

Excerpt from "Gains from Untaxing Work, Trade and Capital by Uptaxing Land"

To keep the model short and simple and basic, this excerpt omits the treatment of durable capital, which you may find in the complete paper

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INTRODUCTION

The dismal science is dismal because it forces people to face harsh choices. Some of these are real enough, but some are trumped up to placate people with legitimate grievances. One of the second kind is that we have to give up common rights to enjoy the benefits of secure land tenure, and the prosperity and progress generated by incentives in a free market.

To keep land common while shifting to a market economy, you simply use the tax system. Taxation is the form that common property takes in a monetary, market-oriented economy. To tax is to socialize. It's then just a simple question of what you will socialize through taxation, and how; but in the answers lie success or failure.

Not only can you have both common land and free markets, you can't have one without the other. They go together, like love and marriage. You need market prices to help identify land's taxable surplus, which is the net product of land after deducting the human costs of using

it. At the same time, you must support government from land revenues to have a truly free market, because otherwise you will raise taxes from production, trade, and capital formation, interfering with free markets. If we act on this second point we will have a much freer market than today, and than any of the OECD nations that now presume to instruct the world, and that are campaigning vigorously to make all nations "harmonize" their taxes to conform with their own abysmal systems.

The very people who gave us the term laissez-faire - the slogan at the core of a free market economy - made socializing land rents a central part of their program. These were the French économistes of the 18th Century, sometimes called "Physiocrats," who were the tutors of Adam Smith, and who inspired land reforms throughout Europe. The best-known of them were François Quesnay and A.R. Jacques Turgot, who championed land taxation. They accurately called it the "co-proprietorship of land by the state."

Since their time we have learned to measure land values, and we have broadened the meaning of "land" to comprise all natural resources. Farmland ranks well down the list in terms of total market value. Thus, a land tax is not primarily a tax on farms, although the best soils in the best locations do yield much taxable surplus.

The most valuable land is city land. I have data showing that well over half the value of city real estate is the pure land value. In enclaves of great wealth, like Beverly Hills or Atherton, it is much more than half. The land fraction is also very high in "outdoorsey" exurban areas devoted to riding, shooting, beaching, golfing, carousing, fishing, skiing, boating, privacy, etc., that have engulfed a surprisingly large fraction of what used to be farmland and forestland. In big, key cities, prices per unit of land go astonishingly high, dwarfing most other values by comparison. For example, at the height of the Tokyo boom, in 1990, land prices in that great city rose so high that the appraised value of the land under the Imperial Palace alone was as great as all the land in California. At the same time, within California, most of the land value was in our cities, even though California is the premier farm state in the U.S.A. Urban and exurban land of such immense value makes a rich tax base.

In addition, of course, if we untax work, trade and capital we thereby add a great deal to the value of land on which one may now work, trade and build free of the former taxes, and free of their excess burdens: a double gain to land rents. The net advantages of doing so are the theme of this paper.

METHOD AND PREMISES

The method here is to infer the biasing effects of taxes from their differential effects on rents of rival uses for land. A local tax jurisdiction is an open economy. The simplifying premises here are that arbitrage equalizes all **after**-tax rates of return on new investing, at levels determined in world capital markets. Labor is free to come and go. Product prices are set in world markets. Given those premises, all taxes are shifted to land, the only factor fixed in an otherwise open economy. Of all simple premises, these are the most realistic, because tax jurisdictions are defined as fixed areas of land.

Using the simple premises lets us devise a simple test for tax neutrality.¹ Taxable surplus is what you can tax without driving land into the wrong use. It is not enough that the land supply is fixed: a tax must not force underuse or other misuse of the fixed supply. A neutral tax is one that does not change the ranking of land uses in the eyes of the landowner. Treat net rent of land as a residual. Calculate the ratio of after-tax rent to before-tax rent. If the ratio is simply $(1-t)$ (where t is a tax rate), the tax is neutral - the highest and best use of land after tax is the same as that before tax. The ratio $(1-t)$ is independent of any parameter the landowner controls. The tax base on marginal land must be zero, lest the land be sterilized.

The simplicity of the technique allows for complexity in the applications, without losing any threads in tangles of detail. We may incorporate time and capital theory in the model simply by shifting from "rent" to the Discounted Cash Flow (DCF) of land in perpetuity (DCFP). The writer has done this elsewhere, but the present exposition is limited to giving a fragment of this work at the end.

