Coordinating Tax Incentives and Public Policy: The Treatment of Land Income
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COORDINATING TAX INCENTIVES AND PUBLIC POLICY: THE TREATMENT OF LAND INCOME

A. Introduction: Tax reform and public goals

In the last few months the demand for tax reform has suddenly loomed into a towering irresistible force that will be served. Fixed postures of either satisfaction or fatalism have become ludicrous; old bastions indefensible. Here we stand, bewildered and unprepared as usual, as the opportunity of a generation passes before us.

This paper is an effort to pull together a systematic outline of one set of accumulated tax outrages, those bearing on land. I follow press releases, and scholarly and treasury and commission and task force releases on the subject with a growing impression of incompleteness, of a tendency to settle on one or two points as the major abuses to be remedied. These make it altogether too easy, and seriously underestimate the diligence and ingenuity of tax-avoiders, who have gone far towards converting the income tax into essentially a payroll tax, and who will not be put squarely in the income tax base with a few simple strokes. Nothing less than a thoroughgoing shakeup of the tax treatment of land income will avail. And this is exactly the time when such a project, hitherto a pipe dream, may be seriously entertained.

Distributive equity is one purpose; allocative efficiency another; employment and growth a third; international standing a fourth. We are not just interested in taxing property income, but in creating a good incentive pattern that respects the market and harmonizes with a host of public policies. Some major policies to be served are these:

1. Timely urban renewal. "Timely" implies an optimum, neither post- nor pre-mature.

2. Create employment opportunities, especially where needed most.

3. Economize on capital. This is an era of sharply limited disposable capital with urgent competing demands.

4. Counter inflation. This means encouragement of investment with short pipelines to consumer markets and quick supply impact. A counterpart of (3).

5. Contain urban sprawl. Again consistent with (3), for sprawl wastes capital.

6. Ample housing. This is where more capital should go, with quick supply impact.

7. Encourage small business, combat concentration of economic power.

8. Distributive equity. Most loopholes are tailored to the needs of those with large net worth and are regressive.

9. Clean air and water.

10. Decentralize detailed planning

- By local officials, subject to state and national needs.

- By the market. Tax policy should if possible lubricate sticky markets; and certainly not gum them up. It should make them respond to local planning powers.

11. Strengthen balance of payments. Consistent with (4), but also requires maintenance of competitive after-tax rates of return to investors with migratory (non-land) assets.

B. Tax treatment of Land

1. The income tax

Favors to investors in new capital goods, such as accelerated depreciation, expensing, and the 7% investment credit, have positive macro-economic and balance-of-payments effects and may be necessary in spite of possible regressivity. Favors to land, on the other hand, have no macro-economic or allocative virtues to offset their distributive vices. It is not that economic land supply is altogether "fixed"; but the growth that occurs is not primarily a function of the private landowner as such. Rather, public spending plus the spillover benefits from the enterprise of neighboring land users enhance the potential service flow of land. It is these, rather than the landowner as such, whose motivation needs to be the concern of the framers of functional institutions.

It is possible to retain many tax advantages now essential to motivate private investment in real estate, and still collect as much or more taxes from real estate, by bearing down on the loopholes specific to non-functional

land income. The following analysis seeks to identify these.

My explicit reference, unless otherwise noted, will be to the Federal personal income tax. Most of my points, however, apply as well to the Federal corporate tax, and the various state personal and corporate taxes.

I begin with an outline, a sort of Mendeljev Periodic Table which may help us find new devices as well as order the old.

a. Covert write-off of undepreciated and appreciated land value.
b. Exemptions
    i. Imputed income
    ii. Unrealized appreciation
    iii. Capital gains at death
    iv. Bequests
    v. Capital gains of exempt owners
c. Deferral of tax on realized appreciation
d. Capital gains rate on appreciation, ordinary offset on losses and carrying costs.
e. Deferral of tax beyond date of sale
    i. Sale of residence
    ii. Barter
    iii. Instalment sale
    iv. Prorating of principle and interest
    v. Profit participation by seller
    vi. Condemnation
f. Deferral of land-use income where there is intertemporal dependence of income
    i. Sacrificing early rents for higher later rents: "implicit expensing" of capital investment
    ii. Explicit expensing of early operating losses to appropriate position
    iii. Explicit expensing of capital outlays by "farmers."

a. Covert write-off of undepreciated and appreciated land value

Urban land is non-depreciable for tax purposes, in deference to its physical indestructibility. If a non-depreciating asset were to be written off, its income would achieve complete tax exemption, as follows. Let t be the income tax rate. When the tax payer writes off the asset, he reduces his tax liability by that amount, and his tax payments by t% of that amount. Now the Treasury has put up t% of the value of the asset. It also receives t% of the income of the asset. Thus the Treasury simply receives a return on its investment. As for the owner, he has now invested only (1-t)% of the value; and he gets (1-t)% of the income. On his equity[1] he would earn a tax-free income in perpetuity

The way to write off land is to buy it under an old building and allocate most of the cost to the building, which is depreciable -- and if its remaining life is short, rapidly depreciable, especially if the owner avoids repairs and maintenance. The IRS has no well-organized defense against this. Harold Groves reports cases of taxpayers even depreciating adjoining vacant lots! IRS invites taxpayers, if challenged, to use the land:building allocation reported by the local tax assessors as evidence supporting their allocation. In my research I have found these allocations consistently understate the land component by a very large factor. It lets owners use very short tax lives -- 10 years is about par -- on slums.

Covert write-off of land is a factor above and beyond the multiple write-off of buildings. This latter is a more or less intended consequence of accelerated building depreciation which reduces book value of the depreciable asset to below its remaining resale value. Land depreciation occurs when the buyer of an old building allocates less value to the land than it had originally, even though it has not declined; or allocates the same, even though it has risen.

There might seem to be recapture of land write-off when one sells and pays a tax on the excess of sale price over book value. But this tax is twice diluted. First, it is deferred until sale, whereas write-off came earlier. Second, it is at capital gains rates: write-off was from ordinary income. If the owner never sells there is never an occasion to recapture.

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[1] I assume 100% equity financing, for expository simplicity. Actually the game is leverage, and the mortgaged landowner who writes off land could easily end up receiving income on no equity at all.

But actually taxpayers can do better by selling. For the buyer starts writing off both land and building all over again -- never mind how many times it was done before. Thus land, which the law says is not supposed to be depreciated at all, is written off several times. The only proviso is that it must remain under an old building.

Were it not for this device, the income tax might serve to promote urban renewal. Once the initial cost of a building was completely written off, accelerated or not, its current cash flow would be fully taxable.[1] Because it would be pure ground rent, a non-depreciating income source. Thus in the year after the last allowable write-off, the slum owner would suddenly face a much higher tax bill. If he wanted a tax shelter in real estate, he could get it only by actually building; not by redepreciating old slums.

But under present practice the surest way to lose the privilege of depreciating land is to clear it and erect a new building. For then the IRS, seeing through a glass darkly, finally perceives that what you bought -- if you just bought -- was not the depreciable building but the non-depreciable site underneath it. It denies write-off. Even demolition cost is non-depreciable. Or, if there was no recent purchase, they let one depreciate only the cost of building, not the land. The net effect: you can depreciate land so long as you do not improve it.

Thus the tax law biases owners of older buildings to delay renewal, to milk the last drop of tax shelter out of old buildings before releasing the land for new. It raises the "defender" value of land -- the capitalized value of the extant building -- relative to the "challenger" or renewal value of the cleared site in the best succeeding use. Thus it increases the renewal gap (defender value less challenger value) that must be met by subsidy. Renewal subsidies are soaked up by land write-down, leaving less for the constructive employment-generating investment in rebuilding and actually supplying housing.

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[1] Indeed, if a building underwent locational obsolescence due to land appreciation, write off should end before the life originally contemplated, as soon as the "challenger" land value equalled the "defender" value of land cum old building.

b. Exemptions

i. Exemption of imputed income

Durable goods used for the owner's consumption yield an income "in kind" that is not taxed. The price of land is more affected by this than is that of other assets because the service flow from land is 100% income -- no wearing out. The price of appreciating land is even more affected. The untaxed service flow is supplemented by an untaxed growth of value each year stemming from progressive increments to the tax-free service flow. A depreciable durable good, on the other hand, must be of about 40 years life before the income flow equals the flow representing recovery of capital.

The availability of land that builders might use is reduced in urban fringes by the high propensity of the affluent to "reside" over considerable acreage. Teamed with large-lot zoning (which holds down assessed values and property taxes), expensing of taxes and interest, expensing of "conservation" investments, capital gains on breeding stock, indefinite deferral of tax on sale of "residence," and a host of favors to deferred land increments (all to be treated later), this exemption of imputed income serves greatly to fortify the holdout power of landowners of the "mink and manure" set that surrounds every city. Nearer in, the imputed income of elderly widows is likewise enhanced by its exemption from taxation.[1]

It is true, of course, that buyers of new homes on this same land would also enjoy the exemption of imputed land income, partially neutralizing the bias. But there is normally a tax bracket differential -- appreciating suburban land gravitates to the strongest hands. Higher prices mean higher credit barriers all around, screening out the poor. Where the new use is an apartment there is no offset at all[2] -- that is, there is a total and unmitigated bias against renters, a factor hitting

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[1] It is evident that tax reform must come to grips with varieties of institutionalized sentimentality. However, consider that is is only the widow of means who can afford to value her feelings above the pecuniary blandishments of hopeful builders; and a high proportion of the national wealth is controlled by longevous widows. If we wish to subsidize widows let us help the needy through the welfare system; not the propertied through the tax system.

