While we have frequently seen an implication that it was wrong to expect people of lower incomes to live in older housing, this is the first time that we have seen an informed individual suggest that a short life for residential buildings would be advantageous. The monthly cost of adequate housing, if it were necessary to depreciate it entirely in 20 years, would put it beyond the reach of a very large percentage of the population of the United States.

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## The Real Estate ANALYST

11677

Volume XXXIV

13 Ur See

MARCH 19 1965

Number 7

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## THE FUNDAMENTAL DIFFERENCES BETWEEN REAL ESTATE AND OTHER COMMODITIES

N studying real estate for the past 37 years, we have found only two fundamental differences between land and other commodities. Land is immobile and indestructible. If these differences are thoroughly understood, it is then apparent why it differs in its reactions from all other things which are bought and sold.

The immobility of real estate makes it unique. It is the only commodity which cannot be moved. This characteristic of real estate has a number of implications which are quite important from both the short-term and the long-term investment angle. This immobility of land gives to it a location value. Other commodities have a limited locational value, limited to the cost of moving them to a favorable market. This immobility of land causes it to increase or decrease in value as the area in which it is located improves or deteriorates. If it has a readily accessible location, and if the area around it is increasing rapidly in population and purchasing power, the locational advantage of the property will increase rapidly, while, on the other hand, if the area around it is decreasing in population and in purchasing power, or in accessibility due to changing traffic patterns, the value of the land will decline.

Unlike other commodities, land cannot be taken to a favorable market. A surplus in one area cannot be transferred to another area in which a shortage exists. A motel and the land on which it stands, if the highway is abandoned, cannot be moved to the cloverleaf on the new highway taking its place. Accordingly, land is subject to a greater extent than all other commodities to local influences, and may be faced with a situation where a slight difference in location might mean a tremendous difference in price. It is possible for a shortage and an oversupply to exist in close proximity. When this exists with movable commodities, the oversupply is moved to the shortage area, and the supply and price are rapidly equalized.

This locational advantage of land is responsible for the theories of Henry George and the single tax. His contention is that the locational advantage of a piece of land does not depend primarily upon its owner but depends upon the people who have built up the area, who have provided the transportation facilities, community facilities, and all other amenities which do not depend primarily upon the land itself, its extent, and its fertility. Even fertility, if it is a result of the natural character of the soil, was not created by the owner.

George believed, therefore, that increases in value of the land itself should be absorbed by taxation, relieving those things which are the result of human endeavor from a large portion of the tax load. He would tax away all of the locational advantage of land.

Another factor in which the immobility of land affects its value is the fact that it cannot be hidden from the tax collector. Some types of investments escape almost completely from tax assessments, but in all communities something which can be openly inspected and appraised has little chance of escaping governments' need of income.

This same immobility makes it more subject to government regulations than it would be were it possible to move it from one jurisdiction to another. This has resulted in zoning laws which in many cases affect the value of specific parcels one way or the other to a considerable extent.

The second characteristic which land possesses which is not possessed by other salable objects is practical indestructibility. Certain characteristics of land can be destroyed, but land itself, as a certain-dimensioned parcel on the surface of the earth, is indestructible. It may, over the course of centuries, be inundated, but the space is still there. Through volcanic action, land now under water may be raised, and in a number of cases land has been created artificially by the pumping of sand from the ocean bottom into low coastal areas or into swamp areas, creating a great deal of usable property. If we are talking about agricultural land, through poor cropping, some of its fertility may be destroyed. Even an atomic explosion, which might atomize the surface over a large area, cannot destroy a parcel which is described by certain distances in metes and bounds from a principal meridian. Its usefulness may be greatly impaired, but the ownership of a certain portion of the earth's surface could still be traced.