In a free market, the function of rent is to sort and arrange land uses: landowners allocate land to those uses yielding the most net product, or rent. This is socially advantageous: the net product is the excess of revenue over all human costs, so land yielding the highest rent is adding its utmost to the national product.

When you base your tax on the net product (or rent), the ranking of rival land uses remains the same after-tax as it was before-tax. That is, if use "A" yields 20% more rent than use "B", and a tax takes 50% of the rent, then use A still yields the owner 20% more after-tax than use B, and the owner still prefers use A. We will see below that when you tax something other than rent (say the Gross Revenue, G), you will drive the land into less intensive uses, or out of use altogether.

A related advantage of taxing rent is that you can often levy the tax on the land's potential to yield rent, regardless of what use the owner actually chooses. This is, indeed, a standard way of taxing rent in most capitalist nations. It is possible because buyers and sellers trade land based on their estimates of its maximum rent-yielding capability. The tax valuer observes and records these value data, and uses them to place a value on all comparable lands.

Many books and manuals and professional journals have been published on the techniques used: it is a well established art, with its own professional associations, of which our speaker Mr. Gwartney is a leading member.

Such a tax is limited to the maximum possible rent, and so will not exceed a landowner's ability to pay - provided he uses the land in the most economical manner (which is not the most intensive manner, as some wrongly presume). It will surely not interfere with his using the land in the best way, but will discourage using it any other way.

THE CORE OF THE THESIS IN A SIMPLE MODEL AND NUMERICAL EXAMPLE

We can raise output and jobs and investment opportunities and tax revenues above their present levels, by removing tax bias. This is the heart of the thesis. When you base a tax on taxable surplus, and keep the tax proportional to taxable surplus, you levy taxes without twisting and inverting the landowner's or land manager's ranking of land uses, as noted earlier. On the other hand, if you tax on some other basis (Gross Revenue, for example), you bias the owner against uses more heavily taxed. To repeat, we assume here that the seller is a "price-taker," meaning he sells on a world market and cannot raise the price, or otherwise shift the tax, so has no choice but to bear the tax.

Bear in mind that Net Revenue is the Taxable Surplus: you cannot tax more than that without aborting the land use. The ratio of Costs (C) to Gross Revenue (G) varies over a wide range, from zero up nearly to one (and even above one for subeconomic uses which, however, you do not want). Let's compare two rival uses, A and B, for the same piece of land. Use "A" yields more Net Revenue (N), but has a higher ratio of C/G. We levy a tax of 10% on Gross Revenue (G). To simplify, Expenses and Capital Costs are consolidated as "C", so $N = G - C$. Table 1 shows the effects of the tax on Net Revenue after Tax (NAT).

Table 1: Effect on Net Revenues of a 10% Tax on Gross Revenues

<u>Land Use</u>	<u>G</u>	<u>C</u>	<u>N</u>	<u>G/N</u>	<u>Tax</u>	<u>NAT</u>	<u>Tax/N</u>
	(\$k)	(\$k)	(\$k)		(\$k)	(\$k)	(%)
A	100	90	10	10	10	0	100
B	20	15	5	4	2	3	40

The higher use, A, produces more goods, makes more jobs, and yields more Net Product: it is clearly the higher use. The tax on G, however, turns A into a lower use than B, in

the eyes of the landowner or manager. A 10% tax on G is a 100% tax on the N from use A, wiping out the entire incentive to put land to use A. It is a 40% tax on the N from use B, leaving 60% of the Net Product for the landowner. The landowner would choose use A in the absence of taxes, or with a tax on N; but the tax on G forces him to choose use B, which is socially inferior. This, in a nutshell, expresses the damage done by imposing taxes on bases other than N, the Net Revenue of land. The tax lowers output, employment, and investment opportunities for capital, all three. Fourth, it lowers tax revenues well below their maximum possible level of \$10k, the Net Revenue from use A.

More generally, a tax on G is a tax on N at a rate equal to G/N times the tax rate on G. Algebraically:

$$\text{NAT} = N - tG = N(1 - tG/N) \quad (1)$$

The ratio G/N is a multiplier on the impact of the tax rate, t .

For every parcel of land there are usually many alternative uses, and even more alternative intensities of any given use, a whole spectrum of choices. Up and down the spectrum, a tax on G systematically aborts the "higher" (more intensive) uses in favor of lower uses. The effect is like a "scorched-earth" policy, but not one we inflict on the invading enemy in wartime: we inflict it on ourselves in peacetime by adopting a suppressive tax policy. [A cap on the price of G has the same effects as a tax based on G.]

