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13-d. "Tax capitalization" does not erode its base

The tax on land value does not erode away its base. With a property tax on land value there is no taxable event to avoid, as mentioned, hence no Laffer Effect. In addition, even with a tax on land income, the land does not move away or diminish.

Some economists have mistaken "tax capitalization" for erosion of the tax base. To make this point they leap in fancy to an extreme tax rate so high, and public services so low, there is no land value remaining. This is assuming the tax money is all wasted (as by invading a foreign nation and losing), so the taxes are what Marshall called "onerous" and not "beneficial".

Even under that extreme assumption, however, a higher tax rate on land value never causes lower tax revenues. Few have carried this beyond cocktail party chatter, but such banter often betrays underlying doubts that have simply not congealed enough to be published. Murray Rothbard is one who has published the view that the tax destroys its own base. "... the single tax would yield no revenue at all. For if rents are zero, a 100 percent tax on rents will also yield nothing."<sup>1</sup> This is simply bad algebra - very bad - as I will show.

"Tax capitalization" refers to the effect that a tax on land value has of lowering the value of land, its own base. Let  $V$ =Value of land,  $a$ =annual rent,  $i$ =interest rate,  $t$ =tax rate, and  $T$ =Tax. Let " $a$ " be unaffected by lowering other taxes or by improving public services. Then:

$$V = (a - tV)/i \quad (5)$$

Rothbard stops here. He notes that  $V$  is a decreasing function of " $t$ ", and then imagines that a very high " $t$ " means no  $V$ , and no Tax.

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<sup>1</sup> Rothbard, 1997, p.298

Generations of appraisers and assessors have carried their algebra beyond where Rothbard stopped, and avoided this fallacy. One simply collects terms, and then:

$$V = a/(i+t) \quad (6)$$

(6) is a simpler form of Equation (1), above, with  $g=0$ . The denominator on the right side,  $(i+t)$ , is the "cap rate" (capitalization rate), found in every appraisal book and assessment manual. Adding "t" to "i" is called "tax capitalization".

The Tax (T) is  $tV$ :

$$T = tV = t/(i+t) \times a \quad (7)$$

The effective tax rate on "a" is  $t/(i+t)$ . That ratio is always an increasing function of  $t$ , approaching 100% asymptotically.

Note in passing, from (5), that the tax base,  $V$ , is the after-tax value of land. This makes the real tax rate much lower than the apparent rate. To this extent, Rothbard is on target. It is as though the personal income tax were based on after-tax income, in which case a rate of 100% would take just 50% of income. So, to tap the land base we need tax rates higher than are considered normal or possible today, when buildings and fixtures and (in many states) inventories are part of the tax base. This is, indeed, a major reason why landowners want to keep them part of the tax base: not that they like paying taxes on buildings, but the landowners need arguments for holding down property taxes.