by P. I suggest that readers undo that step by multiplying top and bottom by P. They might go further back and solve for P, which gives the present value formula from which I began before solving for RRAT. This will help see where (1) came from, and overcome some possible confusions. The present form is a little more compact and useful in the long run, although that is a judgment call which some may dispute. If so they are encouraged to do it their way, and see if the results differ in any important way.

I have given to each of the parameters a "default value": a value to which it reverts in default of any other specification. The "default values" of the parameters are:

a/P=.12
t=.5
n=x
L=.4
F/P=1
s=.2

The reason for having n=x is that a building owner has much to gain by selling as soon as depreciation runs out, letting the next owner redepreciate from a new basis. This presupposes a certain slippage in allocating basis between land and building, a point to be explored.

n may also be used as the year in which we choose to end the analysis, without any sale. In this case F means the market value of the real estate after n years; and s=0. Many owners choose to forego sale to avoid s, even though that means foregoing the higher sale price that can be offered by a buyer who can redepreciate.

The tax code of course actually applies the same rate to capital gains as to ordinary income, but reads that 60% of capital gains are excluded from taxable income. That argues for using .4t in lieu of s. However "capital gains treatment" involves a whole package of benefits, not just the 60% exclusion. For that reason I am keeping the separate notation, which allows us the flexibility to contemplate

different ratios than .4. When you consider the whole picture, .4 is generally too high.

Solution of (1) has to be an iterative process, since RRAT appears on both sides of the equation (hidden in I on the right side). In the primitive times of our youth the process could be slow and laborious, even using Newton's ingenious method. Now it can be done automatically with nothing fancier than a hand calculator like the HP38E, or the newer HP12, or various other models. It can also be done surprisingly quickly by trial and error by programming the right side into any good programmable calculator and trying various values. A computer does it in a flash. I prefer the calculators, which are fast enough to be easy and slow enough to let you think what you are doing.

B. Anticipation by Inspection

Inspection of (1) lets us anticipate and outline our findings, (which are to be illustrated later by numerical examples). Mathematical purists might opt instead for taking derivatives, log derivatives, and ratios of log derivatives, and we encourage them to do so. But to this writer that seems like mathematical overkill which would add more to length than clarity in treating the present subject.

1. Tax life (x), taken by itself (i.e. with n constant), has only a muted effect on RRAT. The second term in the numerator contains x twice. The numerator is a decreasing function of the first x, and an increasing function of the second x, which thus offset each other. The first x is the more powerful so that the whole function is decreasing, but too slowly to do much compared to other variables.

This means that a short x is not of great impact in the absence of timely resale, and points to resale timing and resale tax treatment as the more heavyweight factors.

The effect of x is muted again when there is a high value of "L", the non-depreciable land share. For more on this point, read on.

2. The marginal RRAT (from an increment to building volume

or quality on a given site) entails a marginal land input of zero, and is calculated by setting L=0. This raises the sensitivity of RRAT to x. Here we are talking about variable proportions: more depreciable capital applied to a given site. A lower x does encourage intensification, although we will see the stimulus is weak, except to one particular kind of investment.

This heightened sensitivity of RRAT to x is offset, however, when we consider that F/P is lowered by adding inputs which are 100% depreciable. The appropriate F and P values here are those of the marginal increment to capital investment, with no land value included at all.

Lowering F/P raises the denominator and mutes the absolute effect on RRAT of changes caused by x in the numerator. Relative effects on RRAT are little affected, but the effect of x on the marginal RRAT is reduced relative to the effect on the average.

A most important exception here is when the marginal investment is specifically geared to raise F, as opposed to raising a. It is useful to group incremental investments in three classes, according to the major effect: to increase floor space; to increase quality or specialization; and to increase economic life and/or resale value. Most investments are not purely for one or another but differ in degree, and there is a constant trade-off between increasing a and increasing F. A short tax life creates a bias for trade-offs that favor F.

3. Now we let n vary, with x constant, and F=P. That brings resale into the picture as an active influence on RRAT. RRAT now becomes quite sensitive to x (as a decreasing function). When we assume that F/P is constant, we mean it is unaffected by the time of sale. This implies that land value appreciation is offsetting building depreciation. Lowering n is now an effective way to raise RRAT, so long as x is low.

The reason such an assumption is realistic is because F is raised by the buyer's future ability to redepreciate; and the lower is the value of x, the greater is that benefit. The value of that benefit is greatly enhanced by the general IRS practise of letting enhanced land value be depreciated also.

The redepreciability of resold buildings and much of the land value under them sustains a strong demand for them.