[2] There are other offsets, through fast write-off of income property, not treated here.

low-income people with differential severity [illegible]
worth. Finally, open space as a consumer good is clearly a superior one -- indeed, throughout history is has been the ultimate luxury, the highest mark of status -- and its tax exemption is worth much more to those who have risen farthest above subsistence. Those who would normally consume more open space anyway do so tax free while they contemplate with supplemental pleasure the untaxed appreciation of their net worth.

ii. Exemption of unrealized appreciation

The form of income known as capital gains is not taxed until realized by sale [Eisner v. Macomber (1920) 252 U.S. 189, 40 S. Ct. 189].

If the land is never sold, there is no tax. Some landowners therefore prefer to lease ripe land rather than sell -- prominent examples are the Irvine Ranch of Orange County, California, and the Big Five of Oahu. Others prefer to buy many years in advance of their own anticipated needs, even very conjectural ones. When and if the needs materialize, they have on tap needed land, now of high value, acquired at a low value. The difference is tax-exempt income. The motive is strengthened by, and mutually strengthens, the motive to acquire advance reserves of a raw material whose supply is jeopardized by the absence of a vigorous free market. The combination magnifies the area of idle reserves which individuals and firms find it advantageous to hold. Thus it raises the holdout price of land.

iii. Capital gains at death

Capital gains taxes on appreciated assets are forgiven at death. There are death taxes to pay instead, but these would also be due on whatever asset was substituted for appreciated land. It is therefore folly for individuals to sell appreciated land during a period of several years before death. Elderly owners in their declining years are obviously below average in enterprise, so their land is often just held off the market, "locked-in."

iv. Bequests

Eleemosynary bequests of appreciated land enjoy exemption from capital gains tax; yet they are fully deductible at appraised value, and their carrying costs are expensible. Thus the taxpayer can deduct a value which he has accumulated tax free, in addition to enjoying the prestige and satisfaction of supporting his favorite church, college, tract society, or foundation. This adds to the motives to hold land for appreciation. The same is true for the factitious book capital gain created by having written off land (or having depreciated buildings too fast).

Another aspect is the gift with life estate. Under this arrangement, the taxpayer deducts the appraised value at time of bequest, but enjoys use of the home and grounds for life (no tax on the imputed income, either of course). During this period he cannot sell and the land is frozen.

v. Capital gains of exempt owners

Churches and other tax-exempt owners are normally not allowed exemption on business-type, profit-making activities. The exception is gain on land sales. The central city church that goes suburban takes its full selling price along with it. Thus initiated, it is altogether likely to select a large site with ample grounds and parking space, with one eye to future tax-free gains.

Cemetary associations are especially large land speculators to benefit from this provision. Cemeteries in Milwaukee County pre-empt more land than all industry -- not a negligible item.

These speculators usually couple their income tax exemption with exemption from local property tax. In addition, interest on their bonds is exempt from income tax, an advantage to them as they borrow at very low interest rates.

c. Deferral of tax on realized appreciation

The most transcendent of tax loopholes is the least well understood. That is because it entails no specific "gimmick" that might serve as a handle to identify and popularize it, such as depletion allowance, capital gains rates, accelerated write-off, or forgiveness at death. Also, a rigorous demonstration that the loophole really is a loophole involves the use of some mathematics. However, the basic reasoning may be readily grasped.

Money in the bank doubles every 10 years at 7% compound interest. It follows that present dollars are worth more than future dollars, and a great deal more than remote future dollars. For example, at 7% one dollar today is worth $32 in 50 years ($2^5 = 32$), so one dollar due in 50 years is worth 3¢ now. Therefore taxes deferred are taxes denied. Early tax payment to reduce later tax payment by an equal amount is an investment that yields no interest.

Suppose a piece of unused fringe land is ripening toward urbanization, the target date for sale at urban prices being certain -- say 20 years hence. In a reasonably free market it would appreciate like a bank deposit, at compound interest. Consider what compound interest means: it means that the appreciation accrued in each year goes right back to work for the investor, earning income for him in all future years. Accrued appreciation is therefore income constructively received at the time of appreciation, just like interest paid by a bank and credited to one's account. Note the timing: appreciation is income in the year accrued, not the later year of "realization" by sale.

Now consider the contrast in time of tax liability between bank deposits and appreciating land. Interest is taxable each year as it accrues in your account. Appreciation is not taxed until "realized" by sale. With each passing year, the landowner defers taxes, not just on the value accruing currently, but also on the value accrued in all prior years.

The 16th Amendment authorizes taxation of "incomes from whatever source derived." The realization doctrine is not part of the Amendment. It rests on the shaky case of Eisner v. Macomber (1920).[1] As a result of this decision and its implementation, appreciating land affords a sovereign tax loophole. The landowner constructively receives income at the time it goes to work earning more income for him. But he is not taxed until much later. He has contrived to receive income and plow it back without being taxed. He can even turn this accrued income into cash by mortgaging appreciated land, without tax liability -- and deduct the interest payments to boot.

Appreciating land is like a corporation that does not distribute profits, to avoid taxation of dividends, but plows them back into capital and lets the shareholders realize the income at their tax convenience in the form of appreciated stock values at capital gains rates. This loophole for corporations has been recognized and somewhat compensated by the double taxation inherent in the corporate income tax. In the case of appreciating land, however, there is no such compensating device. There are rather a number of fortifying loopholes, discussed elsewhere.

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[1] 252 U.S. 189, 40 S. Ct. 189.

Holding land for appreciation, therefore, is much favored. The extraordinarily favorable tax treatment encourages speculators to buy and hold land, and retards their releasing it to developers and builders, whose income is fully taxable at ordinary rates when produced.

The desire of landholders to defer taxes on gains is often colloquially described as the "locked-in" effect. To show the force of the locked-in effect and its tendency to defer sale, I have worked out a formula for computing the land speculator's rate of return after taxes for different holding periods, and from it constructed Table 1 showing how after-tax rates of return increase with holding periods.

The formula is based on supposing unused fringe land's selling price rises yearly at an assumed market rate of interest, i. A tax rate, t, is applied to the excess of sales price in any year, $(1+i)^x$, over cost of $1 at time zero. The landowner's rate of return after tax is r.

Do table again showing effect of tax rate rather than $\frac{1}{2}$; [illegible] effect more strikingly

(1) $$(1+r)^x = (1+i)^x (1-t) + t$$

Using any set of interest tables, it is easy to give numerical examples of how r rises with x, the year of sale. Table 1 is such an example.

Table 1

After-tax rate of return (r) to land speculator for different holding periods when the rate of appreciation before tax (i) is constant at 8%, tax rate (t) is 50%, and acquisition cost of $1 is deductible in year of sale (x).

Based on the equation:

$$(1+r)^x = (1+i)^x (1-t) + t = 1.08^x \cdot 1/2 + 1/2$$

e = effective tax rate

x	1.08^x	$(1+r)^x$	r	e
1	1.080	1.04	.040	.50
5	1.469	1.24	.043	
10	2.159	1.58	.047	
15	3.172	2.09	.050	.37
20	4.661	2.83	.053	
25	6.848	3.92	.056	
50	46.902	23.95	.065	
100	2199.798	1100.40	.072	
∞	--	--	.080	

The speculator who sells in one year bears the full effective tax rate--his rate of return is halved, as the nominal tax rate of 50% contemplates. The speculator who sells in 20 years bears less than 3/4 of the nominal tax rate. The old settler who waited 50 years bears less than half.

A heuristic proof of the generality of this result is possible by rearranging the form of Equation (1)

$$(1A) \qquad (1+r)^x \left[1-t(1+r)^{-x}\right] = (1+i)^x (1-t)$$

$$(1+r)^x = (1+i)^x \frac{1-t}{1-t(1+r)^{-x}}$$

As x grows very large, $(1+r)^{-x} \longrightarrow 0$, so the fraction on the right side $\longrightarrow 1$, and $r \longrightarrow i$.

A rigorous proof is available on request. It is for the mathematicians. Most readers will find it more drawn out than the residual doubt warrants, and less helpful quantitatively than Table 1.

It is easy to prove rigorously, however, that a tax has no locked-in effect--is intertemporally neutral--if its base is the yearly increment of value. It even makes sense: the tax cannot be deferred or changed by deferring sale; therefore it has no effect on time of sale.

Assuming as before that value grows at compound interest, the value at the end of any year x is $(1+i)^x$; the accrual of value is $i\cdot(1+i)^{x-1}$; and the tax is $t\cdot i\cdot(1+i)^{x-1}$. r, the after tax rate of return, is now that discount rate which makes the present value of selling price less tax costs equal the cost of $1.

