



Gains from Removing Excess Burdens: The Concept of EBCOR (Excess Burdens Come Out of Rents)

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Element #12. Gains from removing Excess Burdens: the concept of EBCOR (Excess Burdens Come Out of Rents)

12-a. Logic of the EBCOR Effect

"Excess Burdens Come Out of Rents" (EBCOR), so removing them adds to rents. Alfred Marshall saw that clearly, but his cautious motto that "Nature makes no leaps" trapped him in a creeping marginalism that still confines conventional neo-classical analysis. There are important marginal benefits from removing excess burdens, it is true, but the greater benefits are more than marginal because they entail quantum leaps from lower to higher uses of land. Again, these benefits accrue to rents and land prices.

A popular neo-classical myth is that we must give up common rights to enjoy the benefits of secure land tenure and the prosperity flowing from incentives in a free market. In the myth, every policy choice is a trade-off: more common rights mean there are fewer incentives to work and save and to allocate resources to the best use. As George showed, we can have both the common rights and the incentives, through tax reform, but the point is stronger than that: we can't have one without the other. We must support government from land revenues to have a truly free market, because without taxing land we must tax work, production, trade, and capital formation, distorting, weakening, and possibly destroying free markets. The obvious manifestation and measure of that excess burden is shunting land from more to less intensive and productive uses, as we will show in detail.

The very people who gave us the slogan *laissez-faire* made socializing land rents a central part of their program. These were the 18th Century French *économistes*, sometimes called "Physiocrats," who were the tutors of Adam Smith. They inspired land reforms throughout Europe until stifled after 1815 by The Holy Alliance led by Metternich. They also inspired more enduring land reforms in the U.S.A., through their influence on many Founding Fathers, including Jefferson and the long dynasty of Jeffersonians who followed him. The best-known *économistes* were François Quesnay and A.R. Jacques Turgot, who championed land taxation. . Léon Walras, their militant disciple, 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, which they emphasized too much, ranks well down the list in terms of total market value. A land tax is not primarily a tax on farmland that produces food and fiber, as shown earlier. That is an old idea that dies hard, even though thoroughly obsolete.

In addition, 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 our theme here.

Conventional analysis of excess burdens uses the model of an excise tax in a commodity market. Supplies of land, labor, and capital are melded in a commodity supply curve in which even land supply is elastic because it may be shifted from producing other commodities and services. Excess burden is shown as the area of a trivial little triangle where supply and demand curves cross. These have become known as "Harberger Triangles". The analyst then assumes he may aggregate these for the whole economy, Heaven knows how. Then the analyst dismisses excess burdens as minor.

The model does not fit the case. It does not deal with a whole taxing jurisdiction, within which supplies of labor and capital are highly elastic, and of land perfectly inelastic. It does not show how taxes prevent quantum leaps into higher land uses, as from parking lots to high-rise apartments, or from 80-year old firetraps to modern offices, or from ancient generators with fireboxes leaking pollutants to modern ones with the latest environmental safeguards.

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, so wage rate structures tend to a common level, like interflowing waters of the sea. 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. Tax jurisdictions are defined as fixed areas of land.

12-b. A test for tax neutrality

Using the simple premises lets us devise a simple test for tax neutrality¹. Taxable surplus is what we 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

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 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.

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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 in an appendix.

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 we base our 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 we tax something other than rent (say the Gross Revenue, G), we will drive the land into less intensive uses, or out of use altogether.

A related advantage of taxing rent is that we can often levy the tax on the land's potential to yield rent, regardless of what use the owner actually chooses. This is how the property tax works, at most times *de jure* and at many times *de facto*. 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 one of my sources, Ted 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, if she uses the land in one of the best uses. That does not mean stark uniformity or monoculture, because as market forces lure

many lands into what looks like the single best use they create an equilibrium where each individual landowner has several choices, if not blocked by zoning. That is, the presence of many apartment houses in a neighborhood creates a need and demand for complements like stores and restaurants and medical offices. The presence of many peach growers in a region creates a surplus of labor during slack months, promoting other crops with other peak seasons, as happened on the east side of California's Great Central Valley under the spur of land taxes used to finance irrigation works. A tax on land value will not interfere with using land in one of the best ways, but will discourage wasting or misusing or neglecting it by using it any other way, e.g. by growing cotton at State and Madison in Chicago's Loop.

