PART IV

SPECIFIC ARGUMENTS ABOUT THE ECONOMIC EFFICIENCY OF LAND VALUE TAXATION

". . . if land were taxed to anything near its rental value, no one could afford to hold land that he was not using, and, consequently, land not in use would be thrown open to those who would use it."

Henry George (1879)[1]

"No proposition in economics is more universally accepted than that a tax on land discourages the holding of land in idleness."

R.L. Richman (1964)[2]

CHAPTER 27

SUPERNEUTRALITY OF LAND VALUE TAXATION

Market Failure in Fee Simple Land Markets

It was noted above[1] that many of the classical economists did not accept the proposition that absolute private property in land would lead to Pareto-optimality.[2]

Adam Smith and John Stuart Mill both objected on efficiency grounds to entails and the like[3]—a view which would hardly be disputed today: the proposition that allocative efficiency demands that a living owner be able to allocate resources to their most profitable use seems self-evident.[4]

We also saw that both Smith and Mill objected to land speculation in new countries and approved of legislation to restrain it.[5] Smith argued, as was Henry George to do after him, that land speculation created an artificial scarcity of land which hindered further settlers: J.S. Mill argued, with Wakefield, that land speculation dissipated the productive power of the colonists already present. Others were later to argue that land value taxation would eliminate both of these undesirable effects.

Such arguments, however, raise the question as to how one decides what is desirable or Pareto-optimal when looking at land markets. The criterion which would appear implicit in most discussion is that land markets are inefficient if they fail to generate the maximization of the present value of expected rents in the aggregate.[6]

This criterion is employed in demonstrating the inefficiency of free access to limited resources, it is implicit in the condemnation of landlord and tenancy laws as a hindrance to land improvement and conservation, and it features in the discussion of the optimal supply of public goods and the use of zoning to restrict externalities. It was, of course, the basis of Ricardo's[7] and J.S. Mill's[8] arguments for the removal of impediments to land transfers.

Land has several characteristics and criticisms of the efficiency of land markets tend to allude to the following:

(1) Land is not reproducible at its original cost (zero).

(2) Land does not generally decay or become obsolete with non-use, unlike capital goods.

(3) Land is spatial.

(4) Land is more durable than capital goods.

(5) Future uses of land cannot be known with certainty.

(6) Land is an asset in portfolios.

Thus, for example, the fact that land is not reproducible has been used to argue that owners of superior resources will be able to establish monopolies in product markets; that land endures over time, is not subject to decay and obsolescence and future uses are uncertain leads to questions about whether land speculation will occur and whether this is socially useful; while the fact that land is an asset has led some to question whether the availability of this asset to satisfy desired wealth holdings will lead to sub-optimal capital formation.

The discussion of specific arguments in relation to land value taxation and market efficiency will proceed now under the following headings:

General Efficiency Effects

- the idea of "highest and best use"
- "unsound" versus "sound" speculation in land
- the "unearned increment" as a subsidy to capital or labour

Competitive Effects

- resource control as a barrier to entry
- tax cost versus interest cost as holding costs to land users

Spatial Effects

- land settlement
- urban congestion

Externalities and Public Goods

Temporal Effects

- land as a link between the present and the future
- the intertemporal neutrality of ad valorem property taxation with respect to the choice of investment asset life
- the neutrality of land value taxation with respect to the discovery of natural resources
- the optimal extraction of natural resources and how land value taxation can be levied neutrally in this respect
- the taxation of rental versus capitalized land values and their equivalent neutrality

Capital Formation

- land value taxation as a stimulus to capital formation

Except where it is specifically indicated that the argument is solely addressed to the neutrality of land value taxation, these specific chapters are aimed at elucidating the various types of market failure which it has been claimed that land value taxation will correct and thus emerge as a super-neutral tax.

CHAPTER 28

THE IDEA OF "HIGHEST AND BEST USE"

"A tax upon land value, assessed upon the most remunerative use to which the particular land could be applied, would itself be a strong incentive to compel the owner to put it to this use, for otherwise his residue of rent after he had paid the tax might be nil. Such a tax, therefore, instead of impairing the taxpayer's incentive to apply effectively his factor of production, would actually stimulate such application."

J.A. Hobson (1919)[1]

Advocates of land value taxation have consistently claimed that economic efficiency would be improved by forcing landholders to make their land available for its highest and best use. This claim is perhaps first made by Henry George:

"Everywhere that land had attained a value, taxation, instead of operating, as now, as a fine upon improvement, would operate to <u>force</u>[2] improvement . . . The owner of a vacant city lot would have to pay as much for the privilege of keeping other people off of it until he wanted to use it, as his neighbour who has a fine house upon his lot."[3]

Nor was this argument confined to unused land; it was also applied to underused or misused land. James R. Carret, a Boston land conveyancer, noted that

"The effect of the single tax would b› to compel owners of land to use it to the best advantage, or to abandon it to someone else who would so use it. In cities, owners of valuable land occupied by old and unsuitable buildings would find it necessary to remove them and supply their place with better."[4]

This claim presumes that land can be valued for the purposes of its highest and best use. Not surprisingly, some writers have argued this to be impossible: Professor William Smart confessed himself "unable to conceive where such a valuation would lead us" even though he was willing to agree as to the evident fact that "in every city which has grown, there are buildings which do not 'fully utilize' their sites."[5] His conclusion was that any such valuations would be hopelessly subjective guesses by the assessor.[6]

The answer to the valuation objection is that the assessor does not operate in vacuo. The object of assessment is to follow the market, not to replace it with administrative fiat. Nor is it theoretically or practically necessary that the valuer attempt to assess land in its condition, say, in Roman times. The "public value" of land includes all increases in value due to the actions of others than the landholder or his predecessor in title and it also includes the value of latent qualities in the land.[7] The object of valuation is to seek the market value of unimproved land: that value should not be lowered if the owner is underusing[8] his land, nor should it be raised in consequence of an improvement by the owner.[9] Only assessments made on this principle are neutral with respect to the highest and best use of land--the assessments are fixed ultimately by an authority not subject to the landholder's actions, namely, the market.[10]

On the practical level, the feasibility of valuing unimproved land and its greater simplicity, compared to improved property taxation, has been demonstrated for decades in Australia and New Zealand.[11] Professor Smart's objection was, in fact, out of date at the time he wrote it.

A somewhat more surprising objection to Henry George's claim that land value taxation would force improvement was the claim put forward by Professors William Baumol and Lester Chandler that "A land tax of sufficient magnitude may induce landlords to let their acres grow wild or use them as hunting grounds . . ."[12] No argument is given in support of this objection and it appears that it is based on the misconception that unused or owner-occupied land would not be subject to land value taxation. If that is the case, then the argument were better applied against taxes such as the British rates under which unoccupied premises are not rated.[13]

More recently, the proposition that land value taxation forces optimal land use has been defended. As Richman puts it,

> "No proposition in economics is more universally accepted than that a tax on land discourages the holding of land in idleness. The tax encourages efficient land utilization by adding to the gains foregone by failure to exploit land productively, the penalty of a tax which must be paid regardless of the use which the owner may choose to make of it."[14]

Richman goes on to point out that a shift from improved property taxation to land value taxation lowers the burden on optimally improved property and raises it on vacant land or land with obsolete structures.[15]

The neutrality of land value taxation with respect to the optimal time for demolition and rebuilding on a site has been demonstrated by Mason Gaffney.[16] A site is ready for renewal when the existing structure ceases to earn a return on the value of the site in its highest alternative use. Beyond that, the building even detracts from the value of the parcel.[17] Gaffney demonstrates the neutrality mathematically but it can be realized intuitively by remembering that land value assessments follow the market in demolition sites and extrapolate these values against sites occupied by old buildings. Failure by the owner to use his site effectively in no way freezes the assessment. In practice, Gaffney argues, land value taxes "even tend to accelerate renewal by arousing sleeping owners . . . substituting a visible explicit cost for an invisible implicit one . . . compelling a more rational attitude toward 'heirloom' land, and in general needling landowners to do what their self-interest would seem to have dictated anyway."[18]

Whether land value taxes are in this way superneutral is thus a question of fact rather than theory—Do landowners in fact exhibit ignorance or tardiness in putting their sites to the highest and best use? The general experience in Australia and New Zealand would seem to indicate that land value taxation does ferret out passive landholders.

"The effect has certainly been to greatly stimulate the building trade. The object and tendency of this system of taxation is to compel land being put to its best use, so that the greatest amount of income may be derived from it, and rendering it unprofitable to hold land for prospective increment in value."[19]

The theory and evidence would seem to agree that land value taxation does force land into its highest and best use. However, this raises another question: is this necessarily desirable? Can speculation aimed at holding a site out of use for a better use later be, in fact, desirable?

CHAPTER 29

"UNSOUND" VERSUS "SOUND" SPECULATION IN LAND

Ever since Henry George argued the controversial thesis that land speculation was a major cause of industrial depressions (a subject which falls outside this thesis[1]) there has been strong disagreement about the existence of land speculation and the effect of land value taxation upon it.

The alternative positions appear to be as follows:

(1) "Unsound" speculation does not exist; it would be irrational.

(2) What speculation does exist is part of the market allocation process; it is socially beneficial and land value taxation would injure it.

(3) Speculation does exist; it is not beneficial, but land value taxation will either encourage it or won't deter it.

(4) Speculation exists, is bad and land value taxation will deter it.

(5) Sound and unsound speculation both exist but land value taxation will deter both.

(6) Sound and unsound speculation both exist; land value taxation will penalize unsound speculation but will be neutral with regard to sound speculation. This is the position which appears to me to be correct. If so, it is not "inconsistent to argue for a land value tax as a means of decreasing [unsound] speculative activity and to

maintain that such a land value tax is neutral with respect to [optimal] land use."[2]

The first position, that unsound speculation does not exist, that it would be irrational for landholders to hold their land out of use while waiting for the unearned increment was advanced by F.A. Walker.[3] More recently, Murray Rothbard has argued likewise: since land is a permanent resource, it

> "can be used all the time, both in the present and in the future. Therefore, any withholding of land from use by the owner is simply silly: it merely means that he is refusing monetary rents unnecessarily. The fact that a landowner may anticipate that his land value will increase (because of increases in future rents) in a few years furnishes no reason whatever for the owner to refuse to acquire rents in the meanwhile."[4]

The simple logic of this argument has appealed to others, such as R.T. Ely,[5] and a recent critic, Charles F. Collier, has concluded that "Walker correctly contended that speculative holding and current use could quite easily be consistent."[6]

I do not find this argument completely compelling: rationality is, indeed, a powerful human motive but so also are hope, cupidity and stupidity;[7] nor does rationality necessarily mean a narrow maximization of purely monetary rewards. What the argument forgets is that future possible land uses are uncertain and some uses will require vacant or virtually vacant land for redevelopment. Land speculation is of the nature of a gamble and, as Adam Smith pointed out, gambling, whether in lotteries, choice of profession, or in wildcat prospecting for minerals, tends to result in economic loss.[8]

Thus there is no reason to assume that speculative landholding and best use (as opposed to some current use) will be compatible. Max Hirsch pointed out that land speculation involved under-use as much as non-use of land.[9] A speculator who is relying upon others to come up with plans for future uses of his land and keeps it underused in the meantime, on the basis of that vague hope, would not seem to be performing a useful allocative function. That this does, in fact, happen "is simply too widespread to overlook and too well proven to redocument."[10] Suburban land speculation, in practice, does sterilize land and is overall not socially profitable.[11]

Typically, the second position on land speculation has been held along with the first: what speculation does exist is part of the market allocation process, is socially beneficial and land value taxation would hurt it.

Edgeworth suggested that "as in other industries--if not quite so much as in other industries--the speculator is useful in finding a market for the article"[12] and went on to argue that land value taxation might force a reduction in the activities of speculative builders and also induce a premature putting of land into use by landowners.[13] Now Edgeworth's arguments are defective for two reasons:

(a) He is talking about speculative builders who want to put land to use, whereas the advocates of land value taxation are talking about speculative landowners unwilling to put it to use. Surely the answer is that the pressure of the tax would enable builders to buy the land more easily with a discount due to tax capitalization?

(b) Edgeworth gives no reason as to why it would be profitable for landowners to alter the rental stream and reduce the present value of land rents (which is, one agrees, suboptimal). As Charles Collier points out,[14] if the highest and best uses of land can be foreseen, the tax is based on the value which those uses will give to the land. Any attempt by the landowner to avoid the tax by choosing an inferior time pattern of rental uses will be nugatory, so long as others in the market recognize the superior uses and are willing to bid for the land on that basis. It cannot be emphasized too strongly that the assessment of land value is not contingent upon the actions of the landowner.