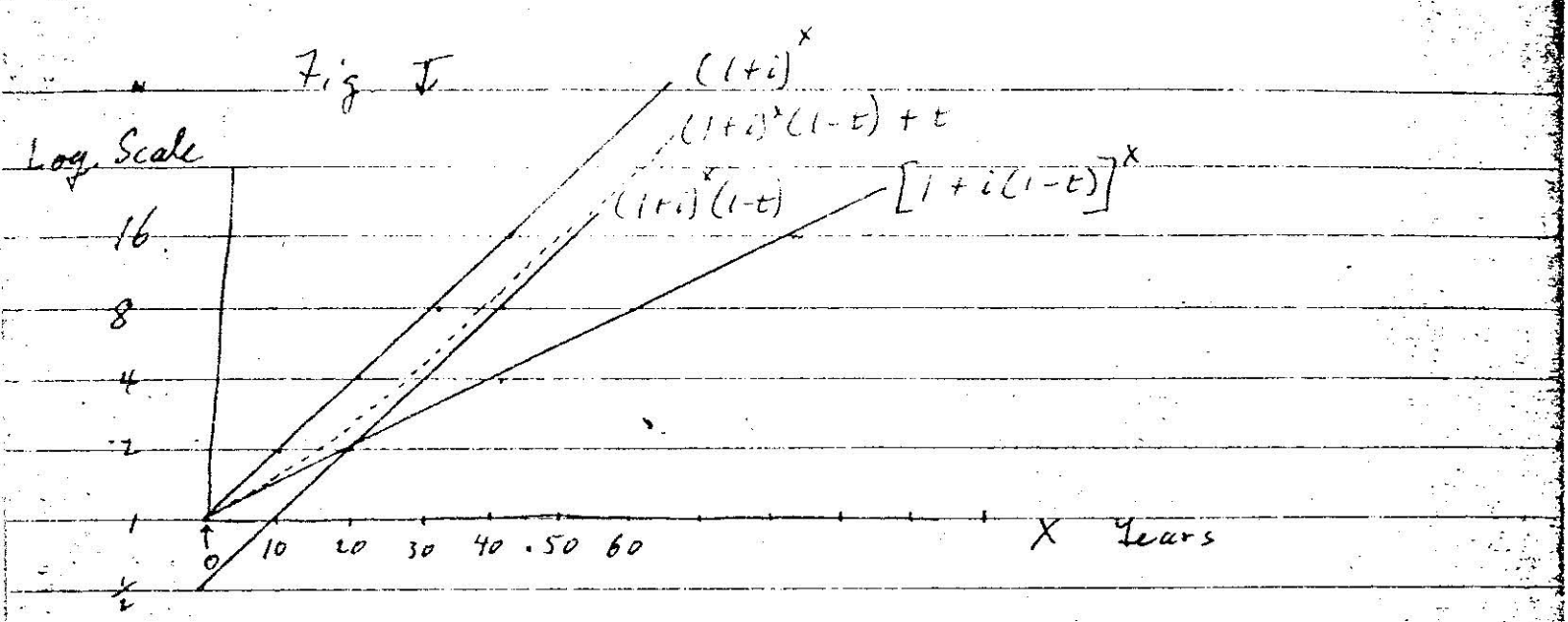
$$(2) \qquad \$1 = \frac{-it}{1+r} - \frac{i(1+i)\cdot t}{(1+r)^2} - \ldots - \frac{i(1+i)^{x-1}t}{(1+r)^x} + \frac{(1+i)^x}{(1+r)^x}$$

$$1 - \left(\frac{1+i}{1+r}\right)^x = \frac{-it}{r-i}\left[1 - \left(\frac{1+i}{1+r}\right)^x\right]$$

$$r - i = -it$$

$$r = i(1-t)$$

Fig I



Growth of taxpayer realized cash after taxes under different tax assumptions:

$(1+i)^X$ — no tax

$(1+i)^X(1-t)$ — gross tax, no deduction of cost

$(1+i)^X(1-t)+t$ — income tax on gain when realized

~~$(1+i)^X$~~

$[1+i(1-t)]^X$ — neutral tax

Under this tax, r is reduced below i by the full tax rate (t) impartially for all holding periods (x). There is no bias-- no locked-in effect, no partial tax exemption, no encouragement to land speculation.

The difference between this tax on accrued income, which is inter-temporally neutral, and the cash-basis tax policy now employed, gives an idea of how the Eisner v. Macomber rule biases investors to buy and hold appreciating land.

It is of some policy interest to note that the local property tax based on capital value tends to operate like this neutral tax. Because each takes a fixed percentage of the capital value each year.

At the same time that investors seek to defer tax liabilities they seek to advance deductions. The land speculator receives favorable treatment in this particular also. For he deducts his holding costs as he spends the money -- i.e., he "expenses" local land taxes, and interest on borrowed money, even though the increment of land value which they finance will not be taxable for many years to come, if ever. He may also succeed in writing off part of the initial cost of land, if he buys land under an old orchard or building and allocates too little of this cost to the land. He may write this off through depreciation. In the alternative, he might demolish the building midway in his holding period and claim a loss. It is not hard to imagine how an ingenious taxpayer may become a non-taxpayer by combining these devices. By reducing his real cost basis and deferring his tax he may end up with a rate of return after taxes higher than the rate before taxes.

d. Capital gains rate on income, ordinary offset on losses, and carrying costs.

The sale of land for a gain, if the seller has avoided "dealer" classification, qualifies for capital gains rates. This of course encourages tax avoiders in high brackets to buy and hold appreciating land. The uncertainty about how to avoid "dealer" classification causes all landowners to avoid rapid sales, development, large sales, consistent selling, etc. The result is more land tied up. One must be either a passive investor, or use the land in a business other than real estate, a business such as a golf course, farm, nursery, drive-in, parking lot, junk yard, or what have you. One is encouraged to hold land in these lower uses and defer allocating it to its highest use.

$1000 limit

Losses on land sales are deductible from ordinary taxable income, so long as one observes the elementary precaution of realizing losses in years of no realized gains. If the loser loses taxable income, he can often merge with a winner before realizing losses. Both winner and loser are locked in while courting each other.

The costs of holding land -- interest and local land taxes -- enjoy ordinary offset. So does covert depreciation of land cost, where that is accomplished. After-tax rates of return may be much higher than before-tax rates of return.

e. Deferral of tax beyond date of sale.

i. Sale of residence

If it is a "residence" one sells, the tax is deferred so long as one buys another residence within a year. Under large lot zoning, five or ten acres of grounds would probably qualify as part of the "residence," although local administrative practice varies.

ii. Deferral of tax by barter

If the grounds qualify as a "farm" one can barter it, tax free, for a larger "like property" further out of town. The new owner has a higher basis -- the appraised value at time of barter -- and can subdivide and sell off without tax on the pre-barter increment. Or he can hold for further appreciation, the tax on which he too can defer in the same manner. Section 1031 of the Internal Revenue Code provides: "No gain or loss shall be recognized if property held for productive use in trade or business or for investment (not including stock, etc.) is exchanged solely for property of a like kind to be held either for productive use in trade or business or for investment." There is a good deal of "tailoring" of transactions to fit the letter of 1031. An investor whose intent is to buy a suburban farm for cash will first buy a rural farm, satisfactory to the prospective seller, and then barter farms with him. Or he might buy other suburban land for barter.

The other land of "like kind" might also be a golf course, dump, drive-in, airport, nursery, etc.

A network of brokers' clubs has developed to arrange such bartering. Thus a ready avenue is open to suburban land speculators to defer income taxation of capital gains.

1031 is not an unmixed evil. It unlocks some locked-in investors by letting them release their land to commerce without tax penalty on the

transaction. On the other hand, it makes land speculating more attractive and brings in more speculative money, inflating the general level of land prices. The seller, too, is still locked into his "like property," which may be a rural farm -- a big factor inflating farm land prices -- but may also be another suburban farm.

iii. Deferral by installment sale

The affluent seller who is in no hurry for cash, or whose strong credit lets him monetize his illiquid assets by banking them, may defer tax on land sale by the installment device. He must be the mortgagee. He must not take a down payment of more than 30% of the selling price.

An important incidental benefit of this method of sale is that a large share of the interest on the deferred payments may be treated as part of the contract price and receive capital gains rates. Only a 4% rate must be treated as interest, at simple interest rates. Mortgage interest rates today are about double that, at compound interest, so contract prices are inflated to reflect the buyer's benefit from borrowing at 4% simple interest from the seller; and the seller takes his interest above 4% at capital gains rates.

The longer the installment period, the greater the difference between simple and compound interest. So sellers who can wait a very long time for cash can get capital gains treatment on all compound interest above 2% or 3%, depending on the time involved. I have not worked out details on this, but the possibilities of deferred payment of inflated contract prices are evident. Farm economists have published a good deal on the subject.

