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Land Valuation and The Everyday Land Market

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Land valuation theory represents a helpful conceptual framework for understanding the processes of arriving at land values (land prices). As such it can be used as an aid to perform the very useful function of improving decision making on the part of participants in the everyday land market. Improved decision making can be achieved through greater attainment of what may be referred to as "warranted" values. By warranted we mean the ideal of productive worth of the land.[1] In the vernacular of one farmer, who was alarmed at present high land values, the value of land must not be any higher than "the income you can work out of the land." Concern is perhaps even greater today than it was in some past periods over the meaning of today's land values (prices) since they are still near their all-time peak despite some decline in farm incomes.

The significance of the problem is not restricted to the individual buyer, seller, or lender even though its impacts on these participants is great. The problem also vitally affects society in general. To the extent that mis-judgments are made by the individual in estimating the exchange value of a resource and over or under valuation results, resources are mis-allocated resulting in too much of some goods and services and too little of others. If the misjudgments become too great for many resources, we inadvertently stimulate strong corrective forces which, if not brought about smoothly, may throw a particular segment of the economy out of adjustment.

How can we attain the ideal of "warranted" land values or approach the ideal more closely? This article is designed to contribute towards achieving this objective by (1) discussing land valuation theory and (2) pointing out the need for synthesizing theory and practice to attain "warranted" values.

Land Valuation Theory

Basic to a discussion of land valuation theory is a clarification of what is meant by such terms as "value," "valuation," and "theory."

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1 Although only limited research attention has been given directly to the problem of attaining "warranted" values of land for purposes of increased efficiency in resource allocation, there is in the literature a vast fund of knowledge on segments and related phases of the problem. For a convenient source for the years preceding 1935 see particularly the specialized bibliography entitled, **Valuation of Real Estate,** Agricultural Economics Bibliography No. 60 (Washington, D. C.: U. S. Department of Agriculture, Decemoer, 1935). A warning on the necessity of keeping attention on the basic elements entering into the determination of "warranted" land value levels is given by Mark M. Regan, see his "Land Value Benchmarks," **The Agricultural Situation** (Washington, D. C.: U.S. Department of Agriculture, September, 1943), pp. 14-16. For a specific effort to develop a working hypothesis of warranted values for the United States for the period 1910-48 see Harald C. Larsen, "Relationship of Land Values to Warranted Values, 1910-48," **Journal of Farm Economics,** Vol. XXX (August, 1948), pp. 579-588.

In addition, a review of the customary usages of "value" and "price" with reference to land is needed.

One writer who has given considerable thought to the distinction between "value" and "valuation" states that ". . . a theory of value is an explanation of the influences determining value and a theory of valuation is an explanation of the processes used in arriving at a value. A value is the result of valuation procedure."[2] In further elaboration he points out what he considers to be the real function of valuation. This function is to provide a value by means of valuation procedure in lieu of evidence provided by an actual transaction in the real estate market.[3] The standard under such conditions would be the ". . . process or processes of valuation which come nearest to giving the value which would be reached under assumed competitive conditions . . ."[4] In general, economic literature identifies value with market value. This is the price that a good, service or productive agency will command if offered for sale. Theoretically, property prices are merely the capitalized prices of the uses which property yields, although the large speculative element in the knowledge of future services and their expected price makes the matter much more complicated in fact.[5]

In scientific usage a "theory" represents a logical hypothesis which is applicable to a large number of related phenomena. A theory is much more applicable to reality in scientific terms than it is credited with in the loose or general sense. In the latter respect it is thought of simply as speculation or conjecture. Malthus stated in 1798 that "a theory that will not admit of application cannot possibly be just."[6] At the same time, however, it must be recognized that if a theory were not open to some objection it would cease to be a theory and would become a law.

Although the terms "land value" and "land price" are closely interrelated and are often used interchangeably, the distinction between value and price as used and "real value" must be kept clear. For purposes of this article, value is regarded, in effect, as being a concept of "exchange worth." Price is simply a convenient expression of "exchange worth" or exchange value in monetary terms such as dollars and cents. In our modern economy it is difficult to accurately intepret the correct meaning of a changing price in terms of "real value." A changing price is not a good indicator of changing "real value" in different localities or different periods of time. Unfortunately we cannot assume, and be realistic, that the prices of all goods and services other than the one we are considering remain unchanged. We must, therefore, determine what the changed price will buy as compared

2 Weldon Hoot, "The Distinction Between Value and Valuation and Its Application to Real Estate," Vol. CXLVIII: Part I, Annals of the American Academy of Political and Social Science (March, 1930), pp. 65-66.

3 Ibid., p. 66.

4 Ibid.

5 Frank H. Knight, "Value and Price," Vol. XV, Encyclopedia of the Social Sciences (New York: The MacMillan Company, June, 1935), p. 218.