The doctrine that land being held out of use while ripening for a better use must have such losses of rental income debited against any increment in value in the higher use was formulated by R.T. Ely.[15] From this view it follows that the "speculative site-owner is, then, performing a great service to consumers and to the market in not committing the land to a poorer productive use."[16] The inference drawn from such observations is that land value taxation would interfere with the efficient allocation of land uses both in the present and in the future.

The problem with this view of land speculation is that no proof is offered as to the manner in which land value taxation would interfere with the socially optimal maximization of the present value of expected land rents. This view seems to hold that the landowner is always formulating a wise sequence of land uses and seems to give no credit to the bids of the landusers as the allocating mechanism.[17] Moreover, it does not appear to be true that land value taxation leaves no incentive to maximize the present value of expected rents. On the contrary, in addition to the negative pressure caused by taxes based on market valuations of the possibilities of land use,[18] the owner can still reap a positive reward if he discovers a more profitable use not known to the market--the value of the land's use is then worth more to him than to others, yet his assessment for tax is based on the market value,[19] as determined by those others.

Thus, one can agree that speculators who accurately predict the best land uses are performing a worthwhile function and yet refuse to extend the recognition to speculators who perform no such function. One is also entitled to ask for proof as to how land value taxation hinders the maximization of present values of rents.

The third view, that speculation exists, that it is not beneficial and that land value taxation will either encourage it or will not deter it dates back to Ricardo.[20] Frankly, I do not understand Ricardo's reasoning which seems to depend on the idea that the tax would be totally arbitrary.

Another argument was given by Van Sickle for the proposition that land value taxation tended to concentrate landownership in the hands of a wealthy speculative class.[21] He suggested that the burden of taxes based on capitalized value rather than land income would force farmers to sell out agricultural land near cities to wealthy speculators who would in turn lease out the land for predatory tenant cultivation prior to its new and higher use. Further, this sort of transition would be premature.[22]

Van Sickle partly answers his own argument by admitting that the tax is neutral with respect to highest and best use during transition.[23] Another objection which may be made to his argument is that it is perfectly logical to practice predatory cultivation on land which will soon be in urban uses for which soil fertility is irrelevant. As for the premature subdivision of agricultural land, Van Sickle's proposed remedy of preferential assessment for agricultural uses would appear to be decidedly non-neutral in creating a class of farmer speculators who can hem in a city. The obvious answer to premature subdivision by speculators would appear to be higher taxes on land values to increase the costs of holding land unused.[24] The same answer is appropriate for those writers who suggest the experience of the Canadian West before World War I is proof that land value taxation does not deter speculation.[25]

T.S. Adams agreed that "a grave indictment could easily be drawn against land speculation,"[26] but felt that land value taxation was irrelevant to the subject. This conclusion flowed naturally from his argument that "competitive forces dissipate or diffuse part, all, or more than all of the so-called unearned increment."[27] In his view land value taxation would prevent this allegedly beneficial process.

H.J. Davenport advanced a different reason for [illegible] belief that, though speculation retarded improvement, land value tax[illegible] would do nothing to stop speculation, unless 100% of the economic rent was taken. Indeed, Davenport suggested that the operation of tax capitalization, by reducing the cost of land, would bring land speculation within the means of more investors.[28] Davenport was evidently thinking that a doubling, say, of rents would mean a doubling of land values, regardless of any finite ad valorem land value tax rate;[29] hence, the percentage return on a speculative investment would be the same after as before any such tax was imposed and there would thus be no deterrent to speculation. The mistake in Davenport's view, as H.G. Brown pointed out, is that he ignored the effect of the increased holding charges imposed in the form of taxes during the time the land is speculatively held unused for the increased value.[30]

Brown anticipates a more sophisticated counter-argument to the effect that since tax capitalization means a tax holding cost replaces an interest holding cost, total holding costs for the speculator would be unchanged.[31] This argument, Brown points out, forgets that the capital gain is less for which those constant holding costs are incurred. Either the same capital gain requires a higher holding cost or the same holding cost is associated with a smaller capital gain. Thus, concludes Brown, land value taxation will deter speculation, rather than encourage it or leave it unaffected.

The fourth view, that speculation exists, is socially wasteful and will be deterred by land value taxation is pre-eminently the view espoused by Henry George and his followers. In this sense, George claimed that land value taxation would be better than neutral:

> ". . . to shift the burden of taxation from production and exchange to the value or rent of land would not merely be to give new stimulus to the production of wealth; it would be to open new opportunities. For under this system no one would care to hold land unless to use it, and land now

withheld from use would everywhere be thrown open to improvement . . ."[32]

George accounted for the existence of land speculation as being caused by expectations of community growth: "there is much land which is not used, or not put to its best use,[33] because it is held at high prices by men who do not want to, or who cannot use it themselves, but who are holding it in expectation of profiting by the increased value which the growth of population will give to it in the future."[34]

He went on to argue that expectations of land value increases could be self compounding just as "during the rapid depreciation of currency which marked the latter days of the Southern Confederacy" inflationary expectations "operated to carry up the price of commodities even faster than the depreciation of the currency."[35] This speculative advance in land values, he added, differed in kind from commodity speculation since it neither served to sustain production nor was subject to the restraint of additional supplies, land being physically given.[36] Others added that land, unlike commodities, neither deteriorates nor requires maintenance when unused[37] (land left fallow can even regenerate its agricultural fertility).

What is particularly interesting about George's argument that land speculation is a case of market failure is that probably no economic writer before J.M. Keynes placed so much stress on destabilizing expectations: just as Keynes spoke of stability in the stock exchanges being dependent upon the "convention" that things will continue as they are,[38] so George viewed speculative land values as largely self-sustaining; and both agreed that the object of the speculative game was to be gone when the conventional wisdom collapsed.[39]

Henry George's claim that land speculation does exist--that land is withheld from use--and that land value taxation would deter this has probably become the accepted view. Its logic was acknowledged by the British Royal Commission upon the Housing of the Working Classes which in 1885 suggested a tax on the value of vacant building land.[40] T.N. Carver agreed as to the undesirability of land speculation and added that not only would a land value tax deter it but would also force the scarce ability and talent devoted to it to be turned towards productive enterprise.[41] H.G. Brown, as we have seen, clearly demonstrated the effect of land value taxation in deterring the withholding from use of land which could be rented out.[42] E.R.A. Seligman, who had his objections to the single tax, had no trouble in agreeing as to its effect on speculation.[43]

Enunciate any proposition in the subject of economics and you will not be kept waiting long for someone to contradict it. Henry George had claimed that land was held out of use and that land value taxation would force it into use. What better answer than to argue that some land ought to be held out of use, should not be prematurely developed and hence land value taxation should not necessarily be accepted.

We are thus brought to the fifth position on land speculation: that land is held out of use for both good and bad reasons; hence taxing land values would harm worthwhile long term saving of land for better uses as well as hurting the land engrosser.

A.W. Fox, Secretary to the Royal Commission on Local Taxation, faithfully records the view of some witnesses that, far from withholding land, generally speaking landlords

> "are only too anxious to increase their income by the creation of ground rents . . . Thus land is often put upon the market before it is really ripe for building. A building or buildings may be then erected not generally suited to the situation, and the value of the remaining land thereby depreciated."[44]

This concern about distinguishing "ripe" from "ripening" land is echoed by Ralph Turvey, who commented that

> "A third claim of the advocates of the rating of site values is that the tax change would check 'unsound' speculation. This is probably true, since the carrying cost of land with a high value for development will be increased. However, this will discourage all speculation, 'sound' as well as 'unsound.' The distinction between these two has not been drawn, and one may suspect that the term 'unsound' has been used pejoratively rather than descriptively. Yet it is conceivable that a person ready to hold land for future development may, though his foresight, perform a useful role in allocating land between competing uses."[45]

A criterion for deciding whether speculation is 'sound' or 'unsound' was enunciated by D.C. Shoup. Given that the object is to allocate land to its most productive uses over time, Shoup observes that the optimality condition is that the present value of rents be maximized. The problem is that since capital is not malleable, "once the land is developed, the construction outlay usually freezes the land into a particular use and fixes for a long time the services that the property will render."[46]

Using a Wicksellian capital approach, Shoup reaches the intuitively correct conclusion that unused land should be held vacant for development so long as its rate of appreciation is greater than the rate of interest.[47] He then modifies his model to include recurrent ad valorem land value taxation and concludes that this alters the profit maximizing result: land will now be developed when its rate of appreciation equals the rate of interest plus the tax rate. Consequently, "even a pure site value tax may not be perfectly neutral in its effect on [optimal][48] resource allocation";[49] land development will be premature and 'sound' speculation will be deterred.

Shoup's revitalization of the R.T. Ely notion of land's 'ripening' has been very influential: the conclusion that ad valorem land value taxation forces land development sooner has been adopted by writers both sympathetic to[50] and critical of[51] land value taxation.

This widespread acceptance is unfortunate, because Shoup's result appears to me to be fundamentally wrong. One technical reason appears to lie in his mathematics,[52] but the fundamental reason is that he has implicitly assumed that a developer can freeze his assessment by premature land use. This is simply not the way land value taxation works: assessments are based on land values as though vacant. Consequently, a developer who prematurely invests capital on the land, preventing a later higher use, will find that increased tax assessments based on that later higher use will cut into the later profits of the capital investment tied to the land and render that contemplated use of capital submarginal as it ought to be.[53] Conversely, a tardy land developer is squeezed by rising assessments as he holds land vacant, instead of putting it to use.

As Gaffney puts it,

"land taxes are neutral in their effect on date of conversion, so long as they are not contingent on the date selected.[54] Noncontingency is the same principle that makes land taxes neutral towards other land use choices. Suppose someone were panicked by rising land taxes into premature urbanization of farmland[55] . . . What would he gain? Either he would overimprove and lose money the first few years; or he would gauge his building to the slim early market, and in a few years be locked into an underimprovement while his land assessment and taxes kept on rising."[56]

We are thus led to the sixth position on land speculation; i.e.,

(a) Optimality consists of the maximization of the present value of land rents.

(b) "Sound" speculation plans patterns of land use over time so as to maximize these present values.

(c) "Unsound" speculation does not maximize the present value of rental flows; it necessarily involves either the excessive withholding of land from users or its premature use. Both types of unsound speculation can be found in practice.

(d) Land value taxation is neutral with respect to 'sound' speculation; it deters 'unsound' speculation; it is continually forcing the highest and best use of land both now and in the future. Suboptimal land uses over time are less profitable because the same holding costs are incurred for a reduced capital gain in land value.

From the vantage point of the historian of economic thought, this position is implicit in Henry George's writings, for when speaking of speculation as being deterred by land value taxation he clearly had in mind under-use and premature use as well as non-use of land.[57] However, H.G. Brown advanced the discussion more than he realized with his 1927 article on "Land Speculation and Land-Value Taxation."[58] In that article he showed that, under a land value tax, a speculator who suboptimally failed to put land to use while holding it for capital gains would earn a lower total rate of return than otherwise, whereas a land user who purchases land would be unaffected by such a tax.[59] Unfortunately, Brown did not realize that a wise speculator who plans an optimal pattern of land use over time would, like users in general, be unaffected by land value taxation,[60] though his remarks on land-value taxation operating as a tax on gambling should perhaps have suggested this.[61]

As Keynes remarked,

> "The social object of skilled investment should be to defeat the dark forces of time and ignorance which envelop our future. The actual, private object of the most skilled investment to-day is 'to beat the gun' . . . It needs <u>more</u> intelligence to defeat the forces of time and our ignorance of the future than to beat the gun."[62]

Keynes therefore wished to restrict access to the Stock Exchanges to those most proficient at accurately forecasting the future yield of capital assets:[63] Land value taxation does precisely this in the land markets;[64] the speculator is forced by an actual cash carrying cost to consciously plan an optimal timing of land use;[65] the tax, as it were, asks him to put his money where his mouth is. The less optimal the pattern of land use the less profitable it becomes as compared to its profitability in the absence of the tax.

To see precisely how land value taxation is neutral with respect to optimal speculation, let us start with the argument that it is not.

The basic argument of Shoup, Skouras, Bentick and Smith[66] is that we have land which may be developed now (t=0) to yield a rental, R_o, or later (t=h) to give a rental, R_h, where R_h is greater than R_o. Thus land values would be

$$V_o = \frac{R_o}{i} \quad \text{and} \quad V_h = \frac{R_h}{i}$$

and we will be indifferent between the two land use patterns if their present values are the same, i.e., if

$$V_h = (1 + i)^h V_o \tag{1}$$

Now if a land value tax, t, is levied, capitalization of the tax gives[67]

$$V_h' = \frac{i}{i+t} V_h \quad \text{and} \quad V_o' = \frac{i}{i+t} V_o$$

where V_h' and V_o' are after-tax market values.