A variant of installment sale is the "land contract." The seller, instead of conveying title and taking a mortgage, retains title until payments are completed. If payments come in slowly this is not too different from rental, but with the tax benefit of capital gains treatment for all payments on principal representing taxable gains to the seller, and all interest payments above 4% simple. Thus a good deal of ordinary rent income receives capital gains rates.

iv. Simple prorating of installment payments between interest and principal.

Whenever a debt is paid off in level installments, the true proportion which is interest is a maximum in the first year, when the unpaid

balance is a maximum, and falls nearly to zero in the last installment. The necessary sinking fund tables to find the true proportion are the common property of the bank, and no deep mystery. Simple prorating of level installments between interest and principal therefore constitutes a deferral of tax liability relative to an accurate accounting -- another benefit from installment sales.

v. Contract price contingent on buyer's profits: "profit participation"

If the contract price is contingent on the buyer's profits from the land, the seller need not prorate early payments between interest and recovery. He treats all payments as non-taxable recovery of principal until he has recovered his full basis; and only then does he begin to pay taxes on his cash receipts.

vi. Condemnation

If land is condemned, as for highways or urban renewal, the tax on gains is deferred if the unwilling seller reinvests in like property within a year.

f. Deferral of income from land use, where there is intertemporal dependence of income.

i. Sacrificing early rents for higher later rents. "Implicit expensing" of foregone income

There is often an intertemporal dependence of land rents. Sacrificing early rents to get higher later ones is a form of investment, and basically quite legitimate. However, the income tax biases landowners toward an excess of this kind of investment, because the foregone early rent is plowed back without ever having been received and taxed.

The effect is the same as though the early foregone rent were received in cash and then reinvested, and granted the valuable tax privilege of being expensed. This is "implicit expensing." Expensing of capital investments is tantamount to 100% exemption from income tax.

An example of how implicit expensing causes land to be unavailable to builders is the following. As a district or neighborhood fills in, the early builders establish a pattern of use. The more of the land is developed, the more certain become the specifics of the highest use of the remaining undeveloped land. Thus certainty improves over time. This has

always supplied a certain rationale for deferral of land development, even before income tax rates were significant. But now the early foregone rent -- the investment in greater certainty -- is expensable: implicitly, that is. This encourages individuals to withhold land to achieve greater certainty. Since the individual's gain of certainty is achieved by imposing uncertainty on other landowners, there is no net social gain to justify a subsidy to this kind of withholding.

Another familiar example is the effort of large developers to attract the highest possible stratum of the market, at the expense of some waiting. early sales to wealthy buyers are thought to tone up a subdivision and enhance later sales prices, if not volume. Thus a bias toward high pricing and slow sales results. The income tax exaggerates it. The loss of potential income from idle land is "implicitly expensed." Implicit expensing is involved not merely in the year-to-year management but in the original decision to cater to higher tastes than the broadest and most frustrated stratum of the market can now afford.

A third example is the California zoning device whereby large landowners can have their development density measured as a whole. They can raise density in parts of their land if they keep the average down to the required level. Their response, as described by Eichler and Kaplan, is to begin at densities below the average, building up zoning "credits" to apply later to apartments after the integrated development has became established. The unreaped rents of the unused land, meantime, are implicitly expensed.

A fourth example, of some generality, is where a large owner avoids subdividing, at a time when that would be optimal, in order to preserve a large tract intact for future integrated development.

ii. Explicit expensing of early operating losses to establish position.

It is possible in several ways to appropriate control over territory by establishing an early position. An example is the effort of retailers to establish an early position in growing suburban territory. Here the bias is toward premature development -- but not of housing, as a rule. How does this work?

Knut Wicksell, astute Swedish economist who anticipated many of the ideas that have stirred the world since his time, once observed: "because

of the local character of the firm and its market, . . . the large enterprise has an actual monopoly simply because it comes first on the scene, and this monopoly may be as good as a monopoly which is legally established." Competition by a second firm "would only lead to the ruin of both." (Lectures, Vol. I, p. 131)

Now observe retailers establishing new positions around every growing city. Where there is room for only one store, or shopping center, or only a few gas stations, to be there first is to establish a species of franchise over the trade area, at least for several years. The early losses are expensable; the taxable income is deferred, and might even be taken as capital gain by sale of land.

Today, it is also of value to establish a zoning position. The more offensive a land use is to its residential neighbors, who will ultimately dominate zoning, the more important for a firm to establish an early history of noise, traffic, signs, smoke and other nuisances. Likewise, if tight future zoning of some monpoly value is anticipated, it is good to establish one's future grandfatherhood today.

Thus, areas best suited for residential use are subject to premature invasion by commerce, a higher use. The "floating value" that results, diffused over wide areas, inflates values above the residential level, without, however, raising them enough to stop the commercial demand. This drives residential builders farther out, where high density residential use establishes a floating value over areas best suited for low density -- and so on and on in a succession of centrifugal shock waves.

The appropriate doctrine of water law is a grand vehicle for expensing land acquisition. Under the doctrine, control of water is established by prior use: "first in time, first in right." The country is full of water sources currently submarginal but potentially rent-yielding. The only way to secure the future rents is to develop the water now, before a rival. The doctrine is pernicious enough without tax considerations, but on top of everything else, early operating losses are expensable. They actually should not even be depreciable, for they are the price paid to acquire land.

The natural resource field overflows with parallel examples, wherever a rule of capture applies. Expensing of exploration outlays and intangible drilling costs are among the largest of these.

One of the greatest urban land speculations in history is the current race for gasoline station sites by the largest collection of corporate wealth in the world, the international major oil companies and the several lesser ones, loaded with untaxed cash from depletion allowances. The early losses are expensable; the tax liability on income is deferred, and the land value increment is never taxed so long as there is no sale. The accumulated economic power behind the oil companies is impossible for home buyers and builders and most other retailers to match. Not stopping with station sites, some companies have gone into land speculation as a major enterprise. The tax relations between their retail outlets and their other land would make an interesting study. Meantime, the home buyer and small retailer know they must overcome the most powerful competition in the quest for land. The "implicit expensing" of early foregone rents, and the explicit expensing of operating losses of premature retail outlets, add to the power of the competition.

A subtle form of expensing is that resulting from pay-as-you-go municipal financing of capital improvements. The prpperty taxpayer expenses his taxes; the money is used for public capital improvements of the most durable kind, whose payoff is in enhanced service flow to land.

iii. Explicit expensing of capital outlays by "farmers"

While the homesite seeker is pressed from above by the higher use of commerce, he is ground against the nether millstone of "farming," which also enjoys extraordinary privileges. "Farmers" may expense many capital investments in soil and water "conservation." The gentleman farmer and his horsey family, who thus sink money in farms, have become proverbial; the proverb is now documented by a recent U.S.D.A. study, based on 1963 tax returns, showing that most wealthy taxpayers who own farms report farming losses. Of 3.2 million individuals who file tax returns including farm income, 66,000 reported combined farm and non-farm incomes over $25,000. Of this top group two-thirds reported farm losses! Their alleged tax losses are only current. They are expensed from ordinary income, usually urban, to be recouped later at capital gains rates by sale of a greatly improved farm. Improved for what? Not for sale to lower income home buyers as a rule. Soil and water conservation are likely to hold the land in agriculture until the tax-motivated farm improvements have been used for farming.

The cost of establishing orchards also is expensable, and the unrealized rent of the land used for an orchard's early nursery years enjoys implicit expensing. The competitive strength of horticulture against housing is thus enhanced.

The combined result of factors a. through f. is that the income imputable to land is largely exempt from income taxes. This helps explain why landowners in high brackets hold out for higher prices than can be met by low-income workers whose wages are fully taxable.[1] It helps explain the paradox of high and rising land prices in the face of a vast surplus of vacant and underutilized land, and the twin paradox that islands of hyperintensive, high-density land use, appropriate to high land values, arise in oceans of empty space with which they have little complementary linkage. It helps explain why the land market is not nearly as responsive to consumer demands as a market has to be to be functional in a complex modern economy.

2. The Property Tax

Failure of the income tax to hit property income as severely as wage and salary income suggests that local governments may reasonably regard property as a tax source unpreempted by any other level of government. One route to plugging loopholes in Federal taxation is through compensatory local taxation. And this localities have clearly been doing: Property tax levies in 1968 rose to $29 billions -- quite a performance for a tax thought to be senescent 20 years ago. Rising local debt, and the absence of large disposable surpluses from other governments, assure the continuance of high levels of property taxation.

The effect of property taxation on incentives becomes now a central issue.[2] Taxes on buildings are often believed to retard renewal, penalize highest and best uses, make marginal improvements submarginal, and drive industry away. Taxes on land have been accused of forcing premature

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[1] More than fully taxable when you consider that the base is the gross wage before withholding wage taxes.

[2] The alleged regressivity of property taxation is beyond the scope of this discussion. I note in passing that the ownership of property is concentrated in the upper-income groups and contributes a large share of that income, especially the part that escapes income taxation.

development, stinting on open space, congesting limited public facilities, and dictating to landowners.

