

Since land is so crucial, some can't resist estimating its worth.

CHAPTER 13

SCHOLARS GUESS: HOW MANY \$ IN THIS MARKET?

"The three most important things in real estate are not in mainstream economics."

STRAINING AT THE LEASH

To hear experts tell it, humans can do economies – produce wealth – out of thin air and without a place to stand. Or so conventional economists suggest. They have evicted the land from their discipline.

In a way, it stands to reason; central authorities do issue the symbol for wealth – money – out of thin air. However, they can only do so on their computer in the Federal Reserve, and that computer and that building must stand on land somewhere. Further, that location must be in the center of the nexus of power. In the US, that's split between New York and Washington, the locations of the Fed's HQ and its most powerful branch. If central bankers were not physically close to Wall Street and to Congress, they could not wield the power they do, which, as always, depends on relationships: being on a first-name basis with your fellow movers-and-shakers.

At any rate, given their attitude toward land as an antiquated, peripheral factor, many specialists today do not realize that taking an educated guess about the worth of Earth in America has an intellectual lineage. In years gone by, even mainstream academics did make an effort to calculate the total value of land and resources. Now, however, the institutional memory is lacking, hence this quest to measure all rents comes from more adventurous current researchers (a few such economists do exist).

THE ROAD TO ACADEMIC ANSWERS

We searched with the same key words as before: "worth of Earth" and "land value in the US" and "resource value in the US" and "rental value of US land," etc. But this time we entered them in the spe-

cialized databases for academic searches. The authors of those articles, at least, are respected by their peers and lay readers of economics.

All statisticians and economists in the field know how indifferent, even critical, most of academia and government are toward measuring the torrential flow of rents. For specialists to feel hesitant about hopping on a bandy bandwagon is a normal human reaction. Yet a few stalwarts did: and we salute them.

Even though those authors do address themselves to the rents paid for natural assets, they cannot do so in any other way than their usual academic fashion. Since specialists don't cater to us or offer any de-coder rings, we must meet them on their turf – the language of the specialists. So be it – the price of admission.

Academics and their dry style make us laypeople work. They focused mostly on land beneath homes and devoted pages of formula to torture the raw data into totals that might reflect reality. They crunched those numbers in their various “ivory towers.”

Questions about the worth of Earth in America are a lot to ask of busy specialists who tend to have already said all they can say on the topic. Usually they don't have to deal with laypeople but only with other pinpoint-focused specialists fluent in the jargon. When a lay person seeks something as esoteric as the money society spends for the nature it uses, a specialist comes in mighty handy.

Academics have the stature that lets them confront their colleagues. They can:

- question the results of others,
- ask penetrating questions, and
- point future research in the right direction of where the total for rents lies. Some of them do come through.

While doing the research, it's a relief to see a help link at a voluminous website, or see a help desk in a specialized library. It's encouraging when bureaucrats point visitors to where the data concerning land values are kept in the buildings, in the stacks, and in the Internet. So their help is greatly appreciated.

As all authors say, books are a team effort. The help from specialists that has been forthcoming lets us advance this frontier of knowledge. And discover what dictums from special interests have been holding back the profession of economics.

We learned the definitions of their jargon and interpreted their columns, charts, graphs, and tables. Eventually, all that became clear. I waded through it so you don't have to. You only have to decipher mine.

Given that there are hundreds of thousands of articles out there in journal-world, the number that turned up on social surplus is not overwhelming. That says something about either the unattractiveness of land economics to economists or the kryptonite-effect from outside influences. Whichever ...

What follows is the economists' best work, collated and annotated (to use their very own jargon). Given that their math is more obtuse than their text, let's spare ourselves most of the former and focus on the latter.

To find a recent total for the worth of Earth in America, I zeroed in on articles published in this millennium. Further, 2000 to 2019 is about the length of one period in the 18-year land-price cycle. However, I did make one exception for a forerunner who kept the torch of inquiry alive:

WHO TALLIES THE MONEY WE SPEND FOR THE NATURE WE USE?

“How Much Revenue Would a Full Land Value Tax Yield? In the United States in 1981, Census and Federal Reserve Data Indicate It Would Nearly Equal All Taxes” by Steven Cord in *The American Journal of Economics and Sociology*, July 1985.

As an academic, Cord estimated that 28% of national income in 1981 was land rent.

