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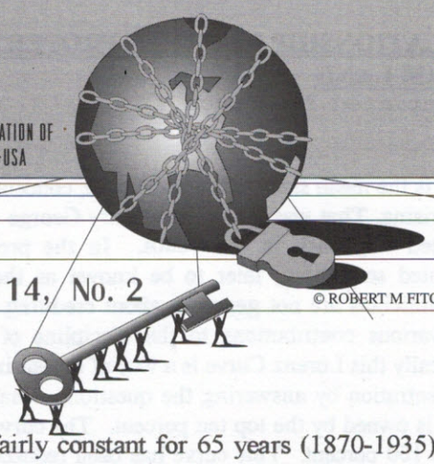

THE RELATIONSHIP BETWEEN PROPERTY TAXATION AND THE CONCENTRATON OF FARM LAND OWNERSHIP

by Dr. Mason Gaffney, Riverside, CA

(editor's note: Dr. Gaffney's presentation, as well as Arthur Yeatman's, was made at the Council of Georgist Organizations conference, Sept. 22, 2000, in Des Moines, IA during a Panel on "Sustainable Agriculture and Taxation Policy: Public Finance Incentives for Community Agriculture, Organic Production and a Vital Rural Economy.")

I have two ways of looking at this question of the effect of property taxation on the size of farms: interstate comparisons, and intertemporal comparisons, or time series analysis. The latest data I used came in large part from the 1987 "Agricultural Economics and Land Ownership Survey" (AELOS). It was the first study of land tenure since 1940 that distinguished between land values and building values. Between the years 1900 to 1940, the U.S. Census reported regularly on the concentration of farms, and they divided their subject into land value, building value, and population. In 1945 they stopped doing it. The reason they started in 1900 was because of the influence of Henry George and his followers, who were many, strong and enthusiastic at that time. The reason they stopped is because the Henry George movement had petered out and lost its radical edge at that point. But in 1987 they did it again. Better yet, they used ownership units as well as operating units (although that part of the study was technically flawed, and hard to use). We had a conference on it and we chewed over the data.

Here and now, in this brief talk, let's look just at the trend over time. The national average of farm property tax rates peaked in 1930 at 1.32 percent. It fell to 0.77 percent in 1945, and stabilized at about that level -- it was 0.85 percent in 1987. The revenues were replaced by sales and income taxes, which on the whole bear heavier on urban activities.

Vanishing Farmers and Unaffordable Farms

You might say this would be a blessing for the farmers who were now more free of these property taxes. However, it didn't work out that way. The mean acres per farm (the average, that is) had remained fairly constant for 65 years (1870-1935) at about 155 acres, despite two major industrial merger movements, including the steel industry. After 1935 the mean value took off and had tripled to 462 acres by 1987. As the number of farms were falling, national population was on the rise. In 1900 there was one farm per 11 Americans; in 1987 there was one farm per 113 persons. Farms became unaffordable for folks starting at the bottom of the agricultural ladder.

Real wage rates, meanwhile since 1955, have not risen as fast as real land prices, and they haven't risen at all since 1975. This has raised the labor-price of land (the number of days/years a person must work at the average wage rate in order to raise the price of a farm.) Coupling this with rising acres per farm, the labor-price of a farm roughly tripled, from about 6 years' wages (before payroll deductions) in 1954 to about 17 years' wages in 1987. That, of course, doesn't mean you could buy a farm in 17 years, unless you didn't eat anything and saved every penny of your wages to buy a farm. (continued on page 2)

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That is the mean size. At the same time, concentration of ownership was rising. That was the subject Henry George and Francis Walker debated way back in the 1880s. In the process Henry George invented something, later to be known as the "Lorenz Curve" - academicians are not generous about crediting Henry George with his various contributions to the discipline of political economy. Basically this Lorenz Curve is a way of measuring concentration by answering the question, what fraction of all the land is owned by the top ten percent. The curve extends from zero up to 100 percent. This curve has been reduced to a single figure, called the Gini Ratio, which is a measure of concentration which varies between zero and one. At zero, everyone has the same amount; at one, one person has it all.

In 1900 the Census Bureau began publishing farm data ranked by acres per farm. Using those date, the Gini Ratio was .58 in 1900. By 1930 the GR had gotten up only to .63. This, remember, was the peak year of property taxes, before the property tax started waning. The GR began to rise faster, and by 1950 it was up to .70. It plateaued there for 15 years and then rose again to .76 by 1987. That is a high degree of concentration. (By comparison, GRs for personal income are much lower, about .40, and are much more stable over decades.) The accelerated rise since 1930 coincided with the rise of mean acres per farm, and both followed the fall of property tax rates.

The Gini Ratio has been criticized because it deals only with the concentration among existing farms, and doesn't take into account all of the former farmers who left the business. To adjust for this, we can simply add them to the distribution of the farms as farmers with zero land. There are 4-1/2 million farms that died between 1935 and 1988. If you add in the farmers with zero acres of land to the lowest bracket, that raises GR for 1988 from .76 to .92, a radical rise of inequality since 1930 (.63). But calculating the ratio this way gives you a better sense of how concentration has shot up during and since the Great Depression. In the Great Depression (1930-1941), six million farms provided a refuge for the urban jobless and homeless. Today, that refuge is closed. Mining has taken over the Appalachians, where farmers could make moonshine. Farming has been taken over by forestry and recreation in the Ozarks.