If we tax C instead of G, we can illustrate the effects by another Table like Table 1, but this is now a simple exercise that I leave to the reader. Here the bias is in the same direction but a good deal worse, because the tax on N will be the tax on C multiplied times C/N . To visualize this effect most simply, premise a third land use, "D", that yields some G without using any C at all - a parking lot is a near-example. Use D would now be tax free, while uses A and B would still pay a good deal, and be displaced by use D. Parking would be ample, but there would be nothing there to park for.

There are many more possible tax types we might consider, taxes imposed on parts of C, but not all. A payroll tax is an example. This tax would discourage the use of labor on land, but not the use of capital, and so would have two biases: less labor use, with the same capital use, or even more capital use as capital substitutes for labor. We do not here pursue all such possibilities of tax policy, for they are too numerous. The major point is that taxes on any base other than N, the Net Product of land, bias the market against the best and fullest use of land.

The reasoning I have applied to taxes based on "N" is often applied to taxes on personal or corporate income, where costs are deductible. It does not fit those cases, however. Personal income includes value-added by personal labor, whose supply is assumed to be elastic - the "brain drain" effect. Perhaps it is not as elastic as we have assumed, a premise worth discussing. However, personal and corporate income also include value-added by capital, whose supply is highly elastic everywhere except in Harberger models. (I am at a loss to explain why these models are seriously discussed in the profession.)

MAXIMIZING PUBLIC REVENUE BY NARROWING THE TAX BASE

When you focus taxes on the Net Product, N, you can raise the tax rate very high with no ill effects on land use. By contrast, you cannot raise taxes on G very high without provoking catastrophe. A high rate will drive all land out of its best use, and some land completely out of use, a ruinous outcome. To avoid the ruin you must lower the tax rate, but that means you cannot collect in taxes all of the rent from land uses like B, or much of any from uses like D. Thus, with taxes on G, you first abort some of the taxable surplus, and still fail to collect all that remains. In Table 1, the tax collected is only \$2k, or 40% of the Taxable Surplus (N) from use B, and only 20% of the potentially taxable surplus of \$10k from use A. With taxes on N, you can collect the entire taxable surplus from use A, \$10k, while aborting none of it.

With taxes on G, as opposed to N, there is the danger of a fatal Laffer-curve effect. For example, in shifting from a property tax to a sales tax, and maintaining revenue neutrality, it may be necessary to hike the sales tax rate again, and again, and again, as its suppressive effects kick in and abort the tax base. This may help explain why the California State sales tax, for example, has risen from its original 2% (1933) to 4.5% in 1977 to virtually 8% now (counting city and county add-ons), without apparently abating the State's fiscal poverty, while neighboring Oregon lives nicely with no sales tax at all. So do NH, AK, MT and DE, the other states free of sales taxes, and the Province of Alberta).

That conclusion understates the matter a good deal, because the neo-classical type model omits reference to income effects, liquidity or cashflow effects, and wealth effects. A land tax is not simply neutral, it puts positive pressure on holdout and laggard landowners by "dessicating" their liquidity and lowering their wealth and net incomes if they do not put their land to its highest use. At the same time it tends to raise the creditworthiness of potential builders, and other land users, by raising their incomes-after-tax. A full consideration of these matters is beyond the scope of the present simple model, except to say they are probably as important, if not more important, than what is encompassed in the simple "neoclassical" approach taken here.

Some critics of the land tax policy allege that the land tax base is "too narrow," and cannot support the government. They seem to have it backwards. Table 1, and the reasoning behind it, tell us we can collect more by taxing land, and exempting G and C, than in any other way. A real-world example that approximates the model might be the enclave of Hong Kong, at least before 1997, where taxes on G and C were very light, and the public coffers overflowed with land revenues.

An important question for economists modeling the excess burden of non-land taxes (like G) is why the present model suggests such a much more severe excess burden than traditional Chicago-style or "wedge effect" models. Those "wedge-effect" models deal only with single uses of land, and do not allow for shifting to higher uses.

1. Some analysts prefer to treat rates of return after tax (RORAT) as the residual, and the criterion of neutrality. Others object to that approach, with an almost doctrinaire fervor. We do not enter that thicket here. For those preferring the RORAT approach, the writer has run such a test elsewhere (Gaffney, 1967). The results were broadly consistent with those presented here.