JS (author): As an activist, Dr. Cord was the long-time leader of the Henry George Foundation. He single-handedly persuaded dozens of towns in Pennsylvania to recover some of the socially-generated value of their locations. BTW, Pennsylvania is the only state whose constitution allows a legal class of cities to levy different rates on land and buildings. In a few Rust Belt states, a city, not a county, can do so but only with permission from the state legislature. In many other states, such as the growing states on the West Coast, speculators influenced legislators to amend their state constitutions to specifically prohibit splitting the property tax. They made the public recovery of socially-generated site rent, which stimulates infill, illegal.

Now we'll fast forward one score to this millennium. The land most people know – both specialists and lay people – is their yard. Plus, land for housing totals much more than land put to any other use.

TOP 10 STUDIES

The experts estimate the value of land in America. Their mileage may, and does wildly, vary. Their guesses follow in chronological order.

1. "<http://www.foldvary.net/works/summary.pdf>" by Dr. Fred Foldvary, Santa Clara University, Civil Society Institute (his website), January 2006.

Without giving the figures, Fred figures land rents could fulfill 60% of all public budgets. In 2006, the Census Bureau says that those budgets totaled \$4.4207 trillion – \$2.6554t federal and \$1.7653t state and local expenditures; 60% comes to \$2.6524t (almost identical to federal spending then). That amount would suffice if governments were to quit making income transfer payments. The beneficial results of treating land rent as the tax base, rather than taxing salaries, sales, and structures, include: *"higher incomes, reducing the demand for government welfare programs. Decentralization, privatization, and the elimination of wasteful government programs would further reduce the amount needed to fund government."*

JS: Well, of course, hats off to that, zeroing out waste. Yet if I may, instead of zeroing out food stamps, etc, one might prefer that politicians quit paying corporate welfare, fulfilling the wet dreams of weapons contractors, etc.

2. "The Value of Land in the United States: 1975 to 2005" by Karl E. Case (half of the successful and widely cited Case-Shiller Report), March 2007.

Ignoring agriculture, he estimates the total price of land in 2000 to be \$5.6 trillion.

JS: The end of the last millennium (year 2000) was six years before the zenith and Foldvary's year of publication (#1 above) and 10 years before the crumbling of land-prices. Although his year is six years before Fred, Karl's amount is \$3 trillion greater. One or both must be way off.

3. "The Price and Quantity of Residential Land in the United States" by Morris A. Davis (U Wisconsin-Madison Department of Real Estate and Urban Land Economics) and Jonathan Heathcote (Georgetown U, Federal Reserve Board, and CEPR), Nov 2006.

By the second quarter of 2006, the peak year in the recently concluded land-price cycle, residential land was priced at \$11.6 trillion, more than double Case's year 2000 figure above (\$5.6t), accounting for 46% of the price of the housing stock and 88% of GDP.

JS: But why GDP, which is annual, while land sales are infrequent and long-lasting? Is it just convenience? If using price, then comparing to other physical assets—maybe precious metals or museum pieces—might be more telling. Also, in 2006 home sites peaked, so while \$11.6 t might look like a lot it might really be a little.

4. “The Price and Quantity of Land by Legal Form of Organization in the United States” also by Morris A. Davis (page 66), December 2008.

According to the Federal Reserve’s Flow of Funds Report, the price of owner-occupied housing for the entire US in 2006 (the peak year) was \$22.8 trillion – more than the capitalized value of the NYSE, Amex, and Nasdaq exchanges combined. The price of just the land underneath owned by households and nonprofit organizations was \$6.9 trillion. The value of land owned by all four sectors – household and nonprofit, non-corporate, non-financial corporate, and financial corporate – at year-end 2007 was \$12.4 trillion. The method that Davis and the Fed use is to take the price of real estate (\$23t), subtract the replacement cost of structures (\$16 t), to get the high \$7t. Their methodology shows that land in the corporate sector [supposedly] lost almost all of its value between 1989 and 1995.

JS: While comparing price to price is the better comparison, Davis recalculated the value of residential land for 2006 from \$11.6t (in #3 above) to \$6.9t. For a “correction,” that is enormous. They both can’t be right and perhaps neither is. Further, how can land, especially downtown land where corporations have skyscrapers and locations are the most pricey, lose nearly all its value? One must wonder about their methodology.

5. “Commercial and Residential Land Prices Across the United States” by Joseph B. Nichols, Stephen D. Oliner, and Michael R. Mulhall, also of the Federal Reserve Board, February 2010.