Justifiable tax lives get shorter, logically enough, as buildings get older and approach demolition. Allowable depreciation paths are somewhat decelerated, it is true. But this factor is of so little weight that many, perhaps most building owners always use simple straight line anyway, just to avoid the harassment and aggravation of recapture when they in turn sell. Only the excess above straight line is subject to recapture, and the benefits of DDB without recapture are realized by getting a low x. This is why I left both recapture and accelerated depreciation out of the model. The important elements are tax life (x) and the depreciable share (1-L).

In a more formal and complete model we would follow this through infinite time, and it would then be obvious that a lower value of x lets you depreciate more times per century (or other fixed time period). In the present model, however, we subsume all that in these heuristic observations about probable effects on F, as seen from the perspective of the first-generation holder. By virtue of its flexibility this approach is more true-to-life than total modeling, anyway. F is dominated by expectations, which in real life include hopes, fears, and the fads of seers, concerning which a page of history is worth a volume of models.*

4. With low values of x and n, RRAT becomes very sensitive to F/P, and also to s and to L. Thus the effect of x on incentives depends mainly on resale values; on tax treatment of capital gains; and the share of basis which is depreciable. These become more important than ordinary income and tax rates.

It also becomes much more important how much of basis you write off than when. That is, understatement of the land value share is a larger loophole than fast write-off. A weakness in our model is that it shows this point explicitly only for the period before resale, when in fact the overallocation of basis to the building mainly occurs after resale, and in our model is reflected simply in a higher F. We leave the reader to reason this through -- it is not explicit in L, but implicit in F.

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*A good present value model spanning an assumed 70-year life is in P. Hendershott and D. Ling, "Prospective Changes in Tax Law and the Value of Depreciable Real Estate", AREUEA Journal 12:297-317 (1984). But their focus is very different from that here: they hold land value constant over 70 years.

In an ideal world F would be less than P by the precise amount of depreciation actually taken, resulting in a neutral tax. In our real world F is affected by 1) Future residual building value; 2) Future land value; 3) Future residual tax shelter value; 4) Future financing conditions at time of planned resale. (1) is generally greater than P less cumulative depreciation because of overdepreciation. (2) is chancy and fluctuant, sometimes wildly so, and has in the past figured in many cycles of boom and bust before 1929, even in the absence of the additional uncertainty from (3). (4) is also highly unstable and unpredictable. In our times heavy tax rates on incomes have added to the brew the factor of (3), which is probably not as wild as (2) or (4), but which magnifies their influence on the RRAT.

5. The sensitivity of RRAT to a/P declines as x and n decline; and as t increases (s remaining constant). This is to say that the ordinary income of a building -- the thing that economic theory says should provide the incentive to build it -- declines to a secondary factor in the equation.

6. The sensitivity of RRAT to t declines as x and n decline (again, s remaining constant). In the example to be given the effect of t on RRAT is even perverse for values of x less than 7, amazing as that may seem. The mathematical reason for this is seen by collecting the terms which contain t, with n=x. RRAT becomes an increasing function of t when $x < (1-L)P/a$.

7. The sensitivity of RRAT to L rises as x falls. This is because (1-L) in the numerator of (1) is divided by x. This effect is muted by the muting of the effect of x itself (cf. #1, above), only less so because L is also in the denominator, where its force is magnified by a lower value of n, where n=x.

The main opportunities to inflate RRAT by understating L are not in the primary market. The builder's depreciable basis is what he spent on construction, however little value he may assign to his land. There may well be minor scams in the primary market, but the massive, routine, institutionalized underreporting of L is in the secondary market, in the second and later rounds of depreciation. Through arbitrage, most or

all of this gain is shifted to the primary builder. The mechanism of transfer is a higher F paid to the primary builder by the first buyer.

C. Numerical examples of the sensitivity of RRAT to the parameters discussed in Part B, above.

Here we illustrate and support the findings in Part B, using numerical examples. Such examples are not formally general. In my judgment, however, based on intimacy acquired working with Eqn.(1), the examples given below are representative, and give us a good and fair insight into the relative importance of the parameters.

The numbers of the points below correspond to those in Part B.

1. Here we depart from our default assumption that n=x. We hold n=50 while x varies. This shows the pure effect of fast write-off without sale after x years. A sale is assumed at n=50 at a price F=P; but F=0 would not lower RRAT much, when n=50.

In order to walk us into the procedure, Table 1 shows more steps than will be shown in later tables. It shows how to adapt (1) for solution on the HP12. This calculator requires one to divide the cash flow into as many parts as there are different levels of cash flow, in this case 3 parts, called PMT A, B and C.

PMT A is the sum of (a/P)(1-t) (which is [.12].5=.06) and t(1-L)/x (which is [.5].6/x=.3/x). PMT A extends for the first x years. Its second part is the annual depreciation write-off, multiplied times the tax rate.

PMT B is just (a/P)(1-t)=.06, and extends for the next span of years, 50-x. This is the after-tax cash flow after the depreciable basis is exhausted.