6 See "Theory," The Oxford English Dictionary, Vol. XI, (Oxford, England: The Clarendon Press, 1933), pp. 278-279.

with a previous or anticipated future period as well as between localities. An illustration of present high U. S. prices (values) of farm real estate (index=206 with 1912-1914=100) as well as current "real values" of farm real estate (index=83 in terms of 1910-1914 wholesale prices) is shown in Figure 1. It must be remembered that the comparison shown is in terms of standards of the past. This is not necessarily an indication that the present "real value" of farm real estate is either low or high as compared with the future. It is useful only insofar as it aids in evaluating probabilities for the future.

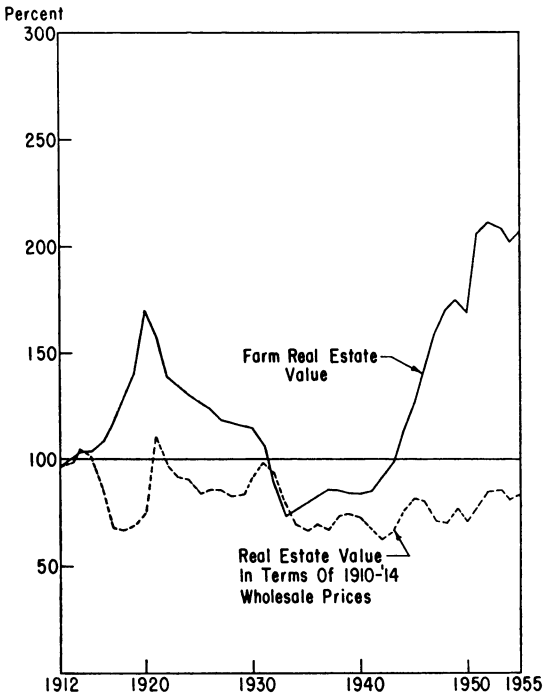

Fig. 1. Indexes Of United States Farm Real Estate Values, 1912-1955 (1912-1914=100)

Land valuation as compared with valuation in general has some distinctive aspects. This results from several unique characteristics of land. Unlike freely reproducible goods, land is more durable; it has a negligible rate of physical depreciation. In addition it is immobile and relatively heterogeneous. Then, too, lack of standardization, infrequency of sales and the relatively dis-organized nature of local land markets gives a much more prominent role to the use of judgment in valuation of land—a factor of production—than would be the case with products produced from land. As with other pro-

ductive resources, however, emphasis in land valuation must be placed upon future earning capacity.

In order to more nearly attain or approach warranted values or prices of land, those participating in the land market must have access to the kind of information needed for economically sound decisions. Possibly one of the most significant possibilities for improvement in decision making lies in the role of more effective integrated use of theory and practice in land valuation.[7] This can only come about from a fuller appreciation of the advantages and disadvantages of available theory and its application to specific situations. Undue reliance cannot be placed upon any given theoretical method. By the same token, ideally "what could be" in practice cannot be intelligently undertaken without some logical hypothesis. By way of elaboration let us discuss this more fully and indicate the need for "synthesis" of theory and practice.[8]

Considerable effort has been spent by agricultural workers in attempting to derive specific valuation techniques for determining present and future land values or prices. These valuation methods, for want of a better classification, may be tentatively grouped as follows: valuation by market or sale price, valuation by income capitalization, valuation by comparison, valuation by land use, and valuation by original cost. The significant interest in valuation by market or sale price and by capitalization becomes immediately apparent in such a classification (Table I). Over 37 percent of ninety selected studies on farm real estate valuation discussed market or sale price; 34 percent discussed capitalization. This classificiation, it must be emphasized, is not intended to imply approval or disapproval of the particular method; instead it is simply designed to show interest in the method. In many instances the studies point out possibilities for improvement in the method by offering relatively minor modifications. In other cases they simply discuss the method.

Table I. Number and Percentage Distribution of Selected Studies on Land Valuation Classified According to Land Valuation Methods.[9]

Land Valuation Methods	Distribution	
Valuation by Market or Sale Price	33	37
Valuation by Income Capitalization	31	34
Valuation by Comparison	16	18
Valuation by Land Use	10	11
Valuation by Original Cost	0	0
Total	90	100

7 Besides valuation theory, relevant theory should also include choice rules for decision making when certain alternatives are available. The theory of the firm which refers to optimum use of resources for profit maximization appears appropriately applicable.

8 For one of the earlier recommendations of this idea see Raymond D. Thomas' **Farm Land Valuation** (Unpublished Ph.D. dissertation, University of Wisconsin, 1926).

9 The selected studies on land valuation do not represent a random sample of land valuation studies. The studies were chosen from (1) a compiled and (2) a prepared bibliography on land valuation according to whether they contributed to information on land valuation methods. The bibliographical entries cover the period from 1910 to available studies published in 1955.