According to the Federal Reserve Board’s Flow of Funds (FOF) accounts, the total price of land held by households, nonprofit organizations, and businesses other than farms and financial corporations at the end of 2009:Q3 – close to the bottom of the recent land-price cycle – was roughly \$4.5 trillion.

JS: Despite being close to the bottom, \$4.5t might still be too low, since their high might not have been high enough. That aside, the drop of over \$7t is huge. It shows that location values swirl while building values gradually depreciate.

6. “Over-accumulation, Public Debt, and the Importance of Land” by Stefan Homburg in *German Economic Review*, 15 (4)

In 2006, the US land-output ratio skyrocketed to \$19.6 trillion in absolute terms, and then plunged to \$8.8 trillion within four years, extinguishing over \$10 trillion of actual or potential bank collateral.

JS: His 2006 peak of \$19.6 trillion exceeds Davis’s figure of \$11.6t (#3 above), yet Homburg includes land used for more purposes than just housing while Davis looks only at home sites. Homburg’s bottom of \$8.4t exceeds the FOF nadir of \$4.5t (#5 above) by nearly twice as much, yet the FOF figure includes more than home sites, so it’s hard to see why the discrepancy. Further, Homberg’s plunge extinguished well over half of his peak figure, while one half is usually the outlier amount of loss, claim many observers. So his figures bear watching.

7. “The Boom and Bust of U.S. Housing Prices from Various Geographic Perspectives” by Jeffrey P. Cohen, Cletus C. Coughlin, and David A. Lopez in the Federal Reserve Bank of St. Louis *Review*, September/October 2012.

For 2012:Q1, the aggregate price of all US land used only for housing was \$4.151 trillion according to the S&P/Case-Shiller Index or \$5.474t according to the FHFA Index.

JS: Both figures are well below Homberg’s (\$8.4 t) but in line with the FOF’s (\$4.5t). However, both figures are for 2012, two years after Homberg and three after the FOF. Given recovery had begun, it’s curious both the FHFA and Case-Shiller lag so much.

8. “Aggregate U.S. Land Prices” by the Lincoln Institute of Land Policy.

They make two estimates of the total market price of land in residential use in the US for 2016 Q1, basing one on the public’s FHFA at \$8.746 trillion and the other on private Case-Shiller at \$9.940 trillion.

JS: Both estimates are less than the \$11.6t for home sites in 2006, the peak year (#3), yet by 2016 housing had recovered its previous peak price. Once again, conventional statisticians lag behind the market. They’re back to assigning to location only a third of total housing + site price while in 2006 they gave sites half of total property price.

Almost all the above articles focused on the value of land below homes. Finally in 2015 an official statistician broadened his target to include the val-

ues of land for all uses and other natural resources besides the surface. He also included all land whether it was owned by private parties or public agencies.

9. “New Estimates of Value of Land of the United States” by William Larson of the Bureau of Economic Analysis (in the US Commerce Dept), April 3, 2015.

The contiguous (lower 48) United States plus the District of Columbia (1.89 billion acres), in 2009 prices could cost at least \$23 trillion. The financial sector, or banking, which owned the least amount of actual land, had greatest value per acre, by far: 249 acres priced at \$7.3+ million per acre.

JS: It seems our work has been done for us. However, while it'd be nice to think that this is the ultimate answer, it's not. It's for 2009 – the bottom of the recent cycle – not for any year after, after land climbed out of the trough. \$23t is not enough.

That article – and others like it – ends with a plea to colleagues to do follow-up research. If any academic did further research to reach an exact amount for rents, no journal I checked published it, regardless how much we need a sound measure.

None of the above top nine articles crossed the finish line and tallied the holy grail of the worth of Earth in America. Either they left out public land or left out land used for something other than houses, or based their guesses on combinations of land plus buildings or used out-dated stats. If the rentier powers-that-be tried to discourage inquirers, they succeeded.

Yet whatever official estimates lacked in accuracy they made up in respectability. Almost everyone who finds cause to cite the value of land cites the official figure, warts and all, as gospel, without bothering to question the method used. So let us get our own hands dirty and question that method – by taking a look at rich cities.

The low figure for land—and high for buildings—follows from the method the mainstream uses to separate the value of land and building in a combined price for a property. The value that conventional economists give the value of buildings of any age is their replacement cost. The value they give to land or location is what's leftover.