PMT C is .88F/P. PMT C represents sale at the end of 50 years. PMT C occurs only once, but it represents the present value, at time of sale, of the old building and the land over all future time. .88 is the tax factor in the denominator of

(1), using our default values. (.88 means the taxpayer keeps 88%; the fisc gets 12%).

When programming a solution for calculator or computer it is not necessary to follow the exact procedure shown; but any procedure that breaks (1) down into its components is useful in helping one grasp the forces at work.

Table 1: **RRAT (%) with different values of x, with n=50**

x	.3/x	PMT A	PMT B	PMT C	RRAT(%)
5	.060	.1200	.06	.88	7.92
10	.030	.0900	"	"	7.57
15	.020	.0800	"	"	7.32
18	.0167	.0767	"	"	7.20
28	.0107	.0707	"	"	6.91
50	.0060	.0660	"	"	6.57

The effect of changing x, shown in the right column, is too modest to concern anyone deeply.

2. Table 2A shows how the effect of x on RRAT is greater at lower values of L. L=0 shows the effect on the marginal RRAT. The "marginal RRAT" is the marginal return imputable to a marginal input of capital, with fixed land (see Part B, Section 2, above). Table 2A overstates the sensitivity for most cases when L=0 because a low L implies a low value of F/P, and the Table values are based on a constant F/P=1. However, investments in longevity, that sustain F, are indeed favored as shown. While the bias shown is still not overwhelming it does point us in the right direction, as will appear when we discuss early resale, coming up next.

Table 2A: **RRAT (%) for different values of x and L, with n=50**

x:	5	10	15	18	28	50
L						
.0	9.73	8.88	8.34	8.10	7.55	6.95
.4	7.92	7.57	7.32	7.20	6.91	6.57
.9	6.27	6.23	6.20	6.19	6.15	6.15

Table 2B shows how the sensitivity rises when n=5, so that early resale is a prime force.

Table 2B: **RRAT (%) for different values of x and L, with n=5**

L \ x:	5	10	15	18	28	50
.0	12.91	10.77	9.49	8.92	7.63	6.15
.4	10.03	8.95	8.22	7.88	7.07	6.10
.9	6.65	6.51	6.41	6.35	6.21	6.02

3. Table 3 illustrates how the resale date changes RRAT, for any given value of x. This shows that the sensitivity in Table 2B depends on the early resale date, n=5.

Table 3: **RRAT (%) for different values of n and x (L=.4)**

n \ x:	5	10	15	18	28	50
5	10.03	8.95	8.22	7.88	7.07	6.10
20	8.21	7.77	7.45	7.30	6.93	6.49
50	7.92	7.57	7.32	7.20	6.91	6.57

Table 3 read across shows that sensitivity to x requires a low value of n, i.e. a quick resale. But when read up or down it also shows only a moderate sensitivity to n, even when x=5. There is a tax on sale, even though at a reduced rate, which removes some of the gain from churning to redepreciate. This is the impact of the "locked-in effect", an effect too weak to dominate RRAT but strong enough partly to offset the stronger effect of the gain from redepreciation. When x=50 -- the locked-in effect actually does dominate.

This last effect brings out a point hitherto uncelebrated here, that the maximum uplift to RRAT comes from achieving the gain while avoiding the gains tax (s) altogether. One way to do so is simply not to sell, but use the enhanced real estate one's self. Many taxpayers do follow this strategy.

But then one sacrifices redepreciation to avoid the tax. The buyer gets the redepreciation but shifts part or all of the gain to the seller in a higher F, so maximizing joint avoidance is the best strategy. One does best by having s so low, or avoidable in other ways, that there is no need to avoid sale and forego redepreciation.

4. To find the dynamo of builder incentive we now examine the capital gain, measured by F/P. Table 4A shows the sensitivity of RRAT to F/P when x=5, for different values of n.

Table 4A: **RRAT (%) for different values of F/P and n (x=5)**

n:	5	10	20	40
F/P				
1.0	10.03	8.83	8.21	7.95
1.3	14.17	10.62	8.82	8.07
2.0	21.85	13.89	10.00	8.33

Note how a 30% increase in F/P causes a 42% rise in RRAT, when n=5. Now for the first time we see high sensitivity of RRAT to a parameter. Future sale value, F, is clearly a prime mover. This is true even though the gain is taxed; the next table shows how the gain rises if it be taxed less, or not at all.

Table 4B shows the sensitivity of RRAT to s, with n=x=5, and L=.2. The Table also shows the rate of return before taxes (RRBT). I am lowering L to .2 here to make a point, as will be seen.