Actually, in dealing with real estate we do not very often consider land apart from improvements, and these improvements may be of many different types. In rural areas, the improvements might consist, not only of farm buildings, but of increased fertility built up through chemical and organic additions to the soil. In cities, the improvements would consist of accessibility to streets and utilities, as well as the actual structures built on the property, and while these structures are not indestructible, they have an extremely long life in comparison with other commodities. Some food products have a life limited to from 24 hours to a week -- a life which has been lengthened considerably by modern refrigeration and other preservative processes. Milk in its natural state has probably the most rapid rate of depreciation. Canned, however, it lasts almost indefinitely. Clothing is quite frequently worn out in one or two seasons, and if not actually physically deteriorated, becomes obsolete as styles change. Automobiles, on the average, have an estimated life of seven years.

When a piece of land is improved for its highest and best use, the great probability is that the improvements making possible the utilization of the land

will remain on the land for a long period of years. According to the studies which we have made of the physical and economic life of residential buildings, we believe that a residence at the time it is built has a probable life of from 80 to 90 years. This does not mean, of course, that some buildings may not burn down or be torn down in a longer or shorter period. It may be necessary to widen streets or to build schools on land which has already been developed, requiring the razing of the previous improvements. Most residences, however, have a far longer life than the average individual expects.

In 1959, Ripley's "Believe It Or Not" column showed a picture of a residence in Lincoln, England, the original owner of which died in 1186. The house was still in use as a residence 773 years later. Our own firm has appraised a few residential buildings in New England, still in use as residences, that were more than 300 years old. In a relatively new country, it is hard to tell how long buildings may last.

Some types of industrial and commercial buildings have a life which is limited only by a continued demand for the services these types of buildings furnish.

The almost indestructible nature of land means that the same parcel may undergo successive uses over a period of years or centuries. It may start out as wilderness and go progressively through various types of agricultural uses. If properly located, the agricultural uses may give way to urban uses, probably first of a residential nature, followed by either commercial or industrial use. In time these new uses may become uneconomic, and the value of the ground may actually drop, from what it would be vacant, by the cost of removing the obsolete improvements.

The assumption among many real estate men has been that the value of land always goes up. This is not correct. Over a long period of years land may go from an intensive use to a very limited use, with its value declining from a very high price to a very low figure. In the city of Rome at the height of the Roman Empire all of the ground within the city walls was intensively used for public buildings, palaces, fine residences, and mass housing. Similar uses had extended beyond the city walls. At that time the city of Rome had a population in excess of a million and a half. In the early 1700's, in contrast, a large part of the area inside of the walls of Rome was occupied by fields and vineyards. The intensive use had disappeared, as the Roman Empire had shrunk, until the city of Rome was merely another city with fewer than 135,000 people. Demand no longer existed for the intensive uses and the land reverted back to agriculture and wasteland. In some cities the cycle has gone around more than once, although in most American cities a large part of the ground is still in an upward cycle, and in most cases redeveloped land in the United States has gone to a higher and more profitable use than the use to which it was formerly put.

It is a general principle of economics that in a free market, cost and selling price are not too far apart. If cost is below selling price on any particular type of commodity, production is augmented to take care of the profit possibilities of the market. The increased production makes more goods available, and the price falls. If cost is above selling price at any particular time, production is severely restricted. Any inventory which existed is absorbed, and selling price rises, until it is high enough so that new articles can be made and sold on a profitable basis.

The relationship between cost and selling price in a free market is never very far out of kilter on short-lived articles unless very excessive inventories have been accumulated. The length of time it takes for the market to become adjusted depends largely on the length of time that it takes for surpluses or shortages to disappear. On short-lived articles this interval is quite short, as a surplus is quickly absorbed when production is restricted and a shortage is quickly wiped out when production gains speed. In a longer-lived article, however, it takes a considerable period of years for demand and supply to balance out. In the housing field, for example, a housing shortage such as the one which existed in 1946 cannot be alleviated for a period of many years. This shortage came about through a sudden expansion of demand after a war period in which little construction had taken place. When building started in quantity, the economic activity generated by this volume of construction raised employment and purchasing power to the point that during the early part of the building boom, demand for housing increased faster than the supply was being augmented, and even a high rate of building had little effect on reducing rents and prices.

