

# Land Price 'Ticker Tape'

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Land is many things—it is space to park your car, a place to build a patio, or the site for an office building. On a Sunday drive, it is a view, a roadside park, or a hiking trail.

But only 3 percent of the total land area of the 48 contiguous States is taken up by cities, industry, highways, and similar uses. About three-fifths is used for crops and livestock production. The 1.1 billion acres in farms, including the buildings, had a market value of nearly \$200 billion in early 1968. Such rural lands account for nearly a fourth of all taxable real estate outside our major cities.

The value of a commodity as versatile as land is intertwined with its use. It can be priced by the square foot, the acre, or by the square mile. A square foot located on a choice corner in Manhattan, New York City, may be priced at \$200; in Manhattan, Kans., perhaps \$1; and in Illinois corn country, 1 or 2 cents. There are 43,560 square feet in an acre—in a square plot each side is 211 feet. Up to 25,000 corn plants can be grown on 1 acre or 2 square feet per plant. The land for each plant would cost a nickel and produce about 6 ounces of corn.

Go westward to Arizona desert country where land is priced by the section—1 square mile or 640 acres. The price figures out at about a tenth of a cent a square foot. But even 10 square miles would represent just a modest cattle spread. It would provide grass for only 300 to 400 cattle.

Take this block of land and lay it out in 1-, 2-, or 5-acre plots. Put in a water system, roads, draw up plans for a

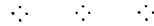
shopping center, a golf course, and a recreation center. Advertise your new city in national magazines as a desirable retirement community and price the land at \$500 or \$1,000 an acre. The original desert has become a new commodity.

California has the widest range in land prices of any State. Topping the list for agricultural uses are avocado groves, upward of \$7,000 an acre. Citrus groves in the path of subdivisions may bring even more, but are valued at around \$3,000 where alternative land uses are not important. Irrigated lands suitable for cotton and vegetables carry price tags of \$1,000 to \$1,500 an acre.

Rangeland in the northern part of the State is more likely to be priced according to the amount of forage produced than by the acre. Eight hundred dollars worth of land to carry one animal would be typical.

Or take land in the East, within a commuting distance of our larger cities. If it has frontage on water, it will sell by the front foot, only infrequently by the square foot or acre. Along a small lake or stream, the price may be \$20 or \$30 a foot or \$50 to \$100 if it can be used for commercial purposes. Prices go on up to \$200 or more for ocean frontage with good beach and highway access.

If you are thinking of a summer place in the mountains, you may have



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a choice of building a cabin on a small city-size lot in a planned community or of finding an abandoned hill farm with a house that can be fixed up for a summer home. The land in the farm will cost less per acre, and you'll have more space, but the total investment can be a lot more. And don't forget to figure the interest lost on the money you put into either kind of place as part of the total cost of owning a summer retreat.

Land prices are by no means a concern only of farmers. Many important decisions in the business world involve some aspect of land valuation. A major communications firm needs estimates of land costs on which to build relay stations scattered across the country. Even in the space age, a spot on earth is needed to launch satellites and to receive their messages. A life insurance company in Hartford, Conn., invests a part of your insurance premiums in farm mortgages throughout the country. The company needs to know the level and trend in farmland prices and the income farmers are likely to earn to repay their loans.

A writer for a national business magazine wants to compare returns from owning farmland with returns from stocks and other investments. A public utility company needs to update the value of its assets in order to adjust the rate structure. The utility wants current market values for the land its powerlines are built on. The administrator of a Federal or State agency is budgeting the probable costs of acquiring rights-of-way for a highway, or land for an airport or a sewage disposal plant.

Letters and phone calls posing such questions flow to an office of the Economic Research Service in Washington, D.C. Here, three research economists have access to a large volume of statistical data on farmland values for most areas of the country. And they are constantly adding to their stockpile of information with the aid of a nationwide corps of special reporters.

This reporting system has some rather interesting features. One group of

reporters consists of the regular crop reporters—mostly farmers—who provide a regular flow of crop and livestock information to State offices of the Statistical Reporting Service. This agency, assisted by a large "staff" of voluntary reporters, serves farmers and consumers by issuing regular reports on a wide range of farm subjects. Crop conditions, acreages, yields, livestock numbers, and prices are covered in these reports.

Twice a year—March and November—these reporters, who represent the eyes and ears of the U.S. Department of Agriculture, send in their estimates of the going market values of farm real estate in their localities. State statisticians review these reports and send on to Washington summaries for each reporting district. These are the data we use to measure changes in market values State by State.

This reporting system was first started in 1913 and provides an unbroken chain of readings on land prices every March since then. The November reporting date was added in 1942. Let's take as an example the reported values per acre for March for the 12 counties in northwest Iowa—1913, \$140; 1920, \$301; 1933, \$73; 1941, \$102; 1967, \$430.

We use these figures chiefly to measure the relationship between prices at different points in time. Because the area is quite large, they can't be applied to particular farms. Selling prices can vary greatly within a township or a county. It takes a detailed appraisal to determine what any particular tract of land is most likely to sell for. So, this is a job for specially trained appraisers, not something that can be done in our office.