Table 4B: **RRAT (%) for different values of s and F/P (L=.2)**

	RRBT	s: .0	.1	.2	.5	.8	1.0
F/P							
1.0	12.00	14.00	12.76	11.45	7.04	1.60	-2.99
1.3	16.34	18.18	16.80	15.36	10.43	4.22	-1.15
2.0	24.35	25.96	24.37	22.67	16.86	9.36	2.60

Here we see extreme sensitivity to s. The preferential rate on capital gains in tandem with fast write-off and fast turnaround is more powerful than anything we have seen before here. It is so powerful that when s is .1 or less, RRAT>RRBT. RRBT is shown in the second column. This is more than total avoidance; it turns a tax into a subsidy.

This is the point to make which I lowered L to .2. This effect is the joint result of deducting depreciation from ordinary income while qualifying most of the gain for the lower tax rate, s. The effect is stronger when L is lower, which means for marginal increments of capital, and also for owners in the secondary market who understate L in order to depreciate land. For more on this cf. Section 7.

Table 4C gives a more complete and balanced, if somewhat multidimensional picture of how three variables affect RRAT. It contains beside the main points stressed here yet other nuances and cross-currents, and will repay careful study.

Table 4C: **RRAT (%) for different s, F/P, and L**

	s:	.0	.1	.2	.5	.8	1.0
F/P	L						
1.0	.4	12.00	11.04	10.03	6.77	2.97	0.00
"	.2	**14.00**	**12.76**	**11.45**	**7.04**	**1.60**	**-2.99**
1.3	.4	16.34	15.27	14.17	10.54	6.28	2.95
"	.2	**18.18**	**16.80**	**15.36**	**10.43**	**4.22**	**-1.15**
2.0	.4	24.35	23.13	21.85	17.63	12.62	8.63
"	.2	**25.96**	**24.37**	**22.67**	**16.86**	**9.36**	**2.60**

5. Table 5 shows the sensitivity of RRAT to ordinary cash flow, a, for high and low values of n and x. The sensitivity is damped when n and x are low, showing that RRAT is then dominated by factors other than cash flow. (To understate the point I reduced L to .2 in Table 5, but it makes little difference.)

Table 5A: **RRAT (%) for different a/P and n (x=n, L=.2)**

n:	5	20	50
a/P			
.04	7.23	3.43	2.64
.07	8.82	5.02	4.20
.12	11.45	7.64	6.76

With n=50, RRAT tracks a/P closely, as you would expect in a neutral tax system. But with n=5, RRAT is much less sensitive to a/P. It is distracted by resale prospects, which have displaced ordinary cash flow as the strongest power driving investors in buildings.

Table 5B shows RRAT as a function of 4 variables: a/P, L, n, and x. Like Table 4C it is a multi-dimensional study in which the reader can follow the interplay of several shifting parameter relationships.

Table 5B: **RRAT (%) for different a/P, L, n and x**

	n:	5	10	10	20	20	50	50
	x:	5	5	10	5	18	5	18
a/P	L							
.04	.1	7.93	5.74	5.07	4.46	3.70	3.64	3.22
"	.4	**5.86**	**4.33**	**4.00**	**3.48**	**3.10**	**2.95**	**2.75**
.07	.1	9.52	7.54	6.68	6.41	5.32	5.78	5.02
"	.4	**7.43**	**6.03**	**5.57**	**5.26**	**4.68**	**4.83**	**4.45**
.12	.1	12.18	10.50	9.33	9.61	7.99	9.23	7.87
"	.4	**10.03**	**8.83**	**8.18**	**8.21**	**7.30**	**7.92**	**7.20**

The several relationships may be interpreted to lead off in several new directions toward additional generalizations not attempted here, but all are consistent with the major point, that low values of n act to mute the effect of a/P on RRAT.

6. Table 6 shows that RRAT is remarkably insensitive to t when n and x are low-valued. This is on our assumption that s is independent of t. In the example, in fact, RRAT changes perversely with t, for values of n and x below 7. (I have set L=.2 to help bring out the last point). This effect testifies remarkably to the great importance of future sale values relative to current cash flow, when write-off is very fast.

Table 6: RRAT for different n and t, with L=.2 (x=n)

n \ t:	.2	.5	.8
5	10.19	11.46	12.72
6	10.20	10.62	11.05
7	10.21	10.03	9.85
8	10.21	9.58	8.95
18	10.14	7.78	5.41
28	10.05	7.24	4.33
50	9.91	6.76	3.56

How, one might ask, can there be a perverse effect of t on RRAT? It is because the assumption that F=P says the real estate does not depreciate. To write it off at all is therefore a freebie.

The freebie is inherent in the tradition, (internally inconsistent and illogical), that depreciation is recognized yearly, even if fictitious; but actual appreciation, even in the same property, is not recognized until the owner realizes it by sale, and receipt of cash from same. When the write-off is fast enough and the gains tax rate (s) low enough the freebie is worth more than the tax. The value of the freebie rises with t because s remains constant at .2.