I take the position that the incentive effects of taxing property may be made neutral and even better-then-neutral by defining the base as site value, exempting buildings. In a nutshell, the incentive argument against taxing buildings is this: when the tax on a parcel depends on the use to which it is put, the tax biases the owner against the heavier taxed use. The incentive argument for taxing site values is this: when the tax on a parcel is independent of the use, it applies leverage "incenting"[1] the owner to use it best. What follows develops these basic assertions.

a. Taxation and the Functions of Rent

Many, if not all economists now agree that the fisc may tax away rent without impairing any economic function. It is only necessary that the tax be independent of landowner behavior: that the base be the potential of land rather than the kinetic; the aptitude rather than the achievement; the faculty rather than the use; the opportunity rather than the residual.

What is less widely understood is that not taxing rent obstructs its proper functioning. Untaxed landowners through the centuries have manifested a propensity for passive withdrawal that is simply too widespread to overlook and too well proven to redocument.

Some who have advocated (or opposed) "taxing land into use," while correct in their prediction of results, have basically misconstrued the nature of the policy: they see the tax as being piled on top of market rent, and amending the market. This is to be innocent of the basic process of land tax capitalization, briefly summarized by Jensen [61] in 1931 (and curiously missing from the literature since). The costs of carrying or holding land each year are interest and property taxes, each being a percentage (respectively i and t) of selling price (P). If tax rate (t) rises, P falls, reducing the interest burden (P x i) by the same amount that taxes rise. Taxes and interest between them always just exhaust the total rent (a).[1] The public share of rent is $\frac{t}{t+i}$; the private share is $\frac{i}{t+i}$.

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[1] Algebraically, $P = \frac{a}{i+t}$

Carrying cost $= (i+t)P = (i+t)\frac{a}{(i+t)} = a$

For derivation and elaboration see Mason Gaffney [29].

Those who do understand tax capitalization sometimes note that land taxes are not necessary to make landowners economize, but simply substitute a tax cost for an interest cost. They are right in a limited way. But the naive fellow who thinks taxes force land into use is right, too. The operation of the tax is simply more subtle than at first glance. I will enumerate five ways that land taxation helps rent perform its functions: by by-passing price discrimination in credit; by reducing land appreciation; by obviating other taxes which bias land use choices; by replacing log-rolling as a paramount guide to public spending; and by overcoming land market imperfections.

1. Price Discrimination in Credit

The poor pay more for credit. They get less, and for shorter periods. The basis of allocating credit is not primarily demand, or productivity, but collateral security. It is the credit rating of the borrower that covers the lender's risk, regardless of the purpose of a loan.

And so capital markets make liquid assets flow uphill, from poorer lenders, who prize liquid investments like bank accounts, to richer borrowers, to whom banks lend money because, in the popular phrase, they don't need it; who are big enough to diversify to cover risks, and to pay regular interest while awaiting late-blooming returns.

Many affluent landowners are even stronger; they do not have to borrow at all. The interest cost they feel when holding land is only imputed interest, at their opportunity rate. Capital markets are extremely insular, with high transfer costs. Many corporations plow back earnings to defer taxes, aggrandize management, inflate (rail and utility) rate bases, etc. Many heirs, heiresses, and retired farmers are not sharply aware of or

responsive to mere imputed costs that cause no cash drain; and the absence of cash drain over several years also protects them from a "wealth effect," a loss of net wealth that otherwise finally would force their attention to any drain. So the force of imputed interest as a holding cost is weakly felt by affluent landowners, as compared to an explicit cash payment of rent or taxes.

The price one pays for land, as a yearly cost, is proportional to an interest rate. The relevant rate is one's borrowing rate --- or, for equity investment, one's opportunity rate. And so rich and poor pay different prices for holding the same land. This is price discrimination, but in reverse. The usual discrimination, with lower prices to weaker buyers, can be socially useful by broadening markets for decreasing-cost operations. This reverse discrimination in credit, on the other hand, redoubles the ineffectiveness of the demand of the poor for land.

There is no factor that acts with as much force as land cost, therefore, to screen out the bottom of the market for housing, small business, and other land-using activities. Look at it as adding to yearly interest cost, as above; or look at it as inflating the buyer's capital requirement: either way, it hits the poor with differential severity.

It is natural the poor should demand somewhat less land, in proportion to their lesser incomes, and even in lesser proportion than that because land as a consumer good, after a bare minimum, is a "Superior" one, a luxury [19]. But these are demand factors, not to be confused with the matter of credit, which is an added cost of supply. Credit discrimination means the poor pay more for any piece of land.

Of course, credit discrimination means the poor pay more for all durable goods. But the interest share of the cost of any asset varies with its durability. The other share of cost is depreciation or capital depletion, which God sendeth upon poor and rich alike. An asset must have a useful life of 30-40 years before interest is as large a share of its yearly cost as depreciation.[1] But land does not depreciate as a matter of course at all, so its entire holding cost (in the absence of taxes) is interest.

More, land often appreciates. The coming event casts its shadow before it in premium land prices. The interest cost of holding appreciating land now outvalues its current service flow --- just the opposite from

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[1] A building of 40-year life, and initial cost of 1, depreciates in a straight line at 2 1/2% yearly. Mean capital investment over life is 1/2. Interest at 5% on 1/2 is 2 1/2%.

For more precision one would elaborate from empirical data on depreciation patterns on the following lines. Mean yearly depreciation is $1/L$, where L is life. The level cash or service flow of an asset whose present value is one is $\frac{i}{1-(1+i)^{-L}}$, where i is interest rate. The share of this level flow that is depreciation is:

$$\frac{\frac{1}{L}}{\frac{i}{1-(1+i)^{-L}}} = \frac{1-(1+i)^{-L}}{L \cdot i}$$

If $L = 40$ and $i = .05$, the share is $\frac{1(1-.14)}{40 \times .05} = .43$

If the service flow is not level but declining (the normal pattern) then the depreciation share is larger.

buildings. The poor man's handicap grows heavier --- he requires more credit to finance each dollar of current cash income.

If we treat appreciation as a deduction from holding costs, and deduct a given amount --- say 3% of value --- from the interest holding costs of poor and rich, it is clear how this factor exacerbates any differences in basic interest costs. It is a principle of leverage. A poor man's basic interest rate of 9% falls to a net holding cost of 6%; a rich man's 5% falls to 2%. The ratio of the poor man's cost to the rich man's rises from 9/5 = 1.8 to 6/2 = 3.[1]

Then there is the matter of risk. Land, functionally, is a "hired" factor like labor that must be paid in advance. A tenant paying cash rent would not think he could reduce risk by hiring more land. Much less would an impecunious buyer reduce risk by assuming a full mortgage to add land whose marginal service flow didn't even cover the debt service. Inventories and operating capital return principle in a few months. Even buildings begin to in a few years, and a small shoestring operator can often finance a building with a little "front money" of his own. But land income never returns principle, unless by error of the seller. The weak hand can return the principle of a land loan only by drawing on other assets, or by net saving from income. From the viewpoint of borrower as well as lender, risk is a maximum.

But when a debt-free landowner is the entrepreneur, he already owns the principle, and the payment of imputed rent becomes optional. Each

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[1] For an elaboration of these points see Mason Gaffney [36].

year's optional rent payment then becomes something he can draw on to meet deficits. Analytically, the income is implicitly paid (free of income tax, incidentally) but saved, converted to capital and consumed to meet the deficit. More than that, he can draw on the capital value of his land to meet deficits, by banking it. The capital value is 10 to 20 times the yearly service flow, and more if the land is rising, so the cushion against risk is enormous.

A "weak hand" minimizes risk by hiring or financing a minimum of land. He selects factor proportions heavy on family labor. He turns his limited capital fast, to achieve enough volume to realize necessary economies of scale and keep himself fully employed. He keeps most of his limited net worth in circulating capital, which he can deplete to meet the risk of a surge in demand, or hold in the face of reduced demand. Lacking reserves of wealth to seize bargains and other timely opportunities, he compensates by constantly liquidating and reinvesting his capital. Each recycling gives him a chance to gain from the positive risks of business, and substitutes for possession of great reserves for contingencies.

A "strong hand" owns land outright. He does not regard it as a risky investment. Its value to him depends on its long term performance--he does not need cash every year. Even if it gives him a bad year, or several, there is no cash drain. Indeed, he can convert it to cash any time by borrowing or selling. Its capital value for sale or collateral is not usually much shaken by short run reverses, and often mounts imperturbably toward some higher use. Its capital value is all available to draw on to meet risk. This capital value is very high relative to current income, especially for appreciating land. It is not risked with each throw of the dice.

A strong hand minimizes risk by underusing land. The fact that its capital value is twenty times its service flow means an incremental land investment (holding other inputs constant) of $1 adds 5¢ to expected annual volume (assume a 5% interest rate). The 5¢ is well cushioned. An incremental investment in capital (holding land constant) of $1 adds to volume $1 times the yearly turnover of the capital, plus 5¢ interest.[1] This volume is much less well cushioned.

Thus it is very common for economists to advise landowners to avoid improving land to the "theoretically" optimal intensity where the marginal product of capital equals its marginal cost.[2] The last quarter or so of gross income is said to be of "low quality," because the added income is so little more than the added cost, it adds to risk out of proportion to the added net income. In all the years that this doctrine has flourished, no one

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[1] For example, if capital turns in 4 years, added yearly volume is 25¢ + 5¢ = 30¢.

