Raising Output by Removing Tax Bias

Mason Gaffney, Working Paper

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. The owner's preferred use after tax remains the same as it would be without any tax. 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 keep the example simple, and generally realistic, we assume here that the seller is a "price-taker," meaning he sells on a world market and cannot raise the price, and 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

Land Use	G ($k)	C ($k)	N ($k)	G/N	Tax ($k)	NAT ($k)	Tax/N (%)
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:

$$NAT = N - tG = N(1 - tG/N) \qquad (1)$$

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 foolish tax policy.

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 bad 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.

Note, finally, that a cap on the price of G, such as discussed above, has the same effects as a tax based on G.

Maximizing public revenue.

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 because a high rate will drive some land completely out of use, and all land out of its best use, a catastrophic outcome. To avoid the catastrophe 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; while the potentially taxable surplus is $10k, from use A. With taxes on N, you can collect the entire taxable surplus from use A, $10k, while aborting none of it.

Critics of the land tax policy would have us believe that the land tax base is "too small," and cannot support the government. How wrong and misleading they are! The truth is the opposite. 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.