7. Table 7 shows how RRAT varies with different values of L, at different values of n and x. This matter has been touched upon in Sections 2 and 4, but in other contexts. Here we are concerned with the effect of understating L.

RRAT is sensitive to L for low values of x. With low x and n the value to taxpayers of understating L rises very high. They are strongly motivated to misallocate basis from land to building, letting them depreciate land. This is an ancient loophole which perhaps crept in without arousing concern because with long tax lives for buildings it didn't make so much difference. With short tax lives it makes a large difference. With a low x one can write off land as some people are alleged to vote, "early and often".

Table 7: **RRAT (%) for different L, n, and x**

		L:	.0	.5	.9
n	x				
5	5		12.91	9.34	6.65
5	50		6.15	6.08	6.02
50	5		9.73	7.55	6.27
50	50		6.95	6.47	6.09

When x=50, L hardly matters. When x=5, L does matter. And when both x and n=5, L matters a lot.

The approach taken here may understate the cumulative long term impact of land write-off. To deduct depreciation for land which is to last forever is to achieve tax exemption in perpetuity. All the treasury collects after that is a return on its own investment. To do this once every five or ten years is to secure a cumulative subsidy for holding land which, over time, constitutes a massive and continuing redistribution of national wealth.

D. Summary of findings

1. In the absence of resale there is only little effect of x on RRAT. Some writers have discounted the "double-dipping effect" of repeated depreciation of the same capital. The finding here is the reverse. Without early resale (or other inclusion of F in revenues) there is not much kick in fast write-off. F values are sustained by not just the future redepreciation of the capital, but depreciation of land.

2. The marginal effect of low x on RRAT is greater than the average effect, because no additional land is required, so L=0 in Eqn. (1). However even this marginal effect throws only little weight until it is coupled with fast write-off and turnaround.

3. Resale coupled with fast write-off gives a big boost to RRAT. The boost is weakened, but far from fully offset by the capital-gains tax. The "locking-in effect" of the latter is

generally weaker than the reverse "churning effect" of fast write-off coupled with redepreciation. "Locking-in" in the pure, partial sense usually perceived and expressed can and does occur where there is no depreciable base, i.e. with bare land and common stocks, for which L=1.

4. Resale effects make RRAT highly sensitive to F/P and to s. This is true of both the average and the marginal values of RRAT.

5. Ordinary cash flow recedes to being a secondary force determining RRAT, when n and x are low.

6. The tax rate (t) on ordinary income recedes even more, to a very weak influence on RRAT, when n and x and L are low. It is so weak that the effect becomes perverse at low enough values of n. This anomaly results from recognizing fictitious depreciation yearly while denying recognition to real appreciation until sale, and then at a lower effective tax rate.

7. Low values of x and n put a premium on understating L, which lets one write off land "early and often".

The bad effects of shortening tax lives in our present income tax system are many. The list below only hits the high spots.

A. Effective tax rates on capital in favored forms are reduced well below nominal rates, which are the real rates applied to salaries and wages and some kinds of capital earnings. Profound allocative and distributive biases result.

A great self-contradiction is internalized in the tax code in the asymmetrical treatment of depreciation and appreciation. Unrealized depreciation is recognized yearly, even when fictitious; while actual appreciation is not recognized until the owner realizes it by sale and receipt of cash, and then at a reduced real tax rate.

The cumulative effect of repeatedly depreciating the same land is first to reduce and then eliminate the tax. But then redepreciation continues indefinitely, an endless, ever-growing subsidy to holding land.

B. Much of the gain from fast write-off goes simply to raise land rents and prices. Land as a distributive share becomes a bigger mouth to feed without adding to service flow, for the rent-receiver as such takes without serving. When land price is higher the cash flow to real estate must be higher to avoid reducing the level of incentive and reward to investment in buildings.

C. Seekers after tax shelter bid land up and away from marginally qualified buyers, thus removing rungs from the ladder of upward mobility. A large class of potential owners become perpetual tenants. The economic wastes and losses inherent in absentee ownership and the landlord-tenant relationship are magnified. So are the social and political evils of dividing society into alienated classes.

D. Investments in longevity, with emphasis on enhancing resale value, are favored over investments with earlier payouts in ordinary cash flow. That bias may seem at first sight to be subtle and therefore shadowy and therefore negligible. But it results in a serious and damaging waste in a lower use of scarce national capital.

The favored use is lower not just in the obvious micro sense, but in an important macro sense such as that which moved Smith, Ricardo, Mill, Jevons, Wicksell, Bohm-Bawerk and Hayek to defend against policies with a bias toward retarding the great circulation of the national capital. Capital of deferred usefulness is not just diverted from its best use; it is frozen. That part of cash flow which consists of recovery of principal is deferred too, and all the reinvestment to be financed from cash flow -- which is most investment -- is deferred.