Hence from equation (1), we obtain

$$V_h' = (1 + i)^h V_o'$$

However, it is argued to remain indifferent we must have

$$V_h' = (1 + i + t)^h V_o'$$

to defray the holding charge added on by the recurrent tax. Since this is not so, Shoup, Skouras, Bentick et al. conclude that a land value tax forces development sooner.

The objections to this argument are that:

(1) It has assumed land is irrevocably committed to one use and cannot be salvaged for another.[68]

(2) It forgets that land can only bring forth a rent if capital has been married to it; if land could yield its rent without capital being committed to it, why would land ever be withheld?

(3) The argument ignores the fact that land will be reassessed later as though vacant--premature development does not freeze the assessment, which will be revised on the basis of highest and best uses which hasty action has precluded.

Let us now consider a reformulation of the argument which incorporates these factors.

As before, optimal behaviour demands the equating of the present value of two choices:

(A) develop the land now, receiving rent, R_o, and salvage it by demolition of the building after T periods

(B) hold the land vacant till time, h, and get a better rent, R_h, from time h onwards $(T > h)$

We must thus balance the earlier rent secured by choice (A) against the higher rent available in the period (T-h) under choice (B).

Pre-Tax Choices

(A) Present value of choice (A)

$$PV_A = \sum_{n=0}^{T} \frac{(R_0 + iK_A + \Delta K_A)}{(1+i)^n} - K_A + \frac{R_h}{i(1+i)^T}$$

The sunk capital, K_A, is recovered as a terminable annuity over T periods ($iK_A + \Delta K_A$) and then the land is free for the better use, R_h.

(B) Present value of choice (B)

$$PV_B = \frac{R_h}{i(1+i)^h}$$

We lose by holding the land vacant till time h, but we gain by getting $R_h - R_0$ from time $n = h$ to $n = T$.

We ar. indifferent when $PV_A = PV_B$. This is the condition for optimal speculation. The question is: does this indifference between choices hold after a land value tax is imposed? i.e., does $PV_A' = PV_B'$?

Post-Tax Choices

(A) The present value of choice (A) after the tax is given by[69]

$$PV_A' = \sum_{n=0}^{h} \frac{(R_0 + iK_A + \Delta K_A - tV_n')}{(1+i)^n}$$

$$+ \sum_{h+1}^{T} \frac{(R_0 + iK_A + \Delta K_A - tV_h')}{(1+i)^n}$$

$$- K_A + \frac{V_h'}{(1+i)^T}$$

(B) The present value of choice (B) after the tax is:[70]

$$PV_B' = \sum_{n=0}^{h} \frac{(-t\ V_n')}{(1+i)^n} + \frac{V_h'}{(1+i)^h}$$

Now, we have[71]

$$PV_A' = \sum_{n=0}^{h} \frac{(-t\ V_n')}{(1+i)^n} - \sum_{h+1}^{T} \frac{t\ V_h'}{(1+i)^n}$$

$$+ \frac{V_h}{(1+i)^h} - \frac{V_h}{(1+i)^T}$$

$$+ \frac{V_h'}{(1+i)^T}$$

That is,

$$PV_A' = PV_B' - \frac{V_h'}{(1+i)^h} - tV_h' \sum_{h+1}^{T} \frac{1}{(1+i)^n}$$

$$+ \frac{V_h}{(1+i)^h} - \frac{V_h}{(1+i)^T} + \frac{V_h'}{(1+i)^T}$$

That is,

$$PV_A' = PV_B' + V_h' \left[\frac{1}{(1+i)^T} - \frac{1}{(1+i)^h} \right]$$

$$- V_h \left[\frac{1}{(1+i)^T} - \frac{1}{(1+i)^h} \right] - t\, V_h' \sum_{h+1}^{T} \frac{1}{(1+i)^n}$$

So $$PV_A' = PV_B' + (V_h' - V_h) \left[\frac{1}{(1+i)^T} - \frac{1}{(1+i)^h} \right]$$

$$- t\, V_h' \{S_T - S_h\}$$

where S_T and S_h are the sum to T and h terms respectively of the geometric series $\frac{1}{(1+i)^n}$

Now,[72] $$S_T - S_h = \left(\frac{1+i}{i}\right) \left[\frac{1}{(1+i)^{h+1}} - \frac{1}{(1+i)^{T+1}} \right]$$

Hence we get

$$PV_A' = PV_B' + (V_h' - V_h) \left[\frac{1}{(1+i)^T} - \frac{1}{(1+i)^h} \right]$$

$$- t\, V_h' \left\{ \left(\frac{1+i}{i}\right) \left[\frac{1}{(1+i)^{h+1}} - \frac{1}{(1+i)^{T+1}} \right] \right\}$$

and

$$PV_A' = PV_B' + (V_h' - V_h) \left[\frac{1}{(1+i)^T} - \frac{1}{(1+i)^h} \right]$$

$$- \frac{t}{i} V_h' \left[\frac{1}{(1+i)^h} - \frac{1}{(1+i)^T} \right]$$

Now,[73] $V_h' - V_h = V_h' \left[1 - \frac{i+t}{i} \right] = - \frac{t}{i} V_h'$

On substituting, the latter two terms cancel out and we get

$$PV_A' = PV_B'$$

Since the equivalence of the choices is preserved, we can then conclude that land value taxation is in fact neutral with respect to optimal speculation,[74] i.e., the planning of land use timing to maximize present value of actual rental streams. And we can consistently maintain that it deters suboptimal speculation.[75] Henry George was, therefore, correct in his intuition that land value taxation could be better than neutral.

CHAPTER 30

THE "UNEARNED INCREMENT" AS A SUBSIDY TO CAPITAL OR LABOUR

One argument for land value taxation as a corrective for market failure was furnished by its opponents. We saw in the discussion of the rent concept[1] and the arguments over whether a tax on land values could be shifted[2] that it was sometimes alleged that the "lure of the unearned increment" was an incentive to settlers, to builders or to manufacturers, in pursuit of which goods and services were made available to the consumer at a lower cost than he would otherwise have paid.

In the case of settlers the argument was put forward by J.B. Clark,[3] Alfred Marshall[4] and, more strongly by A.S. Johnson[5] and T.S. Adams:[6] it was extended to railroad building, manufacturers and tenement builders by A.S. Johnson and T.S. Adams. It was argued that the unearned increment justified railway extensions which would otherwise not be made and reduced railway rates, that buildings were not depreciated by owners because the unearned increment would compensate the owner who could thus charge less for products or for space. As Adams put it, "competitive forces dissipate or diffuse part, all or more than all of the so-called unearned increment."[7]

This extravagant line of attack upon the "single tax" proved embarrassing to some of its other opponents. B.M. Anderson was quick to point out that there was no reason for a profit maximizing capitalist to accept a lower rate of return for capital sunk in a building than he could get elsewhere since he would get the unearned increment in any case; and the existence of buildings on leasehold land raised a priori presumptions against the necessity of the unearned increment as a reward to capital.[8]

J.R. Turner and E.R.A. Seligman were similarly perturbed by the argument that the unearned increment was a necessary reward for settlers. That a subsidy was necessary to capital and labour in such cases was, they realized, a prima facie admission that the equimarginal rule of optimal resource allocation was being violated, that capital and labour would have been more productive elsewhere.[9] Moreover, Seligman wondered why a manufacturer on "increment" land needed to manufacture to gain the increment, why did "he not merely allow his land to increase in value, without bothering with the details of manufacturing?"[10]

H.J. Davenport and H.G. Brown were quick to pick up the same point. They pointed out that to the extent unearned increments and land value taxes are foreseen they are capitalized into the price land purchasers pay and are irrelevant to whether the land is cultivated or built on.[11] Davenport and Brown also agreed with Seligman that if an unearned increment was necessary to build railways or induce settlement then whatever gains were made were at the expense of other, more productive undertakings.[12] Interestingly enough, R.T. Ely provided inadvertent support for Davenport and Brown's criticisms by arguing that U.S. land policies had in fact resulted in overutilization of submarginal land.[13]

R.M. Haig noted that there was a way in which the unearned increment could be a stimulus to building or cultivation. If the unearned increment could only be achieved by incurring holding costs and if government or lenders would only grant or finance land acquisition on condition that the land be improved then perhaps the hope of a future increment might induce current sacrifices.[14] However, on closer examination, Haig's arguments do not contradict those of Anderson and Seligman who had argued that the increment should be irrelevant. Haig himself points to the fact that it is the holding charges such as taxes which force land use and he also points out that the hope of the increment led to premature building and wasteful cultivation.[15] Higher land value taxes, by reducing the increment, would deter such suboptimal land "development," and would prevent labour and capital from being allocated to activities which are submarginal.

The arguments about land value taxation and the unearned increment as a reward to capital or labour lead to the following conclusions:

(1) Since foreseen increments or taxes will be paid for or allowed for by land purchasers, market sales of land involve no benefit or burden for capital or labour.[16]

(2) The existence of buildings and farms held on leasehold tenure rebuts the presumption that the increment is needed as a reward to capital or labour.[17]

(3) Institutional arrangements which result in the use of the unearned increment as a subsidy to capital or labour would appear to

violate the equimarginal rule of optimal resource allocation.[18] In particular, it can be argued that if the purpose of U.S. homestead laws was to open land to the user, land value taxation would have been a more efficient method of doing so:[19] it would have made speculation, whether by absentees or under-users,[20] less profitable without imposing a burden on efficient users.

In short, the use of the unearned increment as a subsidy to capital or labour is deterred by land value taxation—a result which is all to the good, for the process which T.S. Adams called the "diffusion" of the unearned increment represents a suboptimal process of rent dissipation—the optimal policy being instead the maximization of the present value of rental flows, a maximization which will naturally take place if the equimarginal principle is observed.

Perhaps the last words on the efficacy of the "lure of the unearned increment" should be some of the first:

> "ownership [of land] is not necessary to secure improvement. In New York to-day you will find buildings erected on land owned by other parties, erected on leases, on the security of possession for a certain time. Go into Chicago, and you will find buildings erected in the same way . . . you will find buildings erected on city land, not on long leases or a fixed rent, but with the contract that at short intervals a revaluation shall be made, and that the rent shall be increased as the land increases in value.
>
> No man ploughs a field to get the rewards of its ownership: he ploughs to get the rewards of industry. No man

builds to get the rewards of land-ownership: he builds to get the rewards of building. Perhaps that is a little too sweeping a statement. There are cases in which houses are built and improvements made to get the reward of land-ownership. Go, for instance, to some of those "boom towns" in the West. About Los Angeles you may find great hotels standing empty. Nobody lives in them and nobody ever has lived in them. They were erected as 'bait for suckers' during the boom. In other places you may find railways covered up in mud and streets laid out where people are ploughing. That is the wasteful sort of improvement that is done to get the rewards of landownership . . .

To leave the rewards of mere land-ownership to individuals is not merely not to encourage real improvement, it is powerfully to discourage it. The American farmer strives, wherever he can, to get more land than he can possibly use profitably, in the hope of gain by the increase of value, and thus compels the next comer to go further on."[21]

CHAPTER 31

LAND VALUE TAXATION AND RESOURCE CONTROL AS A BARRIER TO ENTRY

In the discussion of the rent concept we saw that historically economists had seen a close connection between rent and monopoly.[1] It is not surprising, therefore, that one argument which has been put forward in favour of land value taxation is that it would reduce monopoly power and promote competition. The argument proceeds thus:

(1) Monopolies in product markets cannot be sustained unless there are barriers to new entrants.

(2) In the absence of specific legislative prohibitions against new entrants,[2] the most likely barriers to entry are to be found in the possession by existing producers of superior natural resources.[3] Potential competitors cannot acquire equivalent resources at the same low cost[4] as the existing producers, who may often choose not to fully exploit their superior resources so as to have in reserve the means to engage in extinction pricing. Underused superior natural resources give, then, existing producers the power to effectively block entry by any new competitor who will have to operate from marginal resources.[5]

(3) Under a system of land value taxation, the possessor of superior natural resources is taxed upon the market value of such resources whether used, unused or underused. The pressure of the tax makes the voluntary sterilization of such resources much more costly and tends to force these superior resources into their highest and best

use. Once these resources are forced into use, competitors need not fear extinction pricing since existing producers can no longer wipe out marginal producers by increasing market supply from unused intra-marginal resources.[6] In effect, land value taxation prevents resource owners from forgoing rents as a means of investing in a monopoly position in the product market.[7]

Such at least appears to be the gist of various comments by Henry George and others who have argued that land, the natural monopoly, can, when untaxed, become the "mother of monopolies."[8]

I have not been able to find any extensive critique of this argument for land value taxation in the literature, possibly because it has been put forward by persons who have not been professional economists and possibly because the word "monopoly" has come to have a different technical meaning to economists.