This is why we express the reported dollar values as index numbers—a kind of "ticker tape." Like the cost of living or the wholesale price indexes, the land price index is simply a statistical device to permit easy comparison of where prices stand at any point in time in relation to the base period. We use average values for 1957, 1958, and 1959 as a base or 100 to facilitate

comparisons with other statistical series published by Federal agencies.

There is nothing mysterious or complicated about using index numbers. Let's take our index for Iowa for March 1, 1967, 147 ( $1957-59=100$ ). It means average values on that date were 47 percent higher than the 1957-59 average. Now, take the index number for 1933, 27. This means that values in 1933 were only 27 percent of the 1957-59 average.

Dividing the 1967 index by the 1933 index, we find values in 1957 were 5.4 times higher than in 1933 or an increase of 444 percent.

How can you use these figures to solve problems? I have a letter on my desk which reads as follows: "My father died in 1938 and left me 160 acres in Osceola County, Iowa. I sold the land last spring for \$360 an acre. I need some information to help me put a value on the property in 1938 so I can fill out my income tax return."

He is referring to schedule D of the Federal Income Tax Return, Form 1040, which calls for "Cost or other basis" of property. What was the fair market value of this property in June 1938 when his father's estate was settled and title passed to him?

This is how I'll answer his letter. The index for Iowa for March 1, 1938, was 34 and for March 1, 1939, also 34. It was a period of quite stable prices, and there is no need to make an adjustment to a June date. Then, I divide the 1938 index by the 1967 index and find that values in 1938 were 23 percent of the 1967 level. Multiply this percentage by the 1967 sales price and we have \$83 as an approximate value at that time.

The agricultural census for 1940 showed an average value of \$95 an acre for this county.

I must stress that this is only a starting point in arriving at the capital gain for tax purposes. Other adjustments have to be made to comply with tax regulations. But it is a fair and objective starting point when no other basis is available to solve the problem.

We have another source of informa-

tion that is perhaps unique for a government research agency. More than 40 years ago, an annual mail survey was started to tap the knowledge of local people in every community whose work brings them into contact with the farm real estate market. About half the 8,000 names on our mailing list are real estate brokers and the rest are local bankers, lawyers, abstractors, county officials, and others. All serve as real estate market reporters, voluntarily and without pay. Many have reported regularly for a decade or more.

A mail questionnaire goes to this group every March and October which asks for their opinions as to recent changes in market conditions and also for facts about specific land transfers with which they are familiar. We get a sample of about 15,000 land sales each year, including the selling price, terms of sale, occupation of the seller and buyer, and related information.

Data obtained from these surveys are reviewed by the research staff and made ready for analysis by computer. No two surveys are identical because we are constantly seeking new bits of information in order to improve our analysis and interpretation of new developments.

In the early 1960's, for example, we began to receive inquiries as to the effects of expanding cities on rural land prices. What is land for open spaces, parks, highways likely to cost? How should land still in farms but with value for other uses be assessed and taxed?

A few years later, realization of the future recreational needs of an increasingly urban population focused the attention of local, State, and Federal agencies on the steady rise that had occurred in rural land prices.

The development of long-range land acquisition programs required information on the range in land prices for various purposes. We were able to obtain this information from our reporters, thereby filling an important gap in data.

But many facets of the rural land market cannot be studied at the na-

tional level. We need local "laboratories" where 100 or 200 land transfers can be studied in greater detail than is possible with our national surveys.

To do this, we team up with economists in the State agricultural experiment stations and work out procedures for special studies. These may be concerned with land purchases by Nebraska farmers or prices paid for cotton land in South Carolina, the Mississippi Delta, and in California. Results of such studies are published by the cooperating States. On other occasions, we have provided technical and financial assistance to graduate students who wish to study a particular aspect of farm real estate.

Collection, analysis, and interpretation of information obtained from the semiannual survey and from farmer-reporters is a continuous process. Statistical tables coming from the computer must be checked for accuracy,

compared with results of previous surveys, and condensed into understandable form for publication.

Twice a year a summary report is issued which carries up-to-date information and analysis of changes in land prices, rates of farm transfers, sources of the land supply, and the demand for land. Entitled "Farm Real Estate Market Developments," and available upon request without charge, this report is only one of a whole family of publications that are products of the ongoing research program of both State and Federal research agencies.

Our research is concerned with the economic behavior of people as they go about putting a price tag on a very special commodity—land. Our laboratory is the entire Nation. The better this complex process can be understood, the more information people have to guide their decisions, the better our economic system will perform.

## *New Look Trees and Shrubs for Homes, Communities*

H. F. WINTERS and J. L. CREECH

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In the 21st century, as well as during the immediate future, we will need an increasing variety of trees and shrubs genetically tailored or self-limited to shape, size, and use. The architectural styles of our houses have changed. Properties are smaller. Our shopping malls, apartment communities, and individual homes all need landscaping with plant materials that grow to these specified shapes and sizes, then remain so for years.

Landscape materials for the future must be "smogproof," since even though great efforts are being made

to reduce atmospheric pollution, it is doubtful if smog can be entirely eliminated in the near future. Landscape materials also must be highly adaptive to climate and soil. They must be as resistant as possible to other factors of



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