E. Focusing on the rental and resale markets distorts and degrades building design. Sterile, undifferentiated floor space standardized and homogenized for common denominators of taste and function is favored over quality, specialization, timeliness and individuality. Beauty? -- there is little room for romance in a building destined for a series of anonymous future owners and tenants. It is citified Gopher Prairie, safe and stultifying. The dull institutional style of ice-tray cubism seems a fitting symbol of tax-accountant

architecture, where the designers evidently were told that form follows fast write-off and future windfall. Too much of today's private architecture is too much like public architecture which is too much like prison architecture.

F. The incentive to invest is destabilized when it becomes dominated by the vagaries of cycles in land prices. Harnessing unearned increments to serve as an incentive to build is not an achievement for which the world is better off.

First, such increments are chancy and fluctuant, and the expectation of them as much or moreso. F as part of the incentive to build is an anticipation of values and events several years ahead. The anticipation is highly unstable, subject to mass psychology and herd movements and the other elements of "irrational expectations" which dominate the real world.

Second, the existence of high land values, to which increments must lead, is highly depressing to the incentive to build. The obvious reason is that so much of the cash flow must now go to the landholder as such, leaving that much less to reward the builder as such. When values are falling, it is that much more depressing to incentives, as can be seen by setting $F/P<1$ in Eqn. 1, (and it is even worse than that because of limitations on deduction of capital losses).

But even rising values are less stimulating than would be stable values at a low level. Appendix 1 shows that the deadweight of land value incorporated in an investment lowers the rate of return unless the rate of increase on the land price alone exceeds that on the capital -- <u>in which case, however, the investor will prefer to hold the land vacant.</u> (This helps explain the otherwise anomalous juxtaposition of vacant land with intensive building in growth areas.)

G. Locational decisions are distorted. Investment is drawn artificially to neighborhoods and regions where land values are growing. Hibbard, Ely, Knight, Spahr and other ancient apologists for land speculation praised "the lure of unearned increment" for drawing investment into the frontier, which their expansionist ideology taught them was self-evidently a "good thing". Others like Harry G. Brown more correctly labelled this a locational distortion.

But it was and is worse than that. Because of interdependencies in regional and neighborhood expansion the lure is a Lorelei that leads whole regions through boom to crash on the rocks. Today the Lorelei of unearned increment draws capital from central city to suburb, and from rustbelt to sunbelt, so we have empty office space in Houston and Denver and capital starvation in Youngstown and The Monongahela Valley.

H. The huge service industries of finance and real estate are perverted in function. Economic theory explains to our eager young people that these white collars are usefully employed in creating "ownership utility", matching assets with the appropriate owners. But now the appropriate owner is the one whose bid is inflated by his ability to redepreciate capital, and depreciate land. This kind of churning serves no social good, but works ill by reinforcing and confirming the alienation between anonymous owners and tenants whom they know only by number and regard only as meal tickets.

The artificial churning is most stimulated where it is least socially useful, in the market for young and adolescent buildings. In the market for empty land an active, churning market would be a benefit. It would obviate the need for each firm to build up its own reserves of empty land for possible future expansion. But that is not where the churning is stimulated, because you cannot depreciate empty land, there has to be a building that can be confused with land.

It remains true that universal expensing of all new capital formation would achieve that part of the Georgist aim of untaxing capital while continuing to tax land, as Commons advocated. That would still leave the question of whether it is right to exempt capital while continuing to tax work, and I don't think that is even a question. But apart from that the present system perverts the Commons proposal beyond any acceptance. The shortening of lives is not enough by itself to raise RRAT substantially, but only in conjunction with fast turnaround, double-dipping, depreciating land, and exempting much of unearned increments from the income tax, all of which are odious.

APPENDIX 1: The depressing effect of land value on rate of return

Here we single out for inspection the sensitivity of RR to land value and its changes. We divide P (from Eqn. (1)) into building and site, B and S. Subscripts 0 and n indicate beginning and ending of investment periods. We multiply Eqn. (1) through by P; and set t and s at 0, for simplicity.

$$RR = \frac{a(1-I^{-n})}{(B_0 + S_0) - (B_n + S_n)I^{-n}} \qquad (2)$$

Now we collect the terms B and S in the denominator.

$$\text{Denominator} = (B_0 - B_n I^{-n}) + (S_0 - S_n I^{-n}) \qquad (3)$$

The presence of S_0 and S_n in the denominator raises it, and therefore lowers RR, unless:

$$(S_n/S_0) > I^n \qquad (4)$$

But (4) is only true if the rate of growth of S is greater than the RR. This is the circumstance in which the landholder would do better not to build at all, but buy more adjoining vacant land with the same high prospects. Be it understood here that S_n is not a hard fact but a subjective forecast, so that neighboring individuals will react differently to the same prospects. Such forecasting is one of the few refuges of individualism in a homogenized society, and unfortunately one where it does more harm than good.