Recently, however, the economists' concept of competition has itself been subject to criticism.[9] The result has been that "reflection will lead to the realization that with all resources equally accessible to all present and prospective producers, no barriers to entry can be imagined."[10]

This brings us back, of course, to precisely the problem Henry George posed. He argued that because economic activity takes place in time the alienation of permanent natural resources to one generation of producers would naturally put them in such a monopoly position as opposed to future generations of producers or entrepreneurs. What he essentially proposed to prevent this unequal access to natural resources by different generations of entrepreneurs was perpetual leasehold tenure with rents constantly adjusted by competition,[11] so that at any given time no producer would have an advantage over another solely by being the first to appropriate a resource.[12]

A question which might be raised about this theory of monopoly is whether it would ever be rational for the owner of monopolized resources to under-use them.

Kirzner takes it for granted that it could well be profitable: monopoly rents "may reflect the ability of the monopolist resource owners to obtain greater revenues by withholding some of their resources from the market."[13] Kirzner also suggests that the owner of a monopolized resource may increase his rents by using it himself rather than renting it in the factor market and at the same time he may be better off using it less intensively.[14] He does not, however, specifically face the question as to how such behaviour is profitable.

There seem to be two possible reasons why such under-use of resources could occur:

(1) Apart from enjoying that best of monopoly profits--a quiet life--the owner of monopolized resources, by under-using them, creates an uncertainty in the minds of would-be competitors. This "manufactured uncertainty" represents a cost to them should they produce but not to him, a cost which allows him to charge more than his marginal cost.[15]

(2) As in land speculation, the prospect of establishing monopoly in the product market may be such a glittering prize that it may lead to irrational behaviour.

From a purely factual point of view there does appear to be some evidence that control of resources is a basis for market power.[16] If this is so, then perhaps the argument that land value taxation may promote competition would seem to deserve a closer examination than it has got.

In particular, there would seem to be some interest in relating land value taxation to spatial competition theory. Eaton and Lipsey have argued that location can be used as a barrier to entry in that an established producer may find he can earn pure profits by pre-empting sites.[17] However, one could argue that such pure profits would be capitalized into land values.[18] In that case, land value taxation would diminish the efficacy of this particular method of protecting a monopoly position.

CHAPTER 32

TAX COST VERSUS INTEREST COST AS HOLDING COSTS TO LAND USERS

Most writers would probably implicitly accept the argument that since the process of tax capitalization substitutes an annual tax cost for an annual interest cost (actual or imputed), land value taxation is neutral with respect to the allocation of land to its most productive use.

In reality, however, there is a difference. As Henry George[1] and H.J. Davenport[2] realized, credit is not available to all would-be purchasers of land or is available at different interest rates whereas the land value tax is the same cost to all. Lenders grant credit on the basis of security, not on the basis of productivity; consequently a prospective purchaser of land may not be able to borrow to purchase it even though he could put it to more productive use than any other person. In contrast, land value taxation reduces dependence upon credit markets and encourages the allocation of landownership on the basis of productivity rather than collateral security.

Recently, Mason Gaffney has refined the argument further.[3] He points out that if prospective purchasers are bidding for land, differential interest costs (due, for example, to different marginal income tax rates or collateral security) can mean that additional land will be more valuable to a low-interest purchaser even though its marginal productivity will be less in his hands. Gaffney notes that leasing, for various institutional reasons,[4] does not necessarily operate to remove this problem. Moreover when land is appreciating (i.e., future rental flows are higher than present rents) then this effect is accentuated: the low-interest purchaser has even more of an advantage over the high-interest purchaser and the marginal productivities of their land holdings will diverge even more. Land value taxation obviously works against the misallocation of land in this manner.[5]

There is another reason why a land-value tax cost for holding land may be superior to a mortgage interest cost: the land-value tax rises and falls with external circumstances which affect the value of land (e.g., agricultural and commodity booms, droughts, etc.), whereas mortgage interest costs are fixed without reference to changes in the productivity of the purchased land. It would seem therefore that a land value tax exposes farmers and other primary producers, who are levered into ownership, to less risk of bankruptcy (with its attendant economic costs) when they are producing as efficiently as possible under adverse conditions.

I suggest, therefore, that in terms of the practical realities of credit rationing, differential credit costs and fluctuating land values there is reason to believe that land value taxation, by substituting a tax cost for an interest cost, would in fact promote a better allocation of resources rather than being a purely neutral tax.

CHAPTER 33

THE EFFECT OF LAND VALUE TAXATION ON LAND SETTLEMENT

We have already encountered the view that the unearned increment was an incentive to land settlement in the American West. It was apparently first put forward by J.B. Clark in his paper "The Moral Basis of Property in Land" at the Saratoga Single Tax Discussion of 1890,[1] and has been repeated by Marshall, A.S. Johnson, F.H. Knight and others.[2]

The answers to this argument have been indicated above and I shall summarize them here.

(1) If land value increments are anticipated and land is sold in fee simple to settlers, a land value tax would have no deterrent effect on land settlement: pioneers would simply bid less for frontier land and the tax would be capitalized ab initio.

(2) If, however, land is given to settlers at below-market prices to encourage settlement there are further considerations:

(a) if grantees are under no obligation to develop the land and can freely resell it, the State has made a gift of its patrimony to no purpose: a land value tax would end up lowering the market price in the resale market as in case (1)

(b) if, however, as is generally the historical case, the State imposes cultivation or residence requirements for a period before the land can be resold, its policy can be impugned as an unlikely method for putting land to its best use.

As H.G. Brown,[3] H.J. Davenport,[4] E.R.A. Seligman[5] and J.R. Turner[6] all pointed out, such a method of promoting land settlement violates the equimarginal rule: capital and labour in such cases are being drawn from more socially profitable alternatives and therefore such a mode of land settlement is wastefully premature. Even if undertaken to secure national sovereignty, such a policy is less efficient than the alternative of a strong economy and a strong army. On a practical level, one might also remark that the bureaucratic effort to police such residence and cultivation requirements might be both difficult and arbitrary:[7] an interesting historical judgment on the wisdom of this method of land settlement, so eulogized by J.B. Clark, was inadvertently provided by R.T. Ely, no friend of the 'single tax,' who was to blame agricultural suffering in the depression on overproduction caused by policies which had brought too much land under settlement and cultivation.[8]

Consequently, it seems fair to conclude that where land value increments are anticipated, land value taxation will either be neutral or deter sub-optimal land settlement depending on the institutional arrangements adopted in regard to land alienation by the State.

We have not, however, discussed the question of expectations and unanticipated increments of land value in regard to land settlement and land value taxation. In this case, Henry George had the sympathies of Adam Smith,[9] Wakefield[10] and J.S. Mill[11] when he damned the deployment of labour and capital to purchase a ticket in the lottery of land value increments: George argued that land speculation had a different effect in the country to its effect in the city:

"Instead of unduly crowding people together it unduly separates them. The expectation of profit from the rise in the value of land leads those who take up new land, not to content themselves with what they may most profitably use, but to get all the land they can, even though they must let a great part of it be idle;[12] and large tracts are seized upon by those who make no pretence of using any part of it, but merely calculate to make a profit out of others who in time will be driven to use it. Thus population is scattered, not only to loss of all the comforts, refinements, pleasures and stimulations that come from neighbourhood, but to the great loss of productive power.[13] The extra cost of constructing and maintaining roads and railways, the greater distances over which produce and goods must be transported, the difficulties which separation interposes to that commerce between men which is necessary even to the ruder forms of modern production, all retard and lessen production."[14]

Neither J.B. Clark nor Alfred Marshall nor any other writer seem to have taken cognizance of this Smith-Wakefield[15]-Mill-George line of argument. In effect, these latter writers objected to land speculation because they saw that if capital and labour locate submarginally in the hope of future land value increments, some current value-added in production was being sacrificed now, not in exchange for future value added, but rather for a transfer income (rent) from land, which would have existed in the future in any case. Consequently, to hold out the possible rewards of land value increments as a reward to capital and labour was to conduct a lottery in which current production was sacrificed for no gain in future production. The argument advanced by F.H. Knight[16] and others, that land values are paid for by the pioneers' sacrifices, is seen as beside the point--social policy which allows this to be so is simply inefficient; the purpose of social policy should be to encourage production, the bringing into existence of goods and services, rather than the wasteful appropriation of what would exist in any case.

It seems fair to say that none of the critics of land value taxation as a hindrance to land settlement ever attempted to come to grips with this argument that absolute private property in land would lead to an inefficient pattern of land settlement. Consequently, there seems to have been little discussion of land value taxation as a "via media" between the appropriative principle espoused by J.B. Clark (which would lead to premature settlement and dispersion) and the artificially high price of land policy advocated by E.G. Wakefield and J.S. Mill (which would artificially limit the extensive margin). Land value taxation as advocated by George can be seen as preventing the first problem of market failure without succumbing to the obvious economic objections to the second policy.[17] George's proposal was, in fact, much the same as that made by James Mill for State appropriation of rent in lieu of taxation[18] with the difference that George's proposal to tax capitalized values rather than annual rents solved the problem of raising a revenue when land is valuable in expectation of future rents[19]--a problem which Ricardo had found with James Mill's original proposal.[20]

Finally, the history of land settlement furnishes arguments for land value taxation rather than against it. As Yetta Scheftel noted, in Australia it was the failure of liberal land grant policies to produce closer settlement which led to the adoption of land value taxes as a means of breaking up the great estates.[21] In America similar problems of massive land speculation and engrossment spawned the homestead grants as an attempted solution; a policy which, however, was economically inefficient for the reasons given above and which did not solve the problem in the long run when Congress had given away most of the good land.[22]

CHAPTER 34

URBAN CONGESTION

Paralleling the argument that land value taxation would impede land settlement was the argument that land value taxation would promote urban congestion. Typically, advocates of land value taxation had spoken of "forcing land into use" and it was not long before opponents asked whether this would promote an unhealthy and undesirable congestion of population.

The arguments of those who argued that land value taxation would cause congestion are somewhat confused but there seems to be two basic arguments:

(1) If land value taxation is implemented as a means of reducing taxes on buildings then more building will occur in city centres and urban open space will disappear. In effect, it is argued that a tax on buildings promotes a desirable spreading out of population.[1]

(2) The second argument, considerably more sophisticated, was devised by Edwin Cannan. His argument is that local rates are expended largely for the benefit of buildings and largely in proportion to their value. Consequently, if taxes on buildings are reduced and local authorities are willing to provide the same services regardless of the extent of building, then the substitution of land value taxes for taxes on buildings amounts to a subsidy to build, a subsidy which is greatest in urban centres. Cannan argues that the situation is

analogous to the dissipation of rent in the case of a common access resource: "Over-cultivation, in its urban form of over-building, is encouraged by the provision of free services paid for by taxation on sites only, and so the surplus in the form of site-value is diminished."[2]

The first comment to be made on these arguments is that they are essentially arguments about taxes on buildings and alleged subsidies to buildings rather than arguments about land value taxes per se. If we are unwilling to accept the results of consumer sovereignty in the matter of congestion, the

> "conventional wisdom in the study of public finance is that it is usually more sensible to try to effect desirable nonfiscal ends by direct measures—for example, to reserve open space by actual public acquisition. . . . A tax which is neutral with respect to land use decisions, as is the site value tax, therefore has a presumption in its favour."[3]

In effect, 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 its best use,"[4] they forget that "it is not the [land-value] tax that congests the population, but the growth of the town."[5] If they wish to dispute the results of consumer sovereignty they must, as Cannan did, try to construct an argument based on resource misallocation.

Cannan's argument, however, fails to do this for the following reasons:

(1) Beneficial expenditures by local authorities are not subsidies to buildings: competition ensures that building owners can only receive the going rate of return on their capital and that the beneficial expenditures will be capitalized in higher land values. The subsidy is to landowners and, on Cannan's benefit principle, they should be taxed.

(2) The analogy with rent dissipation by overcultivation of a common field is fallacious, since rent will be charged. As Bickerdike noted, "differential advantages would still lead to differential charges" and the proceeds of a site value tax "would not be given back in the form of low rents in the centre of town,"[6] which means centralization would not be subsidized.

Although Cannan does not mention it, there is a sense in which the adoption of land value taxation by a local area could lead to congestion if other areas do not adopt the same policy. As Davenport observed,[7] in such a case the land value taxing area would grow in population and capital more rapidly than areas which taxed labour and capital. This is then a problem of the second best--the global distribution of population will not be optimal. However, it may be answered that policymakers can only optimize for their own jurisdiction and, as in the case of tariff reduction, if unilateral action can increase welfare in that jurisdiction, they would be foolish to wait on others. Moreover, as Davenport noted and opponents of the single tax agreed,[8] the adoption by one area of such a policy would put pressure on others to adopt the same policy as they lost capital and labour to the land-value taxing jurisdictions.[9] Sometimes, it seems, competition can elicit the adoption of better economic policy as well as the production of desired goods.