[2] A particularly conspicuous landowner to receive this advice from many prominent economists is the U.S. Government. Economists who advise sizing public works on public lands so as to maximize the "Benefit:Cost Ratio" usually assign no cost to the public land, even though it may be a scarce and valuable damsite. Thus they are advising against intensity great enough to equate marginal product and marginal cost of non-land inputs. The practical error is often compensated by understating non-land costs, especially interest. But the analytical error is no less glaring and mischievous in its overall confusing effect on the minds of economists.

has raised the obvious counter-argument that the marginal productivity theory is symmetrical: that underimproving land implies over-landing improvements, so the last quarter of income from incremental land is of low quality.

Note that the strong hand who regards land holding as a low risk investment is minimizing his own risk, not social risk. Because the land value on which he draws to meet contingencies is not social capital --- it is not thrown into any social breach to supply real goods, it is not depleted and used. Rather, he uses it to draw on the pool of real social capital, taking from others who lack equal collateral. Social contingencies and risks are met from real circulating capital. From the national view, it is the "weak hand" with his stock of circulating capital who supplies the resiliency to bear social risks.

Finally there is the matter of management capacity. A weak hand, we have seen, turns his small capital fast in order to employ himself fully. Strong hands have the opposite problem. They turn their capital as slowly as possible, to minimize their involvement in small decisions, continual replacement, hired labor, and customer relations. Land, which never turns over, but often appreciates of its own accord, serves them ideally.

Sometimes a strong hand erects a handsome, prestigious building on land, appearing to use it intensively. These are conspicuous, and create a widespread impression that richer men improve land more. These prestige buildings tend to substitute longevity for yearly service flow, so it is evident their true intensity is less than their marble columns at first

suggest. The invisible land input is to commit land for a century to a building that will be obsolete and depreciated in half that time. Even less visible is the same owner's control of surrounding air rights for his building's view; of surrounding land to pick up spillovers from his building; of the land under his building for years before he built it; and of dozens of parcels of unused land here and there around the world. These matters defy most empirical studies because of secrecy, indirect ownership, and worldwide ownership by the wealthy. We must therefore give more weight to a priori analysis, and its teaching is clear. The comparative advantage of the strong hand lies usually in land ownership.

Now we begin to see the significance of substituting tax costs for interest costs of holding land. It removes a cost that varies directly with a person's poverty, and replaces it with a cost that bears impartially on all. To be sure, this hangs on the assumption that tax assessors are less partial to the wealthy than bankers are. Some studies have shown assessment bias favoring larger owners. Others have not, however, and this bias is less universal than the bankers'. It is also illegal, and more open to reform.

The greater effectiveness of tax than interest costs in making rent fulfill its function surfaces for observation wherever low-density zoners are campaigning to prevent rent from functioning to enforce economy of scarce land. There is some rhetoric against "greedy" "fast-buck" landowners who succumb to the temptations of opportunity rent, but the main thrust is against tax assessors. Low-density zoning keeps down land taxes, and so removes from most landowners the effective force that stirs them to economize on land the way economic theory says they should.

The bad results of not taxing land are several. First, the poor live much more crowded than the rich. A study of residential density in Milwaukee County [32], for example, shows 25% of the population occupying 3% of the residential land area. In terms of land quality, much of this 3% is in blighted neighborhoods. The rich preempt the choice neighborhoods and natural features at low density. 4% of the families have 30% of the residential land area. The exception is the rich in luxury high-rise apartments, but these are so limited by overtaxation and low-rise zoning as not to loom large in overall data.

Of course, the poor would live somewhat more crowded than the rich anyway, because land as a consumer good is a superior good. The rich like space and they like good neighborhoods, while the first concern of the poor is basic shelter, i.e., the building. But this means that by not taxing land we are losing an opportunity to tax progressively.

Second, small business competes at a disadvantage. The seven international major oil companies like to preempt promising corners. They can wait for future income; it is their special skill: who can wait as well as they?

Third, expanding cities are made to sprawl. Appreciating suburban land levitates to strong hands, so builders are not often snapping up bargains from hungry peasants. They do keep trying, however, to find weak sellers. The problem is that weak sellers are more or less randomly located. Worse: they are likely to hold less eligible land, far out, or on flood plains, or without good roads and utilities. For strong hands take the best land, leaving the scraps for the weak. The result is a denial of all those benefits that rent, by forcing economy of land, would bring. There is

waste of good natural features; of public spending; and of unrealized synergism, in all its varied aspects. Among other problems, sprawl aggravates the disadvantages of smaller businesses, because these need the city's linkages, whereas giant business substitutes its own internal synergism for the market's.

ii. Land Appreciation

We have already seen that land appreciation exacerbates the allocative bias resulting from credit discrimination. Taxing land meliorates this problem by substituting a tax charge for the discriminatory interest charge. There is much to add to that.

Land appreciation receives extraordinarily favorable income tax treatment. Briefly, they consist in that the landowner can take tax-free cash out of appreciated land anytime by banking it (strong hands enjoying lower interest rates in this matter, too); while income on the capital gain is not taxed until sale, and often not then, sometimes not ever. Taxes if finally paid are at low capital-gains rates; carrying costs and most losses are deductible from ordinary income.

These and related privileges have made land speculation a sovereign tax loophole, so much so that increments loom much larger in the thinking of many landowners than ordinary taxable income from land use, creating a strong allocative bias for holding. Clearly some strong medicine is needed to counter this bias and abate the resulting over-pricing and hoarding of

appreciating land. Taxation of land is such medicine. The income tax as presently administered virtually exempts land increments from taxation. The prospect of heavy land taxation dashes the hopes for such increments, and returns land from hoards to meet the needs of today.

Sometimes the problem is the reverse: coveted increments motivate premature building in bad locations and add to sprawl. This does not come about in the implausible Davenport-Johnson [17] [62] pattern --- they alleged that builders deducted land increments from building costs, and passed the gain on to buyers! Rather, there are circumstances when premature building helps to appropriate some privilege associated with land use. An early shopping center in an empty area may exert great leverage over public spending for roads, drawing them to itself with the aid of some political manipulation. To secure the resulting land increment, investors prematurely invade unripe territory, neglecting riper lands nearer in. Land taxation would press for early use of the riper land and deglamorize the increments from acquisition of green land and seduction of suburban councilmen.

Again, the apprehension of imminent low-density zoning in loosely organized suburbs stimulates owners to hasten sinking capital into premature high density improvements in order to establish their future grandfatherhood. There is a double bias toward sprawl. Snob zoning nearer in pushes investors outwards; anticipated snob zoning further out, and the grandfatherhood instinct, pull them outwards. Grandfatherhood in this case means a monopply rent attached to land. Anticipated rent taxation would threaten to recapture for the public the value of the privilege, and so weaken the motive to appropriate new ones.

Today, too many allocation decisions are made under the shadow of impending increments. Visualize the hierarchy of land uses as a series of concentric circles. Demand for higher uses is not fully satisfied in their proper circles, because of land holdouts there. Unmet demand probes outwards, casting a diffused "floating value" over outer zones. This floating value raises land prices enough so the outer land is too high priced to renew in its present use, although still unripe for the higher use. What is the landowner then to do when his extant buildings get too old to pay the land rent?

The socially optimal course is to renew the site in its present lower use. But the floating value factor discourages that. He is more likely to let old buildings keep growing old for a while, reserving land for the higher use. Builders needing land for the lower use are forced out another ring, casting their floating value over the next lower use, and so on in a series of shock waves. Result: more sprawl, at every margin of land use. Again, taxing land rent draws floating value back in, focuses it in its proper areas, and avoids this travesty of market performance.

iii. Recourse to other taxes

Not taxing rent means raising necessary taxes by other means. In a small, open economy like the typical American local jurisdiction, these other taxes are almost necessarily shifted "downwards" to landowners, and so borne indirectly by rent. This is because capital and labor are mobile among jurisdictions whereas land is not. So labor and capital will not accept substandard returns in one jurisdiction; but land has no choice.

If all taxes are shifted to rent, what difference does it make what kind of tax we use? Taxes shifted into rent get shifted through reducing the supply of the thing nominally taxed, as landowners take evasive action to avoid heavily taxed land uses. Loss of net benefits from the nominal tax base is an "excess burden" from indirect taxation.

In every land-use decision, taxation biases owners against the heavier taxed use. If the tax base is anything but rent, this bias leads to lower intensity of service flow from land and slower replacement of old structures. Not only are the allocative effects bad, so are the distributive ones. Taxing land use, and human activity, leads to heavier taxes on the poor, who crowd onto land more densely than the rich, and fortifies the effects of price discrimination in credit in disabling the poor when they compete against the rich for land.

This reasoning rests on assuming a small open economy as the taxing jurisdiction. Many analysts object to assuming that non-land inputs can or will flee from taxes when we broaden the analysis to the national level. I believe they are largely wrong. Let us take as an example the part of the general property tax that falls on buildings, and regard it as a national phenomenon.