The Rise of Land Quality in Vast Farms

A frequent way to trivialize this information on concentration is to say "farms in the Census are ranked by acreage and so the degree of concentration is a statistical illusion." And "it looks like concentration because you are mixing million acre ranches in New Mexico with family farms in Iowa or New England, which are worth much more per acre, and if you adjust for that it is not as concentrated." That is a common allegation.

There are two things wrong with that allegation, that make it pure humbug.

The first is, when you rank farms by acres per farm, as the Census does, the quality of land in the top bracket has been going up very sharply over this period.

One example has to do with irrigation. About 60 to 80 years ago, 1890-1930, irrigation was the refuge of the small farmer -- it was the new frontier, and specifically in California. A lot of publicity has been given to something called the Irrigation District movement, whereby farms and cattle ranches were incorporated into taxing districts or irrigation districts, which taxed land and exempted improvements and used tax powers to issue bonds and build expensive irrigation units. And under this system, people in the district paid for water whether they used it or not, and caused a revolution in California agriculture from 1900 to about 1930. It was a fantastic case study in economic development (which has been mostly ignored by academic and government economists). As a result, the average size of a farm in California went way down. And the concentration of land went way down, and irrigation was at the forefront of this.

When irrigation was young in Anglo-America (1890-1914), it was the recourse of small farmers and ranchers. Then, vast spreads were subdivided to create small irrigated farms. There was drastic subdivision and intensification (1900-1930). After the 1930s drop in property tax rates, this land has been reconsolidated. If you don't tax land, conglomeration occurs inexorably.The sections buy out the quarters. This has happened in irrigated agriculture faster than almost anywhere else. Ownership and control based on water have become highly concentrated. Irrigated land is worth a lot more than dry land.

Land in farms of 1,000 acres and over actually dropped (nationally) by 15 percent from 1900 to 1910, the only drop on record. Now, however, 34 percent of all irrigated land is in the top bracket, farms of 2,000 acres and over. Control of irrigated land means control over water. Control of water gives control over arid lands roundabout. Ownership and control based on water have become highly concentrated. For farms with irrigated land, the Gini Ratio is .82, substantially higher than the GR of .76 for all farms.

From 1930-87, the fraction of all farm acres in units of 1,000 acres and over rose from 28% of the total to 62% of the total. That is a rise of 123% over the 1930 base. That rise in degree of concentration is impressive, all by itself. At the same time, however, the mean value per acre in the largest spreads was rising much faster than that of other farms. In result, the value of the real estate (land and buildings) in these giant spreads rose from 8% of the total in 1930 to 38% of the total in 1987. That is a rise of 375% over the 1930 base.

The second thing that makes the trivialization humbug is a statistical principle called "regression fallacy." Many people, otherwise bright, are thicker than mud when it comes to picking up on this principle, so there must be some mental block built into the culture. (continued on page 15)

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Once you see this "cat," however, it's pretty simple and straight- forward. It says that the degree of concentration you find in any distribution depends on what you choose as the ranking variable. If you want to compare the concentration of value with the concentration of acreage, you can't rank the farms by acreage and then take the top bracket and ask what the value is. You have got to re-rank them by value, and these are entirely different rankings with an entirely different collection of farms in the top bracket, and naturally these are more valuable farms.

This reranking, farm by farm, is almost impossible to do from published census data, which come in large groups. But I managed to do it with some other series, and I can vouch for the fact that if you do rewrite the data by value, you get a higher - not a lower - degree of concentration in terms of value than in terms of acreage.

So, for those two reasons, concentration of land ownership is not only high but it has risen at a very rapid rate.

To sum up, rising acreages mean there are fewer farms overall. Rising labor prices per farm mean aspiring farmers who lack prior wealth can no longer buy in. Rising Gini Ratios mean acreage is less equally shared among a given number of farms. Higher quality land is moving into bigger farms. "Gamma" is the top bracket acre value divided by the mean acre value, and it is rising. The Gamma data are confirmed by rising shares of cropland and irrigated land in vast farms. Rising price to cash flow (P/C) ratios reflect a higher land share of real estate value (LSREV), and they mean it is harder for a newcomer to acquire any farm acres. The combination means the agricultural ladder has been pulled up. Entry is nearly impossible for farmers lacking outside finance; exit and latifundiazation proceed apace. These changes accompanied and followed a 40 percent drop in farm property taxes.

Conclusion: to redemocratize farming, promote small farms and break up big ones, raise land tax rates.

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(editor's note: Dr. Mason Gaffney is a Professor of Economics at U.Cal.-Riverside and a member of the Board of Directors of the Robert Schalkenbach Foundation.

Dr. Gaffney authored Chapter 10, "Rising Inequality and Falling Property Tax Rates," from which this excerpt is taken. It is published in the book, "Land Ownership and Taxation in American Agriculture, edited by Gene Wunderlich (Westview Press, Boulder - S.F., 1992)

Dr. Gaffney is the author of numerous scholarly papers, especially on taxation and natural resources. Dr. Gaffney is the co-author with Fred Harrison of The Corruption of Economics (1994, 272 pp. $16) and wrote the "Land as a Distinctive Factor of Production" chapter in Land and Taxation which was edited by Dr. Nicolaus Tideman (1994, 182 pp., $20) -- both books are available from the Robert Schalkenbach Foundation. Dr. Gaffney is also the editor of Extractive Resources and Taxation (1967, listed in the Schalkenbach catalogue as available from University Microforms.) The toll free phone number of the Robert Schalkenbach Foundation is 1-800-269-2555, and the website is http://www.progress.org/books.

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