Returning to the argument that the substitution of land value taxes for taxes on buildings would lead to congestion and the loss of urban open spaces, there are quite a few points to make.

First, what is "congestion"? Is it too many people per acre or per room? As Pigou[10] and Haig[11] realized, congestion per room will be relieved by more building and there is evidence that the adoption of land value taxation in lieu of taxes on improved properties helped to reclaim slum areas in Australia and New Zealand.[12] In contrast what really happens when buildings are taxed is that although density is lowered lot coverage is increased. "By putting a premium on horizontal spread, it [a tax on buildings] encourages the building to invade the yard . . . A corollary is artificially forced demand for land . . ."[13] This, of course, wastes what would have otherwise been open space.

A second question to be asked is what is "open space" anyway? Does it include parking lots, weed-infested vacant lots or demolition sites? Are private lawns behind barbed wire really of the same amenity value as public gardens? Mr. Costelloe, the representative of the London County Council at the Royal Commission on Local Taxation, gave a blunt reply: "It has always seemed to me that the reply was irresistible—that open spaces held for private use and pleasure are not in the same category as public open spaces at all, and that in so far as it is desirable (as it clearly is) that spaces should be kept free from building to the public advantage, it is the obvious course, and in the end much the cheaper one, that these spaces should be acquired by the public and managed for the public utility."[14]

In this connection, it should be realized that land value taxation, by depressing the market price of land, makes it easier for public authorities to resume land for public purposes, such as parks. In fact, it even provides an economic criterion for the provision of parks: do adjacent land values rise by enough to make good the revenue lost by turning land into any untaxed public use, e.g., publicly preserved historic buildings, parkland?[15] G.L. Hoxie noted this "park effect" in a particular case in New York City and remarked that it would have been profitable for owners of surrounding property to buy a demolition site and have it turned into a park,[16] yet he failed to realize that under land value taxation the fiscal interests of the city encourage it, in precisely this way, to promote its amenity value just like an intelligent land developer.[17]

Those who have been so concerned about congestion do, in fact, seem to forget that, insofar as open space is desirable, intelligent land developers find it profitable to incorporate it in their projects to enhance the sale value.[18] According to one report, similar motives prevented undue congestion in Australia: "With improvements exempted from taxation owners were encouraged to erect a better type of building, and it would be a foolish action on their part to spoil the appearance of a fine property by placing it on a small area of land."[19] In contrast, under the American property tax, when the owners of the Seagram's Building in New York set back their distinguished building from the street and created a plaza for the public to enhance it, the New York City Tax Commission raised the assessment by about 40% over the normal formula because of its "prestige value."[20]

It is, therefore, hardly obvious that if there is "congestion" that a tax on buildings is an intelligent way to prevent it. An alternative (though in itself debatable) method would appear to be zoning[21] and it may be noted that insofar as zoning seeks to eliminate harmful externalities in land use, it implicitly has as its objective the maximization of land values in the aggregate.[22] This goal is obviously in harmony with the fiscal concerns of a land taxing jurisdiction and is further discussed in Chapter 35.

Some advocates of land value taxation have put forward the proposition that rather than land value taxation being a cause of congestion, the <u>failure</u> to tax land causes congestion. It is argued that when land is not taxed the possibility of profit from land speculation leads to a wasteful under-use of land in urban areas which causes inner-city congestion and suburban sprawl with its leapfrog and haphazard development.[23] Conversely, when land is taxed, unused urban land held for speculation (that is, land held out of use without any plan for future use) will become available to builders, easing the congestion of which the speculation was a cause.[24] This thesis goes back to Henry George, who argued

> "The tax we would increase would destroy that monopoly[25] of land which is the great cause of that distribution of population which is crowding the people too closely together in some places and scattering them too far apart in other places. Families live on top of one another in cities because of the enormous speculative prices at which vacant

lots are held."[26]

George's idea was that land markets are inherently prone to inefficiency because "the absurd presumption in their own good fortune"[27] leads landowners to hope for easy capital gains rather than to actively put their land to its best use; congestion was simply one of the consequences of their gambling on land value increments.

Modern writers have tended to see land speculation and the urban sprawl it creates as wasteful for the additional social infrastructure demanded and the premature sterilization of agricultural land. This is all true enough, but fewer seem to have realized that there is even a form of urban land speculation which resembles the sort of speculation for which Henry George criticized the American farmer.

In contrast to the speculation which involves the uneconomic non-use of land, this speculation consists of the premature committing of land to use. Just as the rural settler, lured by the unearned increment, deployed capital and labour on land when it was uneconomic to do so, the urban land user may acquire and build on suburban land before it is economically justifiable to do so. He builds in advance of demand, he accepts subcompetitive returns to his labour and capital (negative land rent) because he hopes the unearned increment will make up his initial loss. Often the firm which prematurely builds on suburban land is an existing firm trying to protect existing markets from potential competition at the fringe. Such a firm can in effect offset the cash drain of negative land rents from premature expansion against the cash surplus over capital costs its existing sites allow it to earn.[28]

There are, therefore, reasons for thinking that land value taxation would not increase congestion, that it would not only be neutral with respect to optimal spatial patterns of economic activity but would in fact promote the optimal location of labour and capital.

Could Excessive Urbanization be due to Other Taxes?

So far this discussion of congestion has ignored the existence of other taxes. Yet if it can be shown that there are reasons why income taxes or sales taxes might be biased towards urbanization, the differential effect of reducing these taxes in favour of land value taxation might be a strong move away from congestion.

Now it is well known that geographic differences of tax rates on labour or capital are not neutral in their effect on the location of industry and population. Examples come readily to mind: the competition of American cities to attract industry by tax benefits, the migration of labour to the Southern States, foreign investment in South East Asia.

My question is thus: given than uniform tax rates are optimal (ignoring second-best problems) and given that differences in nominal tax rates on capital and labour have spatial effects, is it possible that income taxes and sales taxes levied at the same nominal rate over a nation will also be non-neutral because the effective rate varies with location?

Ignoring differences in tastes and considering individuals on the margin of indifference between taking the same jobs in rural versus urban areas, let us recall that in long-run spatial equilibrium, since capital and labour are mobile, there should exist a uniform real wage rate and a uniform profit rate over a nation. Any surplus returns to labour or capital in one area must, by the process of competition, either be shared with all capital and labour or be captured by higher differential rents. Thus the choice of labour in a rural area should be compensated for a higher cost of living due to lack of amenities and higher transport costs by both lower residential rents and a higher nominal wage.[29] (That this may be contrary to stylized facts commonly accepted can be explained by the self-segregation of observed rural and urban labour due to heterogeneous tastes and non-comparable jobs.)

Now consider the effect of a sales tax or value-added tax in its relative burden on the marginal individual's choice of rural and urban labour in such a situation. Typically, since homes are owner-occupied and such taxes are not applied to actual rents there is a higher effective tax rate on his rural labour, more of whose expenditure is subject to tax. This would create a bias towards urbanization.

The effect of a general income tax is more involved. If his rural labour is fully compensated for a higher cost of living by lower residential rents and he therefore earns the same nominal wage as in urban labour then there would appear to be no bias. This would, however, ignore the almost universal practice of exempting imputed residential rent from taxation, an exemption of greater value in choice of urban rather than rural labour, so even in this case there would seem to be a bias towards urbanization.

If we take matters further and it turns out that the rent differential is not sufficient compensation, his rural labour must earn a higher nominal wage in pre-tax equilibrium to secure the same real wage as urban labour. A progressive income tax, however, is levied on nominal wages and in this case would therefore impose a higher effective tax rate on the real wages of rural labour; again there would be a tax bias in favour of choosing urban labour.[30] (Assuming this individual would have the same kind of work in urban and rural areas, rural untaxed income in kind is precluded.)

Turning to the impact of an income tax on the location of physical capital, one would expect that a rural manufacturer has lower rent costs but higher capital costs due to the greater capitalized transport and installation costs for plant and equipment. In a pre-tax equilibrium the rural manufacturer would pay more depreciation charges and less rent that his urban competitor. However, under an income tax, rent as a current expense is immediately deductible at its true value, but tax-allowed depreciation may well be (and in periods of inflation almost certainly is) lower than the true cost of capital usage. Inflation and income taxation could thus be a source of hidden bias towards urban industrialization.

I have dwelt on this question of the impact of land value taxation on urban congestion at some length because it is one of the most intuitively obvious arguments against land value taxation. As I have explained, however, the land value tax is prima facie neutral and there is some reason to attribute massive conurbation[31] to a combination of land speculation and other taxes.[32]

Finally it should be noted that, if other taxes and land speculation have led to suboptimal spatial allocation of labour and capital, to that extent rent has been dissipated and statistics of land values reduced by this misallocation may understate the revenue potential of a tax on land values.

CHAPTER 35

LAND VALUE TAXATION AND THE INTERNALIZATION OF EXTERNALITIES

We saw earlier (Chapter 16) that some economists have noted a connection between externality, land rent and property rights.

J.B. Say clearly foreshadowed modern observations that ownership of a scarce natural resource is essential to efficient resource allocation; that the charging of rent secures Pareto-optimality while the failure to do so dissipates the value of a free-access resource in congestion externalities.[1] Say remarks that

> "The sea and the wind can at the same time convey my neighbour's vessel and my own. With land it is otherwise. Capital and industry will be expended upon it in vain, if all are equally privileged to make use of it; and no one will be fool enough to make the outlay, unless assured of reaping the benefit. Nay, paradoxical as it may seem at first sight, it is, nevertheless, perfectly true, that a man, who is himself no share-holder of land, is equally interested in its appropriation with the share-holder himself."[2]

Say then illustrates the necessity of pricing scarce land by contrasting the inefficiency of common lands among primitive peoples with the productivity of inclosed European agriculture.

Henry George, as we have seen,[3] noted that synergistic externalities were reflected in land rents;[4] he also formulated the proposition that the law of diminishing returns could be viewed as a result of congestion externalities. His argument was that spatial concentration at first produces external economies and later external diseconomies but the existence of rent would optimally balance these.[5] He thus agreed that rent must exist to secure economic efficiency but, unlike J.B. Say, George felt that the distributional ethic which gave rise to the commons ought to be honoured through the appropriation of such rent by the State for the common benefit;[6] in this way, he sought to combine both equity and efficiency.

Since the following discussion involves the proposition (the Coase Theorem)[7] that, in the absence of transactions costs, the establishment of property rights can eliminate externalities as a policy problem some comments about its validity need to be made. (In essence, the "Coase Theorem" sees the problem of externalities in general as the problem of the inefficiency of free-access resources.[8])

It has been said that the problem of threats vitiates the Coase Theorem because bribes might have to be paid to forestall new entrants from polluting.[9]

This need not be correct. If a limited number of pollution licences are leased annually from the State, those who wish to limit pollution do not have to bribe anyone—they simply have to compete for pollution rights and not use them. Conversely, any serious threat to pollute must be backed by ownership of a pollution licence.[10] Yet if these licences are being charged for by the State, why would a firm be paying for a resource it did not plan to use? Current State leasing of pollution licences (a form, in effect, of land value taxation) makes such threats empty.[11]

However, this objection does suggest a real problem with the Coase Theorem. If there are many potential victims of pollution, a free-rider problem could emerge.[12] Why should any one individual opposed to pollution compete to purchase a licence for non-use when that action will benefit others, but aid himself only marginally? The benefit of the use of a pollution licence enures to the user, but the benefit of non-use is not capable of exclusive appropriation by the holder of the unused licence. The simple fact seems to be that one is not always capable of securing exclusive access to the good one does[13] as George put it, "Nature laughs at a miser."[14] To sum up, the problem of externalities has a public goods aspect, which cannot be solved, like the problem of free-access resources, by the assignment of property rights.

That this is so can be seen by considering whether in fact property rights did exist with respect to environmental amenities. Contrary to what seems to be assumed, they did. As Henry George pointed out in his critique of Herbert Spencer,[15] property rights to air, light and water already existed in the form of land titles, the value of which reflects environmental externalities. Land titles at that time represented a "tied sale"[16] of space, air rights, mineral rights and water rights.