It is only in the last few years that our housing shortage has disappeared and has been replaced by a housing surplus. It again will probably take a period of years before this surplus is absorbed, as the reduction in the amount of construction which will take place will probably slow down economic expansion and this, in turn, will have a tendency to limit demand. It is entirely probable that while we are building fewer units than we did a few years ago, the percentage of vacancy will increase. Demand exceeded supply in 1946. Supply and demand were probably pretty well balanced in 1960, but this was 14 years later. Supply now exceeds demand, and if the restriction in construction should set off a general reduction in economic well-being, as it might, demand will be restricted, and in a period of reduced building, vacancies will increase rapidly.

Over the long pull the selling price of real estate reacts, as do all other prices of salable articles, to changes in cost. If the cost of building a building goes up, unless the values of existing buildings rise at approximately the same time, so that a building is worth more than it cost to build, there will be relatively little building. As a result, a space shortage will develop which will cause values of existing buildings to rise until selling price of existing buildings and cost of production are more nearly in line. If, on the other hand, the selling price of existing buildings is above replacement cost, a tremendous

volume of new building will be generated, destroying the shortage and taking the edge off the market. As a result, selling prices and costs will again come back into balance.

In a long-lived article, the cycle between shortage and surplus is long, just as in a short-lived article the cycle is short.

In the short run, the price of real estate is determined almost entirely by the relationship of supply and demand. Over the long run the price of real estate is determined almost entirely by the changes in replacement cost.

If we understand this distinction clearly, we can see that we are now in a period when supply exceeds demand and, accordingly, when selling prices on improved properties are dropping. On the other hand, we are still experiencing rises in replacement cost, and undoubtedly with our inflationary policies, these rises will continue to develop, throwing the market further out of balance than it is at the present time. This imbalance will limit building, until demand can increase and remove the surplus.

Let us now see how these two characteristics of real estate in contrast with other salable articles will affect the real estate market.

First, the fact that real estate is fixed in location and can't be taken to a favorable market will mean that strategically located pieces of property will continue to advance in price, as they will not be faced with effective competition from other pieces as well located. A piece of real estate in a declining area will continue to decline, although the physical nature of the property, everything else being equal, would indicate a higher earning than the property can produce in its present environment.

Second, the fact that over a long period real estate, like other commodities, is affected by replacement cost means that over the long period the primary factors which will determine the market are those which influence the value of money. If we are in a deflationary period, replacement costs will drop and values will drop. If we are in an inflationary period, as we think we are, replacement costs will increase as they have been increasing, and eventually the values of existing properties will rise, taking on at least a percentage of the increase in replacement costs.

The application of these principles is why we have constantly advised the purchase of homes by individuals who expected to live in these buildings for at least 10 years. In our opinion, the increase in construction costs during the next 10 years will exceed by a considerable margin the physical deterioration and economic obsolescence of well-located and well-maintained buildings.

Within the last month we read a statement in an economic report, prepared for popular consumption, which stated, "In proportion to their wealth, the

American people are probably the most poorly housed in the world. One doesn't see many people driving 1946 automobiles, but many persons are living in 1946 homes." With this statement we violently disagree. We do not know whether the author thought we were poorly housed because people were living in homes built prior to 1946, although the wording would seem to indicate that. 1946 was only 19 years ago. If a house built 19 years ago, because of obsolescence and physical deterioration, has lost its value, it would mean that we would have to change our entire concepts of residential real estate. Wouldn't it be rather silly to buy homes with 35-year mortgages if they would be entirely worn out and unacceptable at the end of 19 years? If he were talking about carpets and wallpaper, there might be some justification for his statement.