Synthesis of Theory and Practice

More significant though for our purposes than degree of interest in the method of valuation is the question of reliability of the valuation methods. Let us discuss capitalization, one of the more widely used valuation procedures. Is the capitalization formula, for example, a reliable forecasting device? Can its use alone aid materially in improving decision making in the everyday land market?

Among the early efforts to design the capitalization formula as a forecasting tool was a study by Clyde R. Chambers. [10] A formula was worked out to explain the behavior of the land market for the years 1900-1920. The now familiar formula which was used is:

$$V = \frac{a}{r} + \frac{i}{r^2}$$

The annual net return (a) is divided by the capitalization rate (r), while (i) over r^2 represents the annual anticipated increase in income divided by the square of the capitalization rate. While the results based upon the formula did coincide with market values during 1900-1920, it must be noted that it was a formula restricted in practice to describing what had gone on in the past. When applied as a forecasting device for the future, i.e. beyond 1920, the formula was not realistic. The weakness resulted from assuming a constant rate of increase.[11] Modifications, of course, have since been made in the formula by E. H. Wiecking and others.[12]

Even the modified formula of V=a over r±i over r^2, allowing for a possible constant rate of decrease in the net income, has not been in accord with the forces operating in the land market.[13] Further refinements can, of course, conceivably be made in the capitalization formula. It is exceedingly difficult, however, for a formula to be derived as an accurate or relatively accurate forecasting device. On the other hand, much is to be gained from using the capitalization formula providing we season it with good judgment. It aids immeasurably as a theoretical tool for improved "practice" in getting more closely to warranted values or prices of land. The use of the device brings much to our attention which we would otherwise overlook. Furthermore, the widespread use of the formula on the part of appraisers attests to its usefulness in this respect even though it cannot be relied upon as a mechanical forecasting device.

By way of further illustration of the need for sythesizing theory and practice to attain warranted values, let us note what happens when too much emphasis is placed upon the method of valuation by original cost. A recent informative study by Daniel F. Capstick of farm land

10 Clyde R. Chambers, **Relation of Land Income to Land Value**, U. S. Department of Agriculture Bulletin 1224, Washington, D. C., 1924 as reported by William G. Murray in "Land Valuation and Credit in the United States," **International Conference of Agricultural Economics, Proceedings** (1949), p. 269.

11 **Ibid.**

12 E. H. Wiecking, "Farm Real Estate Values and Farm Income," **Annals of the American Academy of Political and Social Science**, (March, 1930) pp. 233-245.

13 **Murray, op. cit., p. 269.**

inventory values in Oklahoma illustrates this point quite well.[14] The "practice" of using original unadjusted historical land values was compared with the "theory" of using adjusted or market values of the land for measuring the net worth of the business. The results showed that the use of un-sound "practice" failed to make sufficient deductions from farm income for land costs. The annual average difference in land cost per farm was computed for the period, 1929-1950. The "adjusted" cost with interest at 5 percent was $191.00 higher than the "unadjusted" cost with interest at 5 percent.[15] Some yearly differences exceeded $1,000.00. Capitalized at 5 percent the latter difference would result in a resource valuation difference of $20,000.00. Because of this un-sound "practice," labor and management returns were inflated unrealistically. This tends to mis-lead the farmer into believing that he was making more income than he actually was getting from his labor and management efforts.

In conclusion we can attain improved decision making in the everyday land market by greater integration of theory and practice. One immediate prospect may be found by inaugurating studies designed to show "warranted" values or prices of land by geographic localities. In such an approach the usual effort of forecasting land values would be modified. Emphasis would be placed upon a review of the assumptions that must be fulfilled to justify present land prices. If, for example, after analysis, it were found that (1) much higher yields and (2) much greater net incomes than are presently being attained on a given farm would be required to warrant its present price, the prospective purchaser would have more understandable information than he would have by relying upon a poorly understood forecast. This would result because of the ease of attaining greater familiarity with the specific unit under consideration than for farms in general. In addition, the prospective buyer would be benefited by information which designates geographic areas according to a "warranted" classification. In many areas of the United States the exchange value or the market price of land appears to be too high under present or expected prices for the man who has to "work it out of the land." In other areas it appears to be low enough to offer a real opportunity to a good manager. It must be kept in mind that the market price may vary widely from what may be regarded as a "warranted" price. Unusual pressures of demand or the inability of the economic supply of land to respond causes the market price of land to rise disproportionately. On the other hand, during periods of distress the market price may be too low to accurately reflect a value that is a function of future net revenues.

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14 Daniel F. Capstick, A Study of Farm Land Inventory Values for Accounting Purposes in Garfield County, Oklahoma 1929-1950 (unpublished M.S. thesis, 1953), prepared under the direction of F. L. Underwood of the Department of Agricultural Economics, Oklahoma A. & M. College.

15 Ibid. p. 55