From the national view, driving capital across a local line is not to lose the capital, as it provides services wherever it goes. It may also be driven back by taxes in the second jurisdiction. But investors have other escape routes.

First, they may move their capital across the international line. Increasing numbers are, aggravating a serious national balance of payments weakness.

Second, they may escape into public bonds. Taxation of private capital makes yields on public issues look better. If public capital needs were fixed there would be little drain of capital into public works. But public capital needs are greatly magnified by urban sprawl. Urban sprawl in turn results partly from taxing buildings, for building taxation lowers the optimal intensity of land use.

Building taxes contribute to sprawl in other ways than by their general tendency to reduce density. In recent times, as central cities age, the building tax base falls. This forces higher tax rates and poorer services, which in turn drives investors away from the central city where they would be welcomed only to be exploited as fiscal surplus generators. Investors then seek hospitable suburbs where new buildings can huddle together, protecting each other by their high taxable valuations from becoming the victims of fiscal exploitation. Thus the general use of buildings as a tax base in a metropolitan area tends to sterilize central lands and bias investors outward.

Applying the same reasoning on a national scale, the older central cities of the Northeast especially have made themselves unattractive relative to growth areas in the West and South, which can keep tax rates lower because their buildings average newer. This contributes to "continental sprawl," imposing added social costs of interregional linkage, in manner quite analogous to urban sprawl.

Another aspect is that building taxes make incorporated municipalities with good public facilities look less attractive than they should in competition with unincorporated areas with no services but lower tax rates. It is not that municipalities should not charge for their services; but that they

should levy charges in some less clumsy way, that does not make marginal investments submarginal as the building tax does.

Private utility line costs are equally inflated by sprawl. These are nominally taxed as improvements, but the tax is automatically shifted forward under rate regulation procedures in higher user charges.

Public works and utility investments are well above average in longevity and capital intensity. Thus they absorb much capital and tie it up for long decades before returning it. The interest is paid by taxes and user charges on the very buildings which compete with the public for capital.

A third source of elasticity in the supply of investment is the macro-economic. Investment volume is elastic to the "marginal efficiency of capital" --- i.e., the investor's rate of return after taxes. An increase of investment opportunities brings new capital into being by raising real income and saving.

Assuming, now, that building taxes are not absorbed by investors in lower after-tax returns, they serve to lower urban density and so inflate social capital requirements, frustrate potential urban synergism, etc.

It is obvious enough why they tend to lower capital intensity on central lands. They impose an added marginal cost on every increment to capital intensity of land use, be it of height, lot coverage, quality, or advance of renewal date. It is less obvious why they let capital move outwards to the margins of the city. The same reasoning that says they abort marginal investment on central land would also seem to say they make marginal land totally submarginal, because marginal land yields no surplus that could absorb any tax. That is simply the classic lesson of Ricardo on "Tithes" [81, Chap. XI]. But the lesson is too simple. It overlooks the human sources of land rent, that is public works and synergism.

The marginality of land depends on the extension of public works; also on the population and improvement of neighboring land. As capital is diverted from central land into public works extensions, peripheral land previously marginal becomes supramarginal. Investors may therefore build there and still have a surplus to absorb building taxes. People will move out --- they have to live somewhere. The presence of pioneer settlers further enhances the rentability of surrounding lands, attracts more capital, builds a base for further extensions, etc. The urban carpet may unroll for miles into the countryside this way. Instead of there being diminishing returns to aggregate national investment of capital, as in both the Marxian and Keynesian schemes, there are probably increasing returns, thanks to the highly complementary relations of interdependent individual land improvements in growing districts and regions. This synergism is expressed and confirmed in growing land values around cities. It affords an escape route for the capital that is taxed away from its most productive uses in rebuilding central cities.

The net national results of taxing buildings then are: (1) a reduction in national capital via capital flight overseas; (2) a reduction of aggregate capital formation via the macro-economic process of reduced investment, income, and saving; and (3) a reduction of urban density involving great diversion of capital into public works; a general inflation of the capital requirements of living, characteristic of urban sprawl; and, of course, a great increase in aggregate land needs.

So it does matter how we go about taxing rent. Taxing it directly serves the opposite ends: attracts capital from abroad; increases investment, real income, and capital formation; and contains urban sprawl.

Logrolling as a guide to public spending

Land rents are partly the product of public spending, we have seen. If the public fails to charge landowners for public benefits by taxing rent, every public improvement bestows unearned wealth on a few. There are several bad results.

For one, there is no objective criterion for maximizing social benefits in planning public works. Unearned enrichment to a few big speculators or old families or farmers is hardly a "social" benefit. The door is open to pressure and corruption. Indeed, there is hardly any alternative --- what would be an honest way to give away public money to a privileged few?

Second, logrolling sets in and leads to over-decentralization. Landowners from every quarter of town compete in city councils for their share of unearned wealth. An efficient city calls for neighborhood differentiation and specialization, with much heavier public spending and higher rents in some areas than others. If rent were taxed, winning landowners would compensate losers through the tax mechanism. As it is not taxed, winners compensate losers in another coin: more public works. You vote for my project and I'll support yours, regardless of merit --- it is an old familiar tale at every level of government.

Third, unearned enrichment discredits wealth and property. Instead of being a mark of distinction, a symbol of productivity and service, wealth symbolizes predation, dependency, and corruption. Unearned wealth makes hypocrisy and a mockery of efforts to legitimize property and rationalize capitalism. Parasitic wealth stigmatizes all wealth. The latent sense of civic community and polity, now so frustrated in American cities, is lost between the avarice of some and the disgust of others. Not to tax rent, therefore, is to alienate those outside a small circle, and lose a valuable resource of community spirit.

4. Market imperfections

Because of fixed location and supply of land, the discipline of competition breaks down easily in the land market. Chamberlin [10], Ise [59], Hotelling [56], Hoover [54] and others have theorized about monopoly elements in urban rent, based on spatial differentiation of sellers of services from land. Curiously, no one has done anything comparable on the much more serious problem of land assembly. Here is bilateral monopoly, secrecy, holdout power, preemption, hoarding, and every nightmare imaginable in trying to make competition work.

The response of land buyers to anticipated assembly problems is, as one might expect, to hoard land for future expansion. This is not self-correcting but self-reinforcing. Buttressed as it is by all the favors to land appreciation noted above, it is a formidable factor.

In a well-oiled market there is pooling of reserves, greatly deflating aggregate needs. In the land market there is little pooling. Everyone must have his own. It is a pattern of vertical integration of firms, with corresponding disintegration of the market pool of land reserves. Industries hold great reserves, of course. Homeowners do too --- it is nice to have an extra side yard for a possible future wing, and additions to homes are in fact common. Shopping centers take more land than they really need for parking, for future additions; and if they can sterilize potentially competitive locations by preempting a few key parcels, why not? Public buyers enter to legitimize the whole process, and few private buyers can match the hoarding neurosis ("foresight") of park commissions and school boards.

Another problem is that of the landowners' waiting for greater certainty. The certainty is to be bestowed by his neighbors when they commit themselves

to a use. The waiter, however, is not producing certainty by waiting. He imposes uncertainty on his neighbors by not committing himself. The stalemate that sometimes results is far from socially optimal. Something like this has been popularized recently under the name "The Prisoners' Dilemma," and turned into a game.

In such a market, a powerful lubricant is essential if there is to be any semblance of an optimal competitive outcome. Taxing rent serves the function, ever so much better than games between economists pretending they are prisoners. It loosens everyone's hold on land, especially land with monopoly potential (and hence higher assessed value). Releasing land to commerce is also self-reinforcing, this time constructively. When land ownership turns over faster and easier, everyone's hoarding propensity relaxes. As to the waiting and certainty problem, synchronized assessment increments over whole neighborhoods give the signal that lets every landowner know the time is nigh, and lets each one avoid narrow self-sufficiency and orient his improvement to the immediate prospect of a total interdependent community, complete with Yellow Pages, rising around him.

b. How to Tax Rent

We saw earlier that many local taxes are shifted to rent, and are indirect taxes on rent. So the trick for public policy is not just to tax rent, it is to tax it in such a manner as to exploit the fact that rent may be taxed with benefit rather than damage to economic functions.

i. Fiscal leverage vs. fiscal profit sharing

The benefits spring, to repeat, from imposing a regular cash cost on the landholder, a charge that discourages his ever retaining land in uses whose service flows fail to cover it. To this, many have objected that it is

too harsh; that land users prefer risk sharing and profit sharing to leverage. They can point to some voluntary contracts between private lessor and lessee where rent is a share of profit, or of gross. One could point, on the other hand, to ordinary mortgage terms, with debt service in excess of land rent, which apply more leverage than mere cash rent would. But there are reasons why government should apply more leverage than a private landlord does to his lessees.

One, government possesses a power to allow for exogenous risks, a power not generally available to private landowner lessors, by its assessment of land. That is if, through no fault of a landowner, land on which he had built should suffer a neighborhood decline, a government taxing rent would share the loss by lowering his land assessment. If the fault were his, on the other hand, he would suffer it all, for there would be no general decline of neighborhood values. Likewise, he would reap all the gain from his superior management.