The strength of the effect varies with the weight of S_0 vs. B_0 and of S_n vs. S_0. Table 8 shows specific values.

Table 8: RR for different S_0/B_0, and S_n/S_0 (t=0, s=0, n=15, a/B =.16)

S_0/B_0 \ S_n/S_0:	.5	1.0	1.5	2	8.0842	10
.0	14.95	14.95	14.95	14.95	14.95	14.95
.1	13.3	13.5	13.6	13.7	"	15.3
.3	10.8	11.2	11.6	11.9	"	15.7
.5	8.9	9.6	10.2	10.7	"	15.9
1.0	5.8	7.0	8.0	8.9	"	16.1
2.0	2.6	4.5	6.1	7.3	"	16.3

The RR on B_0 alone (with S_0=0) is 14.95%. The site factor lowers RR in all columns but the last two. In the penultimate column headed 8.0842 the site increment is neutral because it is at the same rate as that on the building, 14.95%. In the last column it raises the RR because the rate on the land alone is 16.59%, which is higher than the return on the building alone, or on any combination of land and building. This last is the case where the investor will prefer to hold land idle and buy more like it.

WHY RESEARCH FARM LAND OWNERSHIP AND VALUES?

Mason Gaffney

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I. 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.

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 labelled 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 garniseed 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 bail-out 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 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. And 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 practise, according to I.R.S. manuals, the non-depreciable portion is not land value in the absolute: it is what the local tax assessor <u>says</u> 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 nondepreciable 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. But 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:

$$V = \frac{a}{i - g} \qquad (1)$$

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/sales 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 acutely 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% and 4% as the market was doing, using something like our Eqn. 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 .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 .30 to .37; but ratios for single-family dwellings rose from .30 to .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.

Eye. 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?

II. 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 Gov. 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 <u>then</u> 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, in his now obsolescent <u>Tax Racket and Tax Reform in Chicago</u>, 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 practise 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. Oh tempora, oh 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 sales price, using comparable sales and highest use. The new owners won a court case requiring him to use the new sales 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 practise 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.

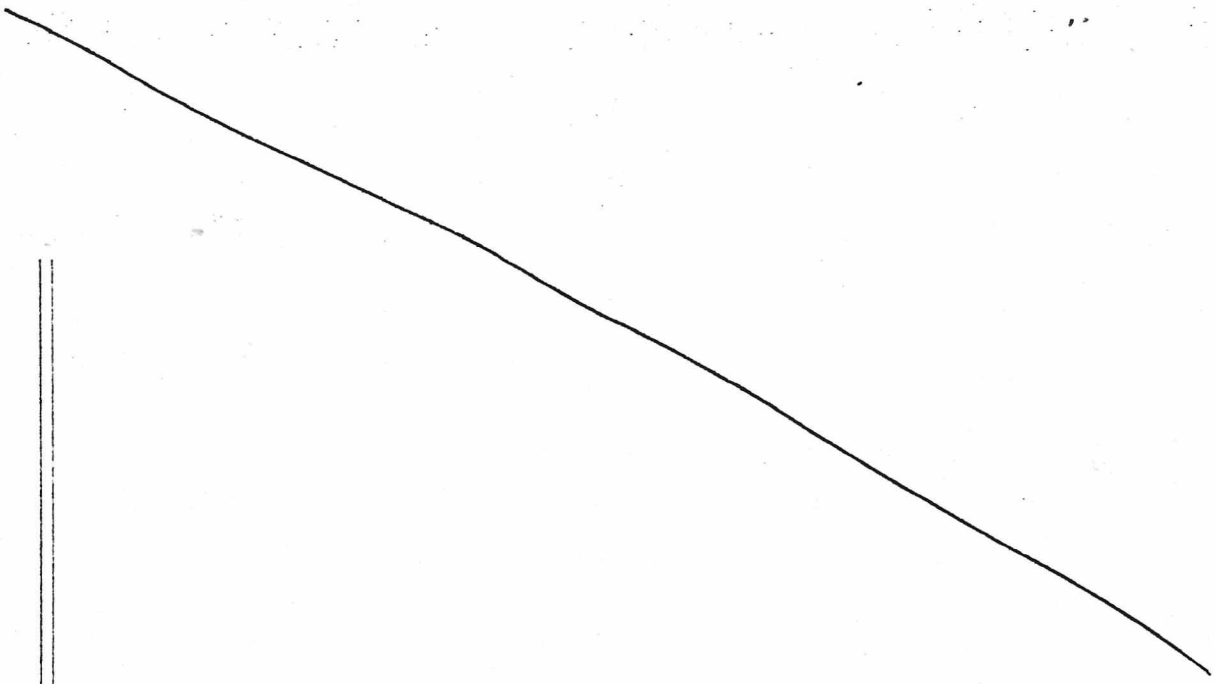
Corporations are our largest landholders. Ownership turnover occurs mainly through shares of stock; seldom by direct sale of specific assets. When assets do move it is often in large, complex bundles. This kind of ownership as it grows keeps reducing the reservoir of comparable sales on which to base 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 timberlandholders 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 has a value at 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.