A couple of mainstream economists offered a correction. Nicolai V. Kuminoff and Jaren C. Pope write, “First, the replacement cost approach may overstate the value of land during a boom-bust cycle. Second, the bias may not be neutral. Our results suggest it would be largest in the

highest-amenity neighborhoods.” (This is from “The Value of Residential Land and Structures during the Great Housing Boom and Bust.”)

Pope and Kuminoff also “suggest that moving from a property tax to a land tax may actually help to stabilize revenue streams for some municipalities.” Shades of Steve Cord (see above)! Does even such faint praise unnerve rentiers so that they frown on research into the value of land or, if one must, at least distort it? Consider again the conventional ratio of land to building. Specialists have a hard time accepting the fact that in the wealthy ski resort at Aspen CO a vacant lot fetches \$10 million easy. A million dollar house in San Francisco is actually an \$800,000 site with a bungalow on it. Same goes for \$10 million dollar apartments in New York; those are \$8 million sites. Developers pay \$1,000 per square foot and upwards in any world-class city like New York, London, or Tokyo. That square foot is for the floor, drawing attention to the building, but includes the site, the part overlooked. Remove the building and maybe it’s easier to see.

Fortunately in our quest to find a realistic total, a few economists did grapple with the twinned issues of doing the research while going against the grain – and did so by also looking at cities, both rich and poor, both big and small.

10. “Metropolitan Land Values” by David Albouy, Gabriel Ehrlich, and Minchul Shin, 2017 June 11.

The Federal Reserve in its Flow of Funds (FOF) accounts uses a method to determine the value of land that yields *negative* values, which cannot be right. Instead of switching to a more accurate method, in 1995 the Fed stopped publishing its estimate of actual land value, yet continued to publish a total for land and buildings combined.

Rather than try to derive a value for land from that stat, the Albouy team turned to records of the sales of land alone. They tallied 68,756 land sales covering 76,581 square miles of urban land, or city regions, that public statisticians named “Metropolitan Statistical Areas” (MSA). In 2000, all MSAs accounted for 80% of the US population and probably at least as much of the US land value.

Most Americans choose to live in or near cities, with more coming. Cities have magnitudes higher location values than the countryside. Rural areas have most of the land while urban areas have most of the land *value*.

High ratios favoring land give conventional brains vertigo. Mainstream statisticians in 2006 (the peak year) tabulated all real

estate at \$43.3 trillion, structures at a whopping \$26.3t, and land at only \$16.9t. Albouy and his team could deal with the vertigo. Using land sales, they calculated its aggregate price was \$30.4t, nearly 80% higher.

Also, their estimates proved more stable than those of the FOF. At (or near) the bottom of the last cycle in 2009, the land price total fell, according to the FOF, down to only \$5.8t yet, according to Albouy *et al*, down to only \$14.4t. The peak-to-trough decline in the FOF was 66% – well beyond the normal outlier of 50% – while in the Albouy study it was 40% – well within the 50% normal outlier.

How do they reconcile the huge difference between official results and their own? First, as cities get bigger, their sites grow in value, more so than do their buildings. Officials overlook this phenomenon and subtract an exaggerated value for buildings. Second, the FOF, while including land outside metro areas, left out public land. The Albouy team, while excluding land outside metro areas, included land for civic buildings, parks, and roads. Assuming that the public owns urban land worth 40% of Albouy's total, then private parties own land priced at only \$18.2t of the total, which is much closer to the FOF \$16.9t.

JS: Finally, the 10th of the Top Ten provides a figure that's ample and accurate. Albouy's \$30.4 trillion for only metro land vastly exceeds Larson's \$23t for all other kinds of land. And the larger number is derived directly from actual selling prices of land.

The other nine academics slanted land value downward. The authors bent over backward to minimize the object of their study (the value of land). The economics discipline, literally, constrained its mildly wayward members. It was as if the authors served not objective science but some interested party. To my ears, the tone of the articles did not have a ring of scientific caution in the face of the unknown but of political caution in the face of known biases – those of the ruling rentiers.

The best figure for us for 2006 is Albouy's \$30.4 trillion. Since real estate recovered all its lost value by 2016, in 2018 the total aggregate price for all land was well over \$30.4t. Furthermore, there's still the rural land to add in, which we'll tackle in Chapter 15.

These eleven studies are what individual academics had to say. Next let's dig deeper and visit the economists's official sources – academic centers and government agencies – for any missing rents, especially for natural resources. De-coder rings ready?