If his goal would be that all people live in houses of less than 20 years of age, in 1960, when the last census was made, 36, 990, 000 families were living in houses that were built before 1946, and this constituted 63.5 percent of all dwelling units in America. Apparently in the Great Society our sights are now so high that we think that two-thirds of the families of the United States are poorly housed. My deepest sympathy goes out to the President of the United States, who, because of his election, is forced to live in a building built 165 years ago, and it might even be that the substandard living conditions which are thus forced upon him have been the principal psychological reason for his drive toward better conditions in the Great Society of the future.

If in the future we are all to live in relatively new homes, we must readjust our thinking on the cost of housing. If a residence is to have a 20-year useful life, we, of course, must not make any mortgages which will take longer than that to pay off. We must produce in place of  $1\frac{1}{2}$  million homes a year, probably about 4 or 5 million homes a year to merely keep even without replacing the 37 million that are now more than 20 years old. If we wanted to replace those in the next 10 years, we would have to add 3 to 4 million additional homes a year. bringing us to a total of somewhere between 8 and 9 million dwelling units a year. This amount of new construction would require an astronomical amount of mortgage money, more by far than could be available from all sources in the United States. Mortgage interest rates, with this excessive demand, would immediately soar, until an 8 percent rate would be considered very low. The cost of the buildings, provided the excessive demand did not cause material and labor costs to advance, would still exceed \$120 billion a year, but this increase in demand would probably cause building costs to double, and we would end up somewhere around a quarter of a trillion dollars per year for new residential construction alone.

Suppose we assume a new house selling for \$16,000 (close to the average selling price of homes carrying FHA mortgage insurance in 1964). A 95 percent loan for 35 years on this house would call for monthly payments of \$85. This would include the payments on interest, principal, and mortgage insurance. Now suppose that this house had a useful life of 20 years. It clearly could not have more than a 20-year loan. With no increase in land or building

costs, and assuming that there was no increase in interest rates, merely short-ening the term from 35 years to 20 years would increase the monthly payments to \$108.70.

These, however, are all false assumptions. Because of the volume of building which would be necessary, there would not be sufficient close-in ground unless tremendous areas were demolished and rebuilt. Land Clearance for Redevelopment Authorities have had an average cost on land they have acquired and resold of almost \$2 per square foot. This is three or four times the cost per square foot of land ordinarily used for subdivision developments. Also, because of the volume of building, there would be a tremendous shortage of skilled building labor. This would skyrocket building wages in order to attract workers from other fields into building construction. There would be a tremendous shortage of almost all building materials. Lumber would have to be cut at a far faster rate than it is now being produced, decreasing our timber reserves in an alarming fashion. The increased demand for copper, for steel, for brick, for cement, and for the myriad other factors that go into housing, or for substitute materials, would, in our opinion, double construction costs.

The accumulated savings of the American people would be insufficient to take care of the mortgage needs, and in order to induce sufficient saving and attract sufficient capital from other countries, we believe that the interest rate would at least double.

If these latter assumptions are correct, and we think they are, the monthly cost of ownership, in place of the present amount, would now be about \$300, or  $3\frac{1}{2}$  times the original amount.

Under this assumption, at the end of 20 years the only value left would be the value in the land, which would mean that this excessive monthly cost would build no equity other than an equity in the land, and that after 20 years of payments,  $3\frac{1}{2}$  times as high as the present payments, the purchaser would own a parcel of land which would have to be reduced in price to take care of the cost of demolition of the obsolete improvements.

Under our present system, however, we think it is entirely probable that at the end of 35 years the purchaser of a house and lot, with an FHA-insured mortgage, would find that he could sell his property for as much as he had paid for it originally. In other words, with a payment only 28.5 percent as great, he would build an equity which would reduce his actual monthly housing cost to a very minimal amount.

We can be quite happy that the useful life of dwelling units far exceeds what our economist friend considers respectable. Contrary to his opinion, we consider the American people, either on an absolute standard or in proportion to their wealth, the best housed people in the world. Fortunately, the rate of depreciation and obsolescence is not nearly so great as he believes.