12-c. Algebra of The EBCOR Effect, and a 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 we base a tax on taxable surplus, and keep the tax proportional to taxable surplus, we levy taxes without changing the land manager's ranking of land uses, as noted earlier. On the other hand, if we tax on some other basis (Gross Revenue, for example), we 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.

Net Revenue of land IS the Taxable Surplus: we 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, we 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</u> <u>Use</u>	<u>G</u> (\$k)	<u>C</u> (\$k)	<u>N</u> (\$k)	<u>G/N</u>	<u>Tax</u> (\$k)	<u>NAT</u> (\$k)	<u>Tax/N</u> (%)
A	100	90	10	10	10	0	100
B	20	15	5	4	2	3	40

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 also a tax on the N from use B, but only a 40% tax, 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:

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

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 all times, war and peace, by adopting a suppressive 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 - toward lower uses - but the tax as a fraction of N will now be the tax on C multiplied times the coefficient 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 tax on Gross Revenue (G), and be displaced by use D (parking lots). Parking would be ample, but there would be little 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. It would be tedious to spell out here all the many such possible variations of tax policy. 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 income. It does not fit the personal income tax on labor. Most costs of creating new human beings and equipping them with "human capital" are not deductible, or exempt from "consumer" taxes. Human capital is not depreciable or expensable. It is the modern fashion to snicker at people who say it should be, but U.S. Supreme Court Justice Louis D. Brandeis pointed the way, 96 years ago. "For the expense of securing indemnity against ... accident, sickness, invalidity, premature death, superannuation, and unemployment, should be recognized as part of the daily cost of living ... So far as it is a necessary charge, it should be met now as a current expense;..."².

Personal labor supply is also highly elastic through migration - the "brain drain" effect, for example. Personal and corporate income also include value-added by equity capital, whose supply is highly elastic everywhere except in the unworldly Harberger model or "new view" of the property tax.

12-d. *The Broader Reach of a Narrower Tax Base*

² Brandeis, Louis D., 1911. "Workingmen's Insurance - the Road to Social Efficiency." *Proceedings of the National Conference of Charities and Corrections*. Ft. Wayne: Ft. Wayne Printing Co., pp. 156-62, rpt. in Graham, Otis L., Jr., 1971. *The Great Campaigns: Reform and War in America, 1900-1928*. Englewood Cliffs: Prentice-Hall, Inc.

"Less is More" when we banish "broad-based taxes" in favor of the land tax base. When we focus taxes on the Net Product, N, we can raise the tax rate with no ill effects on land use, but with good effects instead. By contrast, we cannot raise taxes on G (Gross Revenue) very high without 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 we must lower the tax rate, but that means we 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, we 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, we can collect the entire taxable surplus from use A, \$10k, while aborting none of it.

Naturally, the owners of superior resources realize this, and therefore devote their efforts to persuading the public to support taxes on G and/or C, hurting their marginal competitors while sparing themselves. This carries the double benefit of stifling their competition while maximizing political demands to hold down the tax rates. James Buchanan has made something like this a central part of his anti-tax "public choice" philosophy. He writes that a tax with more excess burden is better than one with less, because government, if allowed to tax in the less burdensome way, may get more revenue³.

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.

³ Buchanan, James, 1987, "Constitutional Economics," in Milgate, Murray, et al. (eds.), *The New Palgrave, A Dictionary of Economics*, Vol. 1: 588

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 approach of our model.

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.

The present model suggests 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.

The simple model given omits the tax treatment of durable capital inputs, to keep matters short and simple. The writer has modeled capital inputs elsewhere⁴. In addition, Appendix II summarizes the model and its findings.

⁴ Gaffney, Mason, 2006. "A simple general test for tax bias". *AJES* 65(3):733-49, July