If the assignment of property rights were completely sufficient, restrictive covenants by voluntary agreement should have naturally solved the problem of environmental externalities.[17] The inefficiencies of the tied sale could be overcome by "voluntary zoning" and the like which could break up the parcel of rights implied in a land title so that aggregate values were maximized. Although it could be argued that this system of property rights is inefficient because of transactions costs,[18] such an answer still does not deal with the public goods aspect of individual or public expenditures to reduce pollution. The point is that whatever system of property rights exists[19]--and there is merit in designing such so as to minimize transactions costs--externalities remain a problem.[20]

It must be noted that the physical existence of an externality is a product of reciprocal causation.[21] This thought can be traced back to Henry George[22] and Alfred Marshall and may be summarized thus:

(1) externalities are spatial in nature

(2) spatial relationships are not of unilateral creation but are reciprocal relationships created by individuals

(3) since capital and labour are mobile and compete over space, it will be rent that reflects externalities in the "public value" of land.

In some discussions of externalities, the importance of the spatial quality of land in accounting for externalities has been ignored. Meade's well-known paper,[23] for example, ignores the existence of land altogether and has been subjected to criticism of its conclusions on essentially these grounds.[24] Now Coase's paper,[25] as Nutter observed, amounts to the observation that the assignment of liability for damages will not affect economic efficiency but rather the relative distribution of rent between landowners.[26] However, given transactions costs and the free-rider problem it may be observed that the mere existence of property rights in land will not solve the problem of externality: one landowner may increase his rent by a noxious land use, even though adjacent land values may fall by more than his gain. This is clearly suboptimal and yet may be individually quite rational. Yes, the externality will be accounted for in land rents but, no, it will not be internalized unless all the relevant land is subject to one unifying ownership.

Now the effect of land value taxation is to do this--to work against the dissipation of aggregate rent by reserving its benefit "to a unified directing power."[27] Just as a private owner of a land parcel uses the maximization of rent as the criterion for controlling congestion externalities on his parcel, so the effect of land value taxation is to encourage the State to adopt the optimal pollution and zoning policies which will maximize land values over all parcels.[28]

Land value taxation assists this goal in several ways:

(1) Obsolete restrictive covenants which are taxed in the hands of the benefiting landholder would tend to be relinquished.[29]

(2) Since an individual polluter would no longer receive the benefit of noxious activities in the form of super-normal profits capitalized into his land value, the motive to pollute would be weakened.

(3) In effect, land value taxation internalizes the externality through its assessments: if the polluter's land use raises his land value, his tax rises while, conversely, the victims are compensated by a reduction in tax liability as their land values are depressed by the pollution. If the net result is a deficit to the fisc, a more

restrictive policy on pollution is indicated.[30]

(4) In contrast to income taxation there is a neat congruence between optimal pollution rules and the State's fiscal interests under land value taxation. Land value taxation recovers those benefits of public pollution abatement expenditures which are capitalized into higher residential land values. In contrast, such capital gains are largely untaxed by income tax systems and, in addition, the fact that the tax system must allow private pollution expenditures as tax deductible would seem to create a conflict between environmental and revenue objectives.

In sum, if "land" is taken in the classical sense to embrace not only land surface but air, light, water and all other natural resources, land value taxation naturally helps to put into effect the general recommendation of economists that environmental problems be dealt with by market mechanisms.[31] The State resembles a feudal landlord obliging his tenants "to contribute in proportion to their respective interests in the estate"[32] and thereby preventing them from using it wastefully.[33]

CHAPTER 36

LAND RENTS AND THE OPTIMAL SUPPLY OF SPATIAL PUBLIC GOODS

We have seen previously that the argument that all taxes, public expenditures and externalities will be capitalized in land values can be traced from the Physiocrats, Smith, George and Marshall to the present day.[1] It was therefore natural that the argument would be put forward that since public expenditures were capitalized in land values, it would be efficient as well as equitable to tax those values. The general notion was that public monies should be spent on parks, public works, and the like so long as the cost could be defrayed by the increased revenues represented by the augmented rental values.[2]

In recent years, this argument has come under scrutiny for the purposes of cost-benefit studies.[3] The general conclusion would appear to be that the benefits of a public project are only exactly measured by changes in land values if individuals are identical, the area is small and open (i.e., capital and labour can migrate freely and the improvement does not affect their returns). This is what one would expect, but there is perhaps a point worth making in regard to a closed economy. It may appear that if, in this case the benefits of public expenditures are also reflected in higher real income as well as land values then labour and capital incomes should be taxed as well. However, unlike land values, labour and capital would, through competition, benefit uniformly and therefore a uniform tax to recover uniform benefits enjoyed by labour and capital might negate the value of the project so far as they are concerned. In other words, the fact that in a closed economy labour, for example, as well as land, can benefit from public expenditures does not of itself establish that it would be worthwhile,[4] having taxed rent,[5] to go further and tax wages. If the public expenditure consisted of private goods given to labour, it would certainly be better to leave labour untaxed instead and go without the project.

On the other hand, if a pure public good were being provided, it may be efficient[6] to tax labour income as well as rent. Some light on this question has recently come from models of the Pareto-optimal distribution of population among cities. The conclusion drawn from these models is that even if

> "labour is elastically supplied, it is still true that if there exists a finite optimal population size it entails rents equal to government expenditure . . . This is a remarkable result. Not only was Henry George correct that a tax on land is nondistortionary, but, in an equalitarian society, in which we could choose our population optimally, the tax on land raises just enough revenue to finance the (optimally chosen) level of government expenditures."[7]

This "Henry George Theorem" that where spatial concentration is due to a pure local public good and where population size is optimal, differential land rents equal expenditure on the public good, has been shown to hold more generally in all large Pareto-optimal spatial economies made up of local economies in which differential land rents

(DLR) are well defined.[8]

The basic reasoning behind the "Henry George Theorem" derives from the idea of rent as a surplus over cost: as Arnott puts it,

> "The benefit from the marginal resident is Y, the increase in production attributable to him, while the cost is the value of land, private good and transportation services consumed by him. When the government imposes a head tax of the right size, P/N, to finance the level of public good chosen, [P], the value of land, private good and transportation services consumed by each resident equals the resident's income net of tax, Y - P/N + DLR/N. Thus the benefit of a marginal resident equals the cost when P = DLR. [public goods expenditure = aggregate differential land rents] Population is too large when P < DLR and too small when P > DLR."[9]

Essentially, the models in which the Henry George Theorem has been established are models of optimal population size and the theorem takes the form: given P, the level of public goods expenditure, there exists a population size, N*, such that when N = N* then P = DLR, the public good cost equals differential land rent, and per capita utility is maximized. However, contrary to what seems to be suggested in the articles in which this theorem is formulated,[10] I do not see why the proposition cannot be formulated in the converse fashion: given a population N, the optimal level of public goods expenditure, P*, is that which equals R, the differential land rents created by population N. This proposition would seem to follow naturally from the observations that P can be arbitrarily chosen and that optimal city size, N*, is an increasing function of P. In other words, if the economy is closed and Pareto-optimality cannot be achieved by migration, perhaps it can be achieved by adjusting the level of public goods expenditure to the level of differential rents created by the given population.

A different, but closely related, line of inquiry about the relationship between land rent taxation and public services has focused on the use of such taxes to subsidize sales at marginal cost by increasing returns industries. This suggestion was made by Hotelling[11] but can be seen earlier in the following argument put forward by Chomley and Outhwaite, who briefly considered the problem of setting railway fares for a nationalized railway system:

> "the problem would yet have to be solved of how to render transport services without demanding monopoly charges. The only way in which to solve this problem is to follow the precedent of the roads. When a local body constructs a road, it does not levy a charge on carriers to meet the cost of construction. The road is made free to all, and the cost is thrown on those who get a special benefit from its construction, namely, the land-owners . . . Consequently the fare or freight charged by a carrier on a public road has not in it any element of the cost of construction of the road; it solely represents the cost of carrying the goods or passengers, and is a return for capital expenditure and labour, as fixed by open competition amongst carriers. Now the nationalising of the railways can be carried out in such

a manner as to confer enormous benefits upon the community if the principle of the public road be maintained.[12] The cost of the railroad should be met by levying upon the land value created and maintained by its construction. Then the State as carrier would only have to charge for its services at actual cost--that is to say, freights and fares would only have to cover real capital expenditure on improvements, salaries, wages and running costs."[13]

This suggestion of welfare maximization through the policy prescription of marginal cost pricing and a land tax to recover the deficits of decreasing cost industries which will be reflected in land rents has been pursued by Mason Gaffney[14] and William Vickrey in specific models: their basic conclusion is that "full efficiency thus requires that all such[15] land rents be devoted to the subsidy of these decreasing-cost industries, and the appropriation of these rents by landlords for other purposes precludes the achievement of full efficiency."[16]

Brief as it has been, this sketch of the interrelationship between public goods, decreasing-cost industries and land rents will perhaps suffice to make the point that the benefit argument for land value taxation has had a basis in arguments about economic efficiency and market failure as well as a basis of ethical judgments.

CHAPTER 37

LAND SPECULATION AND THE LINK BETWEEN PRESENT AND FUTURE

"For the importance of money essentially flows from its being a link between the present and the future[1] . . . we cannot even begin to discuss the effect of changing expectations on current activities except in monetary terms . . . So long as there exists any durable asset, it is capable of possessing monetary attributes and, therefore, of giving rise to the characteristic problems of a monetary economy."

J.M. Keynes[2]

As Keynes himself realized, land is a durable asset and could be the subject of speculative purchases.[3] It is not surprising therefore that when we analyze the comments of pre-Keynesian writers on the role of the unearned increment as a speculative prize we see hints of the following argument.

(1) Since the future is uncertain, expectations of increases in land values may cause land to be prematurely brought into use or withheld from use or under-used.[4]

(2) In any of these cases there is a current loss of productive power—capital and labour earn subnormal rewards.[5] This current loss is willingly suffered in the hope that future rents—a transfer payment—will make good the loss from the point of view of the

individual owner.[6]

(3) But future rents will represent future surpluses over future real labour and capital costs: current real costs incurred to acquire title to these rents do nothing to generate them.[7]

(4) Therefore, land speculation can be a means of making future generations subsidize the misallocation of labour and capital in the present.[8] The process is analogous[9] to the creation of a burden on future generations by the issuance of public debt for unproductive purposes.[10]

Just as Keynes saw speculation in a durable asset (money) as causing a rate of interest too high to sustain full employment, so this similar argument can be found in writers on land value taxation that speculation in another durable asset (land) could cause the unemployment or wasteful use of labour and capital. Both arguments rest on the existence of durable assets which do not naturally deteriorate and an uncertain future: we may also note that the suggestion of "stamped money" as a penalty for hoarding money[11] is analogous to land value taxation as a penalty on the suboptimal use of land.[12] In this sense, then, the argument emerges that land value taxation corrects a tendency towards market failure--a failure to rigorously optimize in the present due to hopes of cornering the future.

CHAPTER 38

THE INTERTEMPORAL NEUTRALITY OF AD VALOREM PROPERTY TAXATION WITH RESPECT TO THE CHOICE OF INVESTMENT ASSET LIFE

One of the claims sometimes put forward in opposition to land value taxation is part of a general objection to ad valorem property taxation. It is claimed that such taxation penalizes long-lived assets such as standing timber, and land ripening towards higher uses.[1]

In fact, however, it can be shown that the reverse is true, that severance taxes and income taxes on the realization basis are biased in favour of long-lived assets.[2] Tax neutrality requires that appreciation and depreciation be taxed as they accrue and this is in effect what ad valorem property taxation does—it prevents the avoidance of taxation through deferral.[3]

The conclusion is that land value taxation enjoys the advantage of intertemporal neutrality with respect to choice of rental streams.

CHAPTER 39

THE EFFECT OF LAND VALUE TAXATION ON THE DISCOVERY OF NATURAL RESOURCES

> "Mining, it seems, is considered there [in Peru] in the same light as here, as a lottery, in which the prizes do not compensate the blanks, though the greatness of some tempts many adventurers to throw away their fortunes in such unprosperous projects
>
> . . . The discovery of new mines, however, as the old ones come to be gradually exhausted, is a matter of the greatest uncertainty, and such as no human skill or industry can ensure."
>
> Adam Smith[1]

One of the most intuitively appealing arguments against land value taxation is that it would discourage exploration for minerals. This argument rests on the idea that discovery is a form of production.[2]

This idea crumbles on second examination: the analogy is misleading. The fact is that discovery, as its etymology tells us, is the uncovering of what already exists rather than its production. History tells us also that it is often an accident,[3] and that where it is not so accidental, the holders of mineral rights have been able to charge a true rent from prospectors for the mere privilege of exploring[4]--a charge naturally proportionate to the prospects of success.

The argument that minerals should be subject to the rule of "finders keepers" has, as Adam Smith tells us, a further problem: it may overmotivate exploration and misdirect it.[5] Labour and capital are not free goods and exploration can be both overdone and badly done. The proper question to ask is what is the optimal time to explore a given tract and is ad valorem land value taxation neutral with respect to this optimum?