E. 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%.

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 19th 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.

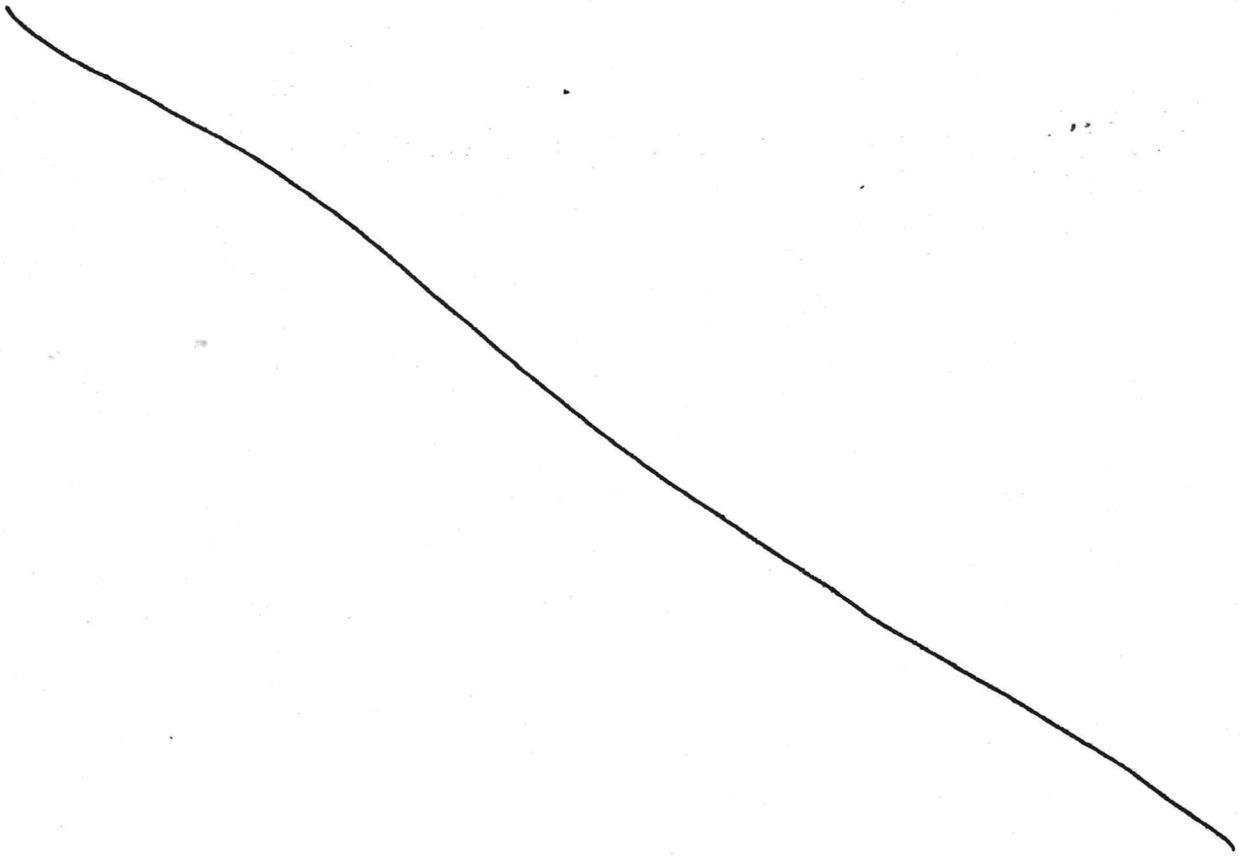
Eye. Radio Spectrum

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.



~~the sovereign power of eminent domain. There is a large element of "plottage" in the successful 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 ~~surely~~ 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-a-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.

III. 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 (@$1,000 per square foot) has a reputation for intimidating assessors into lowering the peak values down towards the mean.

But on the other side there is the equally traditional 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 ~~they~~ 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 possible can. It was ~~perhaps~~ 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% 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% 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, N.Y., 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.

IV. 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 "cadaster"; 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 XVI and Czar Nicholas II. Would America withstand it better?

The usefulness of cadasters 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 Frederick 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 Curacao, 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 idiosyncracies, 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 Subdivison 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 regime_ 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 jurisdictions.

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 outwards the quicker will he motivate land sellers to meet the outthrusting demand and the shorter it will travel outwards 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 50 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 <u>percevoir</u> 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?