There are a few instances of private contracts tying interest or wage or farm rent payments to some index of market changes. For urban land, however, there is no device in private contract that ties rent to an annual assessment: hence recourse to less perfect devices. Government alone is in a position to supply maximum incentive leverage while still sharing exogenous risk. Sharing the latter, it can reasonably be much firmer about the former.

Two, government as representative of the whole community is interested in fostering cumulative spillover benefits from private investments. It wants private investors to complement its public works with matching private works, containing urban sprawl by meeting demand from good central land. It wants to synchronize interlocking private investments and minimize mutual

uncertainty in developing areas. It wants to foster dense population around its retail centers, to support them; and retail centers for its population, to serve them and help pay taxes. It wants to unfreeze the whole land market, discourage hoarding, and prevent all the social wastes of blocking competition.

Three, private risk-sharing contracts presuppose a large guaranteed lessee investment in a building. There is the leverage. Government can not get involved in everyone's private business like that, telling landowners when to build and how much they must invest. By charging a regular rent tax, regardless, it assures that landowners will raise buildings in good season.

A complicating question in rent taxation has always been the treatment of increments to value; and the choice of capital value or current income (realized or "notional") as the tax base.

As to the first, taxation of land value increments obviously lacks the good incentive effects of taxing rent. It is avoidable by not selling, and greatly diluted by deferring sale. It puts a hurdle in the way of sale by investor to builder, and then supplies no leverage to the buyer. It warrants short shrift.

Capital value as a tax base has been often criticized as overtaxing rising land whose capital value has risen out of proportion to current cash income. Heilbrun [49, pp. 123-27] has demolished this argument as it deserves.[1] The income from rising land includes appreciation, at the time it accrues. To

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[1]For mathematical treatments see Gaffney [35, pp. 308-13 and 321-22] and [31].

get at this income, without waiting for sale, a simple tax on capital value suffices.[1] To tax current cash income in the lower use is to miss out altogether on taxing the increment. To tax capital value is to have an increment tax, but one that is not diluted by deferral until sale, and does not discourage timely ownership turnover.

c. Rent, spillovers, and congestion of open facilities

There are two brakes on increasing returns from urban synergism: internal congestion; and external markets. Here we treat the first.

Those who fear congestion of open common space and facilities --- streets, schools, parks, air and water --- rank high among people who oppose letting rent serve its economic function of forcing land to the best use. They regard congestion of common open space as an external diseconomy from use of private land: where I have stressed synergistic gains, they see net losses. They favor taxes on actively using, rather than passively holding land, interpreting user taxes on landowners as user charges for open common land and facilities. They favor compulsory land-consumption via low-density zoning, the better to insulate man from his neighbor, and above all to avoid letting immigrants in cheap housing dilute the school tax base. They do not share the Horace Mann philosophy of paying a social dividend to the poor man's children by taxing the rich man's land for public schools.

There is no question of the premise that congestion and pollution are bad. What to do about it is something else again.

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1. The tax is a fixed percentage of the capital value. So, in equilibrium, is the yearly appreciation. Therefore the tax is a fixed percentage of the appreciation.

One must concede something to each of the points, but not very much, for they are based on a number of confusions.

Confusion number 1 is not to hold population constant in the analysis. That is, intensive land use is implicitly blamed for the birthrate. Land economics take population as given. Its problem is how to deploy people, not to sterilize them. Thus, intensive land use near downtown does not in itself increase street loads. Rather, it lets a given number of people get downtown by walking or bus-riding a few blocks rather than driving a few miles and parking all day. Which arrangement imposes less burden on streets, air, and open space? Which puts more sprawl between the city and recreation in the open country?

True, the more efficient city then attracts immigrants. But these bring added economies of urban scale. The point of urban planning is to achieve a maximum of such positive interdependencies with a minimum of negative frictions like congestion. To that end, accommodate efficiently each given increment of people, and welcome the next. Those who agree with William H. Whyte that "open space is not merely the absence of something bad; it is a positive good" will be pleased to note that the immigrants to these efficient cities cannot avoid leaving great realms of empty open space behind them, which should greatly shorten the Audubon Society's list of threatened rare species.

Confusion number 2 is to equate intensity of private land use with congestion of common space. In fact, private buildings transport people vertically, substituting elevators for horizontal street movement. If we cut off the marginal twentieth story of an apartment or office, and relocate the floor space ten miles out at the other margin of the city (the horizontal

one), we would throw a great new load on ten miles of common streets. This is no way to decongest them.

Intensive private land use does not mean an absence of park land. Population around parks justifies the public investment in space, in landscaping and furnishing it. Putting private land to work meeting the legitimate space demand for homes, work, and market relieves the pressure to invade park land. Central city park sites become dearer, it is true. But if urban sprawl were contained by intensive central development, fringe lands now eyed by subdividers would revert to low values and open recreational use.

Confusion number 3 is to overlook the factor of age and quality of buildings. Taxes on buildings and low-density zoning are thought to screen out marginal buildings and their inhabitants. But they screen in buildings that become marginal by virtue of senility.

Confusion number 4 is to conceive of congestion in short run terms. An overloaded sewer, for example, is a sign of short run increasing costs, but not long run. It is a signal to replace the mains with larger ones, achieving in the process great economies of scale. Car-choked streets manifest increasing social cost of cars, but not of transport. They are a signal to tax cars and promote mass transit, again achieving economies of scale. Crowded schools do not reflect overpopulation but inadequate schools, and failure to take advantage of Conant's Law of increasing returns to scale of school.

There is such a thing as true congestion. There comes a scale of city so large and central density so high that an absolute space limit is approached. The "linkage sector" of the city (transport and utilities) moves into the stage of long run increasing costs. In this extremity the optimal

solution is not to abandon the principle of taxing rent, but to extend it to the linkage sector, which now yields rents, too. In this case the object of the charge is to limit use and space-consumption in the linkage sector, and so it should take the form of a user charge.

Use of unfenced open space without tenure protection is temporary tenure of the space. So a "use" tax on open space is analogous to a flat tax on the rent of land in formal private tenure. It is not analogous to a tax on the use of private land, but exactly the reverse. To tax the use of private land is to untax the non-use of it. This lets owners hold the space without charge, which is analogous to letting them "use" public space free.

The optimal user charge would be selective, hitting and screening out congesting and polluting uses, reserving limited downtown street space for higher and less congesting uses. With such a concept in hand, and someone like Professor William Vickrey or James Nelson to administer it, there might indeed be no limit on the optimal size of a city. May we be so lucky as to find out soon! Meantime we already observe progress in this direction on many fronts, from parking meters to pollution police.

Confusion number 5 would be to think of school congestion as a space problem. It is a problem of finance and distributive equity. The solution, I am sure, is to support schools in part by state or federal aids based on population or attendance. Redistributing wealth and paying social dividends are not functions we can realistically expect of local government in a mobile age.

d. Intergovernmental relations

The second brake on increasing returns from urban synergism is the external market. Many cities fear growth because they think their market is limited.

If a private firm reasoned that way, economists would identify it as a monopoly and evaluate the attitude accordingly. To cities we give more rope: they represent the public. But what "public?" Only the landowners of the city. They are all too happy to exploit other "publics" in the old Hanseatic tradition documented by Schmoller [86] and the German Historical School.

Central government represents the larger public. Its interest is to apply more positive leverage to cities than they might apply to themselves, to counter any monopoly restriction or stodginess. One such kind of leverage I have already mentioned, the payment of school subventions based on population. Legislative reapportionment based on population affords another growth motive, thanks to Baker vs. Carr.

A third kind might be a state tax on rent, as now proposed in Oregon by Dean Lindholm. State government finances many of the public works that generate urban rent. It has a legitimate interest in being recompensed. It stands toward cities much as they stand toward private individual landowners. The state spends to give the city opportunities. Many cities fail to respond with spending on local feeders and network lines to match the State's trunks. The State needs to apply tax leverage.

It has the institutional power. State taxation of real estate is not dead, it is alive and well in Nebraska, and merely quiescent in other states. Anglo-Saxon-Norman law makes no bones about the ultimate underlying eminent domain of the State over all land. Some creative economist needs to propose a specific formula for sharing rents between State and city. The important thing is the general purpose: collect State-created rents to prompt cities to spend to generate more rents. In sharing these new rents between State and city, both can afford to be generous. Synergism yields a comfortable surplus for the city. As for the State's tax base,

Adam Smith noted 193 years ago that the "Commerce of the Towns Contributed to the Improvement of the Country" [93, Book III, Chap. IV].

The State has the moral authority to tax rent. In the past, many people shied away from "confiscatory" taxation. But now that question is obsolete. We already have confiscatory taxation. The only question is what shall we confiscate? Is it land that belongs to the State, or people? That is the alternative. We have gone a long way towards socializing people in this century. We draft young men and we tax human talent, in Toynbee's words, as though the talented ones had committed some pre-natal crime against humanity; and we take a regressive payroll tax from every worker. Every bit of rent we confiscate now lets us repossess that much of ourselves as human beings.

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