It turns out that the optimal time "to begin prospecting lands with suspected resources is when their leasable value stops rising faster than the interest rate."[6] The reason for this is that discovery, like extraction, is an exhaustible economic opportunity and by deferring exploration till this time the surplus of social discovery value over discovery cost is maximized. Premature exploration involves the waste of interest on advance exploration outlays while later exploration involves the holding of an asset appreciating at a rate less than that which could be got by converting it to man-made capital.

Ad valorem taxation applied to mineral leaseholds will not alter this optimal timing, thanks to the operation of tax capitalization.[7] Before the optimal time, the appreciation of the after tax value of the leasehold is still greater than the rate of interest and after that time it is still less.

An important point to note is that land value taxation pre- and post-discovery forces exploration and forces it where it is most likely to be successful. Pre-discovery taxation motivates landowners to lease their mineral rights, or prospect themselves, to the end of either confirming the prospect and working it or of dispelling the illusion and being rewarded with a reduced tax assessment.[8] The knowledge that finds will be subject to post-discovery ad valorem taxation means that prospectors will not be so strongly motivated to "work in the dark" on marginal lands;[9] otherwise, if the change in value before and after drilling were to be allowed free of tax, it might be more profitable ex ante to explore poorer rather than richer prospects.[10]

The levying of land value taxation on mineral lands before and after exploration seems to be similar to a sensitive lease bonus plus royalty package, without the disadvantage, which royalties may have, of causing abandonment of marginal discoveries.[11]

CHAPTER 40

LAND VALUE TAXATION AND THE DEPLETION OF NATURAL RESOURCES

One of the earliest objections to land value taxation, oft made and still to be heard, is that a recurrent ad valorem charge on the value in situ of depletable resources would create a bias toward depletion. Miners would "mine out from under the tax" and farmers would not conserve the soil.[1] Economic land had to be permanent and indestructible, if a tax on rent was to be unshiftable.[2]

The conclusion was drawn that some Nature-given assets were really capital and should be exempt from taxation if depletion was to be avoided.[3] Even some advocates of land value taxation such as J.R. Commons and H.G. Brown accepted the view that natural, pre-existing soil fertility should be exempt from land value taxation on the same basis as artificial or improved fertility.[4] Brown did not, however, accept the argument that exemption from land value taxation should be extended to mines because he argued that while the purpose of exemption was to encourage maintenance of soil fertility, in the case of a mine, exemption would serve no purpose since the ore would never be replaced in any case.[5]

With regard to soil conservation, proponents of land value taxation advanced several rebuttals:[6]

First, soil depletion had occurred historically under unencumbered private ownership: to that extent soil depletion was hardly a problem unique to land value taxation.

Second, when land is abundant, it may be economical to exhaust soil fertility rather than conserve it.

Third, agricultural tenancy is an important cause of soil depletion since the tenant on a short lease has no interest in preserving his landlord's asset--the soil. Under land value taxation, lowered land prices would promote owner-occupation[7] and this would remove the incentive to depletion given by absentee farm ownership.

Fourth, under land value taxation improvements both on and in the soil would be exempt from taxation, hence one would expect more capital to be expended in agriculture. Would a farmer then be so foolish as to utterly exhaust his soil so that all his fixed capital was rendered worthless?

Fifth, since land value assessments would be based on highest and best use, a farmer who did not fertilize his soil, when it was necessary to do so, would still be taxed on that achievable fertility so that the tax would create a pressure towards spending (untaxed) capital to maintain fertility.

Some of these rebuttals are obviously valid considerations but the fact is that the critics did have a valid point--ad valorem taxation of an exhaustible resource operates like an increase in the interest rate to bias extraction towards the present and away from the social optimum at which the present value of the resource is maximized.[8]

This argument can be seen from a simple example. Suppose we own a ton of ore in the ground of value, V, equal to \$100.[9] We will be on the margin of indifference between leaving it in the ground and extracting it, if, given the rate of interest, i, is 10%, the ore will appreciate at 10% per annum. In other words, we choose a time pattern of extraction which maximizes the present value of the resource.

Now suppose a recurrent ad valorem tax, t, of 5% is levied on the value of the ore in situ. If we leave it in the ground forever as before, tax capitalization theory tells us that V', the value after land value taxation is imposed, will be given by

$$V' = \frac{i}{i+t} V$$

$$= \frac{10}{10+5} \times 100$$

$$= \$66\ 2/3$$

So V' (the value in the ground after land value taxation is imposed) is less than V^e (the sale proceeds of the ore if extracted) which remains $100 as before. Hence the imposition of ad valorem taxation does bias towards prematurely suboptimal extraction. Or, to look at it another way, the option of extraction prevents tax capitalization from becoming effective.

Obviously, no State will be happy with a tax which may tend to diminish the value of its revenues, but there are ways in which a property tax can be levied on minerals without this effect. One possibility is to levy a lump sum tax on the initial market value of newly developed mines: such a tax would represent a once for all commutation of future recurrent ad valorem levies and could be paid off as a variable annuity over the life of the mine.[10] It is as though the State fixed a liability of $33 1/3 in our example above and let the taxpayer pay it off on some installment plan. There is, however, the problem with this approach that, in the case of long lived mines, the State would lose out on the benefit of any revaluations of the mine during its life[11] and if prices fell the mine might be abandoned with taxes unpaid.

A more promising suggestion is to adopt the commutation principle at the margin; that is, to levy a depletion charge as well as the recurrent ad valorem tax. The depletion charge can be set so as to perfectly offset the bias towards depletion.[12]

Depletion represents the change in value of a natural resource due to use;[13] it is an endogenous depreciation cost[14] determined by the time path chosen for realizing the rent surplus of an exhaustible natural resource;[15] it "constitutes sale of the substance of the resource, and the corresponding payment is not income but a transfer, the liquidation or amortization of a fund, comparable to sale of title to part of the land itself."[16]

To see how a tax, T, on depletion can be chosen to restore neutrality, we observe that T must be so chosen that

$$V' = V^{e'}$$

that is, so that the value in situ after the land value tax has been capitalized is equal to the value to be realized by extraction, after allowing for the depletion tax.

Now from $V' = V^{e'}$ it follows that

$$V' = V - TV'$$

hence

$$\frac{i}{i+t} V = V - \frac{TiV}{i+t}$$

$$i = i + t - Ti$$

$$iT = t \text{ for neutrality}$$ [17]

Returning to our previous example, we had $i = 10\%$, $t = 5\%$ and $V' = \$66\ 2/3$. If $T = t/i = 50\%$, then the after tax proceeds from extraction are

$$V^{e'} = \$100 = 50\% \times \$66\ 2/3 = \$66\ 2/3$$

It can be seen that no other price is consistent with equilibrium.

Another way of looking at the matter is to think of it as a question of preserving the sovereign's equity, U, in the resource where

$$U = \frac{t}{i+t} V = V - V'$$

The state earns interest, i, on the value of its property, U, when the ad valorem tax, t, is capitalized. When depletion occurs, this value, U, is lost to the state so a depletion charge, T, must be levied in commutation.

i.e., $TV' = U$

$$T = \frac{t}{i+t}\frac{V}{V'} = \frac{t}{i+t}\frac{i+t}{i} = \frac{t}{i}$$

$iT = t$ as before.

This way of looking at it brings out the point that the depletion charge is a capital account payment to the state to compensate for a wasting asset whereas the proceeds from the ad valorem property tax are current account income which can be spent without damaging future revenues.[18]

Upon reflection, it will be seen that the depletion charge is an analogue of assessment in highest and best use for urban sites. We saw how reassessment in highest and best use operated as a penalty to deter landholders from prematurely developing land;[19] just as improvements are deducted from market value to get taxable unimproved value, so damage to the land should be added back to get the taxable value. In the case of urban land this is done by assessment on highest and best use which refuses to reduce the assessment on account of under-use of land; in the case of an exhaustible resource the depletion charge is a commutation of what would have had to be paid if the damage had been added back. The depletion charge is really nothing more than a landlord's penalty against a tenant for damage to the value of property not returned in its original state.

The basic motivational cause of tax neutrality is non-contingency. Land value taxation is neutral not because it is a fixed tax (it isn't); it is neutral because assessment aims at valuing the resource without regard to what the individual landholder does, for good or for ill: if he puts up a fine building, his assessment is not to be raised on that account nor likewise reduced should he turn prime building land into a parking lot. The principle is that land values should be reassessed on exogenous criteria, not for endogenous causes:

since depletion is an endogenous landowner decision the mine assessment should only be lowered after a depletion charge has been levied in lieu of an unaltered assessment. Properly interpreted, therefore, land value taxation is neutral with respect to the optimal use over time of natural resources.

Finally, it should be mentioned that, as a practical matter, since large investments in fixed capital are required to extract depletable resources, tax capitalization may be largely effective and depletion of small account. This is because if extraction is constrained by capital requirements to take place seriatim, the loss of value is the present discounted value of the last units of ore in the series.[20] Further, in the case of soil depletion, the fact that capital spending on fertility would be exempt as improvements might well compensate in any case for depletion of initial fertility.

CHAPTER 41

THE TAXATION OF RENTAL VERSUS CAPITALIZED LAND VALUES

One argument sometimes put forward against land value taxation is that it is not the same as a tax upon rent. It is argued that ad valorem land taxation amounts "to an attempt to enjoy two taxes where only one can possibly be equitable" and that the "taxation of a present worth in the absence of a present income, or any taxation disproportionate to present income, is an affront to the fundamental principle of taxation," that "current revenue is the only proper object of current taxation."[1] The implication of this argument is that ad valorem taxation could drive out of use appreciating land with a low current rental income.[2]

We have already discussed variants of this argument in regard to land speculation and the depletion of resources and we have indicated elsewhere the basis of a short. general answer,[3] viz.

(1) land which has a low rental value in relation to capitalized value must be appreciating so that rent plus capital gains equals the rate of interest applied to initial capitalized value

(2) capital gains are income

(3) therefore, ad valorem taxation <u>is</u> proportioned to current income.[4]

This answer will, of course, be accepted by advocates of the Haig-Simons approach to income definition, but there are some who may object that capital gains are not income. Whatever the validity of this objection in regard to income taxation, it seems no objection against ad valorem land taxation.

If we regard a capital gain in the case of land as a change in its value then it is apparent that there are three possible causes for such a change:[5]

(1) Accruals: as time passes, future higher rents may approach closer to the present. Irving Fisher denied that such accruals constitute income;[6] it would seem, however, more sensible to note that one can tax the income stream either on an accrual basis or on a receipts basis without double taxation. An income tax which taxes these "capital gains" and the receipts themselves <u>is</u> guilty of double taxation, but ad valorem land taxation is not guilty. Contrary to what H.J. Davenport wrote, the ad valorem tax is simply income taxation on an accrual basis.[7]

(2) Unanticipated changes in the expected rents: these are true capital gains and if it were known that the rents would be taxed as received then such capital gains are already implicitly taxed. However, since the ad valorem land tax does not tax the income receipts as such, the inclusion of such gains in the tax base does not amount to double taxation but, as before, simply represents the taxation of land income on an accrual basis.

(3) Changes in the rate of interest: capital gains from this cause have been a contentious issue in the Haig-Simons definition of income[8] and it may be admitted that in the case of land value taxation it is true that a fall in the rate of interest results in a

higher proportion of rental income being taken as tax. This follows from the static formula for tax capitalization.[9] To a pure single-taxer, rather than being a problem of land value taxation, this would be cause for rejoicing; for others, the simple solution would be to adjust the tax rate.[10] It may be noted that, in any case, the higher the tax rate on land, the less important this effect would be, since the percentage of rent taken in tax is given by $t/i+t$, where t is the tax rate and i is the rate of interest.

If, however, one were to tax land on a rental basis, this must be done on the basis of <u>potential</u> rent, not actual rent, if the tax is to be neutral.[11] Since, in practice, such potential rent will be ascertained by applying a rate of interest to market value,[12] taxation of land on a rental basis would appear to be of no advantage. Further, if instead of taking a uniform rate of interest in this valuation process different rates were used for different types of property, the result would be to exempt from taxation accruals of future income. Indeed, it is hard to see how such a valuation system would not degenerate into the taxation of actual, rather than potential, rents. In conclusion, therefore, the taxation of capitalized values would appear to be easier in practice than the taxation of rental values.[13]

CHAPTER 42

LAND AND ITS TAXATION IN RELATION TO CAPITAL FORMATION

"We say we want capital, but if any one accumulate it . . . we charge him for it as though we were giving him a privilege."

Henry George[1]

The effect of land value taxation on capital formation may be dealt with under two heads, both ultimately traceable to Ricardo--(1) its effects upon the ability and incentive to accumulate and (2) its effects upon portfolios.

The Ability and Incentive to Accumulate

Ricardo, who did so much to elucidate the proposition that a tax upon rent cannot be shifted, in fact opposed the special taxation of land rent.[2] Three of his arguments bear on capital formation:

(1) All taxes impede capital formation;[3] "every new tax becomes a new charge on production"[4] and we ought follow "the golden maxim of M. Say, 'that the very best of all plans of finance is to spend little, and the best of all taxes is that which is the least in amount'."[5]

(2) Equity in taxation consists of making each taxpayer contribute his "fair proportion of the expenses of the country"

"according to his means";[6] to subject land rent to unequal taxation "would be an infringement of that principle which should ever be held sacred, the security of property."[7] Without secure property rights and a respect for legitimate expectations of continued enjoyment of legally acquired property, capital accumulation could not be expected to continue. This is a utilitarian argument for equal treatment of all established property rights, not a natural law argument,[8] and is reflected in James Mill's desire to tax only the unearned, unforeseeable, increment[9] and Alfred Marshall's concern that "a sudden appropriation by the State of any incomes from property, the private ownership of which had once been recognized by it, would destroy security" and "would be unbusiness-like and even foolish."[10]

(3) In practice, it may be difficult to assess land rent for taxation separately from quasi-rent on capital invested by the landlord, in which case, agricultural improvements would be discouraged.[11]

The answers to these arguments are not far to seek; as for the first, that all taxes impede capital formation, Ricardo himself seems to have provided a counter-argument in that he seems to assume the propensity to save out of profits is higher than out of rents,[12] in which case we should least injure accumulation by taxing rents rather than profits.

In any case, as H.G. Brown pointed out,[13] all taxes have income effects and in that sense they all do diminish accumulation indifferently. (However, even this might not be so when we consider that the funds raised by the State might be well used in protecting property rights and other necessary preconditions for a market system.[14]) The really significant fact, though, is that land value taxation does not drive a wedge between pre- and post-tax returns to savers; per se, unlike other taxes, it is neutral with respect to relative prices, including interest rates.[15]

As for the second argument, on the necessity to respect established property rights, this is a question of investor psychology rather than equity. Strictly interpreted it would have forbidden repeal of the Corn Laws, the abolition of chattel slavery, the abolition of depletion allowances in the U.S. income tax or, for that matter, any policy change ever injurious to an established expectation.

A more philosophical objection to Ricardo's argument can be based on the utilitarian justification for private property itself—that it is expedient to allow the producer the rewards of his labours in order to encourage those labours. As John Stuart Mill remarked:

> "When the 'sacredness of property' is talked of, it should always be remembered, that any such sacredness does not belong in the same degree to landed property. No man made the land. It is the original inheritance of the whole species. Its appropriation is wholly a question of general expediency. When private property in land is not expedient, it is unjust. It is no hardship to any one, to be excluded from what others have produced: they were not bound to produce it for his use, and he loses nothing by not sharing in what otherwise would not have existed at all. But it is some hardship to be born into the world and to find all nature's gifts previously engrossed . . ."[16]

Henry George pressed the argument against the expediency of untaxed property in land further:

"It is not the magic of property, as Arthur Young said, that has turned Flemish sands into fruitful fields. It is the magic of security to labour . . . The complete recognition of common rights to land need in no way interfere with the complete recognition of individual rights to improvements . . .

So far from the recognition of private property in land being necessary to the proper use of land the contrary is the case. Treating land as private property stands in the way of its proper use. Were land treated as public property it would be used and improved as soon as there was need for its use or improvement, but being treated as private property, the individual owner is permitted to prevent others from using or improving what he cannot or will not use or improve himself."[17]

George argued that the taxation of land values in order to untax capital and labour would in fact strengthen the security of legitimate property rights:

"This, and this alone, I contend for--that he who makes should have; that he who saves should enjoy . . . Instead of weakening and confusing the idea of property, I would surround it with stronger sanctions. Instead of lessening the incentive to the production of wealth, I would make it more powerful by making the reward more certain."[18]

Thus even from a utilitarian viewpoint all property rights could hardly be deemed equally "sacred" and George was surely right in pointing out that even the "equal" taxation of capital was incompatible with security of property rights in capital itself.

Ricardo's argument against rent taxation from the sanctity of property is therefore hardly convincing: interpreted as a dogma it would veto any social change prejudicial to vested interests; interpreted as political advice it simply amounts to a plea for gradual change and most, including George,[19] would agree with that. Ultimately, as a utilitarian argument, it must give way to other utilitarian arguments for change based on the merits of the change itself.

I do not think it would be fair to Ricardo to leave this point without venturing some speculation on the reasons for his espousal of this obviously weak argument. I suspect that, like J.R. McCulloch (who opposed progressive taxation for much the same reasons),[20] Ricardo had a horror of class legislation. I suspect he feared the legislative effects of the malice and envy inherent in most human beings and in this he was more of a Burkean conservative than a utilitarian radical.

It is unfortunate that Ricardo and McCulloch's distrust of democratic government has all too often been justified but it is pertinent to point out that, in asserting that government should not seek to alter the relative distribution of wealth, they implicitly assumed that the status quo ante was a just one. Henry George shared their concerns about the injustices of class legislation but argued for land value taxation precisely on the grounds that the existing distribution of wealth was unjust because it denied equality of opportunity:

"We propose to respect to the full the rights of property. We propose to assure to each man his own, be it much or little . . . We care not how rich any man may become, so long as he does not appropriate what belongs to others. We ask no class legislation, no favours or doles for any set of men. We would do away with all special privileges, abolish all monopolies, and put all men on the same level with regard to natural opportunities and before the law."[21]

In sum, the argument that land value taxation would discourage capital formation by destroying the "security of property" simply amounts to an acceptance, as just, of the ownership of all factor endowments and, at the same time, an unwillingness to defend the "sanctity" of capital or labour against taxation—so long as the State seeks to impoverish all equally.

As for the third objection, that difficulties of assessment and the resulting taxation of quasi-rents would deter agricultural capital formation, Ricardo himself may not have strongly believed it.[22] The answer in any case is obvious:

"For admitting that it is impossible invariably to separate the value of land from the value of improvements, is this necessity of continuing to tax <u>some</u> improvements any reason why we should continue to tax <u>all</u>[23] improvements? If it discourage production to tax values which labour and capital have intimately combined with that of land, how much greater discouragement is involved in taxing not only these, but all the clearly distinguishable values which labour and capital create?"[24]

George then rebuts the hypothesis that the value of land cannot be separated from the value of improvements:

"In the oldest country in the world no difficulty whatever can attend the separation, if all that be attempted is to separate the value of the clearly distinguishable improvements, made within a moderate period, from the value of the land, should they be destroyed. This, manifestly, is all that justice or policy requires. Absolute accuracy is impossible in any system, and to attempt to separate all that the human race has done from what nature originally provided would be as absurd as impracticable. A swamp drained or a hill terraced by the Romans constitutes now as much a part of the natural advantages of the British Isles as though the work had been done by earthquake or glacier. The fact that after a certain lapse of time the value of such permanent improvements would be considered as having lapsed into that of the land, and would be taxed accordingly, could have no deterrent effect on such improvements, for such works are frequently undertaken upon leases for years."[25]

The arguments that land value taxation would peculiarly impede capital formation do not really pass scrutiny. Indeed, the reverse may be closer to the truth; that not only does land value taxation leave unimpaired the rewards of saving and accumulation, but would stimulate it by reducing the availability of land as a substitute for capital in portfolios.

Land Value Taxation, Portfolios and Capital Formation

Land, public debts, social security plans, capitalized monopoly privileges and money all share two characteristics—as far as the individual is concerned they represent "wealth" as much as does real capital and, as links between the present and the future, they have intergenerational repercussions. The argument that private landownership can be a substitute for real capital formation is therefore closely linked with arguments about the role of money in growth models and arguments about the effect of public debts and "fiscal illusion" on capital formation.

The question of whether public debt is perceived by households as net wealth has attracted renewed interest in recent years. R.J. Barro has argued that public debt will have no effect on capital formation because the current generation will increase its planned capital bequests to the succeeding generation to compensate for taxes on them necessary to pay interest on the debt.[26]

Ricardo, however, considered this argument and rejected it, contending that taxpayers would have imperfect foresight and think themselves richer than they in point of fact were.[27] Another reason for doubting Barro's argument would be that bequests may be unplanned and simply due to the fact that people cannot wisely consume their capital when they do not know when they will die.

Henry George perhaps gave the best reason why public debts would be perceived as net wealth by their owners—their posterity may well not have to pay any taxes to service the interest.[28] Just as the landholders of England had thrown off the feudal dues onto the excise, so the taxes to service the debt might be indirect taxes largely paid by a class other than the holders of the debt:

> "Public debts are not a device for borrowing from the future . . . That is, of course, a physical impossibility. They are merely a device for obtaining control of wealth in the present by promising that a certain distribution of wealth in the future shall be made—a device by which the owners of existing wealth are induced to give it up under promise, not merely that other people shall be taxed to pay them, but that other people's children shall be taxed for the benefit of their children or the children of their assigns."[29]

There does therefore seem to be every reason to accept the "Ricardian Nonequivalence Theorem" that debt finance is not equivalent to tax finance and that, as a corollary, "fiscal illusion" could lead to reduced capital formation.

Now a similar line of argument was pursued by Henry George in his critique of J.S. Mill's contention that the laws of distribution were human laws independent of the laws of production. George had contrasted the idea of "value from obligation" with "value from production" (roughly "transfer incomes" as opposed to "value added"). He then suggested that insofar as human law allowed property rights to transfer incomes which were not consequent on increased production, then the existence of these property rights could check production and/or capital formation. Although either source of value was equally acceptable to the individual, there was a fallacy of composition in thinking that increases in the value of such property rights (e.g., slaves, land, public debts, etc.) represented increased capital formation by society as a whole.[30]

It is not surprising therefore that both Carver and Davenport argued that one of the effects of land value taxation would be to reduce the amount of savings and investment talent devoted to seeking capital gains in land and increase real capital formation instead.[31]

Not much attention was, however, paid by economists to this argument and it is from Keynes that it has re-emerged. Keynes remarked "That the world after several millenia of steady individual saving, is so poor as it is in accumulated capital assets, is to be explained, in my opinion, neither by the improvident propensities of mankind, nor even by the destruction of war, but by the high liquidity premiums formerly attaching to land and now attaching to money."[32] These "high liquidity premiums" are due to the fact that land may appreciate as well as render a current yield and one does not have to accept Keynes' monetary theory of interest to agree that capital gains in land can satisfy savings desires.[33]

A more formal analysis of the role land price appreciation may play in discouraging capital formation was given by D.A. Nichols,[34] in a growth model similar to those with outside money or public debt. The result is similar in that the existence of land lowers capital formation. The basic mechanism is that increased capital formation raises the rent of land and lowers the rate of return on capital. But these two effects result in an increased value of land which, since it satisfies savings motives, reduces the desire to accumulate further capital.

The policy conclusion is obvious:

". . . attempts to increase rates of capital accumulation in countries with large quantities of rents are more likely to be successful if rents are taxed than otherwise. Taxing rents should lower the price of land and therefore the amount of capital gains on land which result from economic growth. To satisfy the same savings motives as before the tax was imposed will require an increase in the rate of capital accumulation."[35]

M.S. Feldstein[36] has observed a further corollary of the taxation of land rent in relation to capital formation. Since the tax forces individuals to satisfy their life-cycle savings desires by replacing land values with capital in their portfolios, the marginal productivity of land will be raised and at the same time the rate of interest at which net rents are capitalized will fall. The corollary is that the market (net of tax) value of land will not drop by the full amount indicated by tax capitalization formulae and may, in rare cases, rise.[37] Feldstein further notes that the tax is still without excess burden since the

"effect of the tax is simply to change initial endowments. The alteration in the capital stock is a response to this different endowment and does not involve any distortion in capital supply per se. There is no wedge between the marginal product of capital and the return to savers."[38]

The general conclusion about land value taxation and capital formation would appear to be that, if there is imperfect foresight and there is no uniform bequest motive among members of society towards their heirs, then the introduction of land value taxation will per se, regardless of differential incidence, result in increased capital formation.

This is an interesting result but one which is intuitively comprehensible when the relative price increases of land as opposed to the stock exchange indices for shares or bonds are studied for most Western countries since the Second World War. Paradoxically, Keynesian economic policies with their emphasis on low interest rates seem to have entrenched the rentier in the land market even as his fellow in the bond market has been subjected to inflationary euthanasia.