A REVIEW OF THEORY RELATED TO LAND VALUE AND SOME ASPECTS OF THE LAND VALUE PROBLEM

A Thesis

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A REVIEW OF THEORY RELATED TO LAND VALUE AND SOME ASPECTS OF THE LAND VALUE PROBLEM

PART I - INTRODUCTION

The economic dilemma in which the world is found today has led, perhaps more than ever before, to thoughtful and deliberate consideration of the problem of land value. False or unprincipled valuation is undoubtedly not the only factor in bringing about the present real estate situation, but it cannot be gainsaid that it has played a large part. At least it is in large measure responsible for intensifying the evils of the conditions which exist. To bring progress toward rehabilitation an appreciation of the significance of true valuation and value is not the only means of alleviating the agricultural distress, but it must be a large part of any sound program for the future; it must be recognized as essential to any firm foundation for prosperity.

The year 1913 marks, in a general way, a great turning point in the history of land value in this country. Before this date the most striking characteristic of Canadian agriculture was the relative abundance of good land which

could be had for the taking under our homestead and pre-emption laws; or at most for a small price on easy terms. The acquisition of land with but little capital was easy and the natural result was that land was not accorded a very high place among economic goods. With the turn of the century land, as indicated by Hudson's Bay land sales, began to assume increasing values, as shown by Chart No. 1. Homestead entries continued to grow in numbers however until 1911, as shown by Chart No. 2, but were more distant from the railways and did not adequately serve to meet the increasing demand for land.

THE GROWING NEED FOR SUCH A STUDY

During the past three decades a veritable revolution has occurred in the relative position of land among the various economic goods. From the position of being regarded as of little economic importance it has risen many fold in value until it has come to occupy a central position in the field of agricultural economics. During the period 1900-10 the value of land in Canada increased by 309 percent. By the end of the next decade it had increased 472 percent, while during the decade leading up to 1930 it had fallen to 246 percent. These estimates are based on the figures given in Table I.

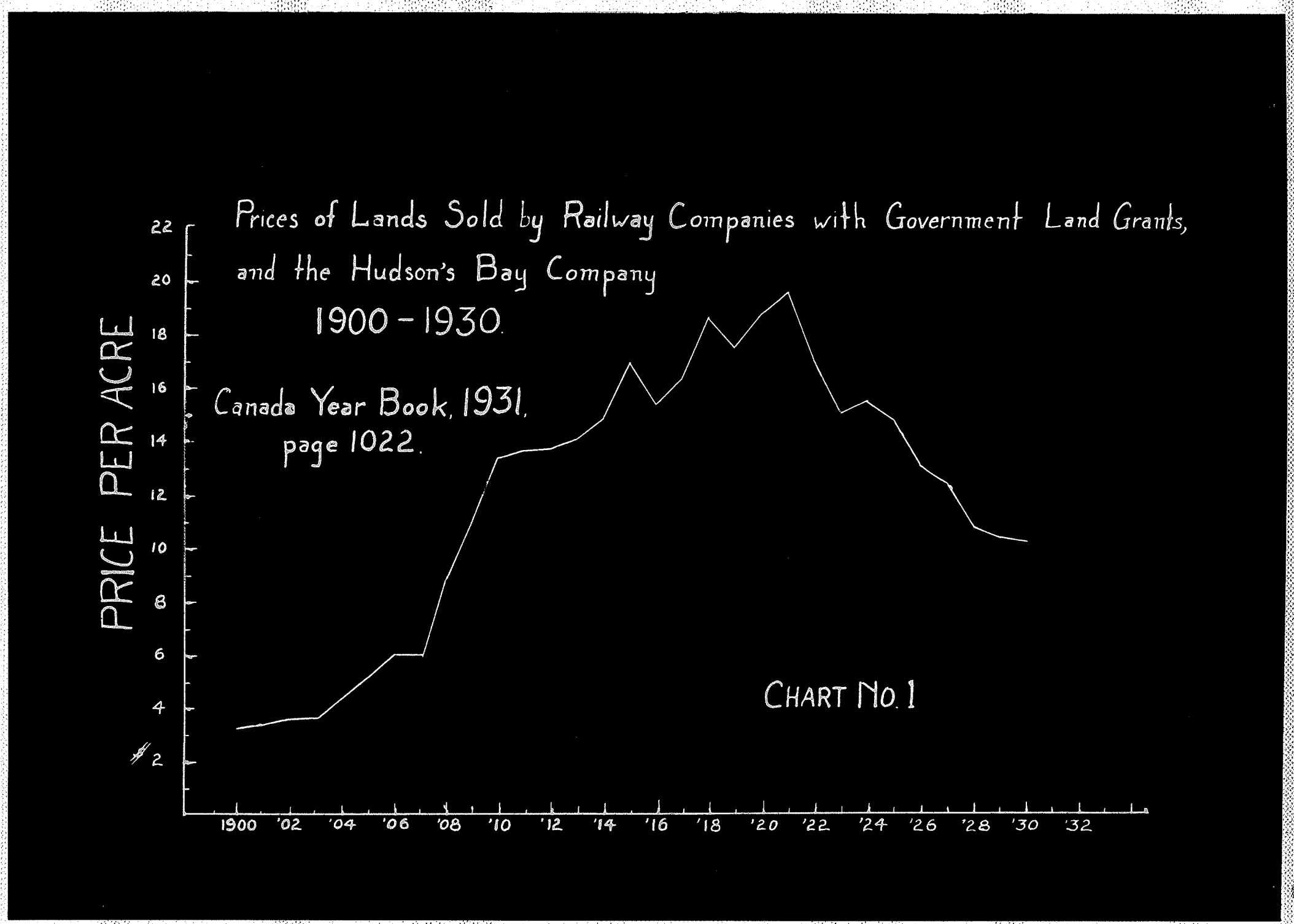
From now on indefinitely into the future it is almost certain that increasing consideration will be given to the investigation and measurement of the factors that influence

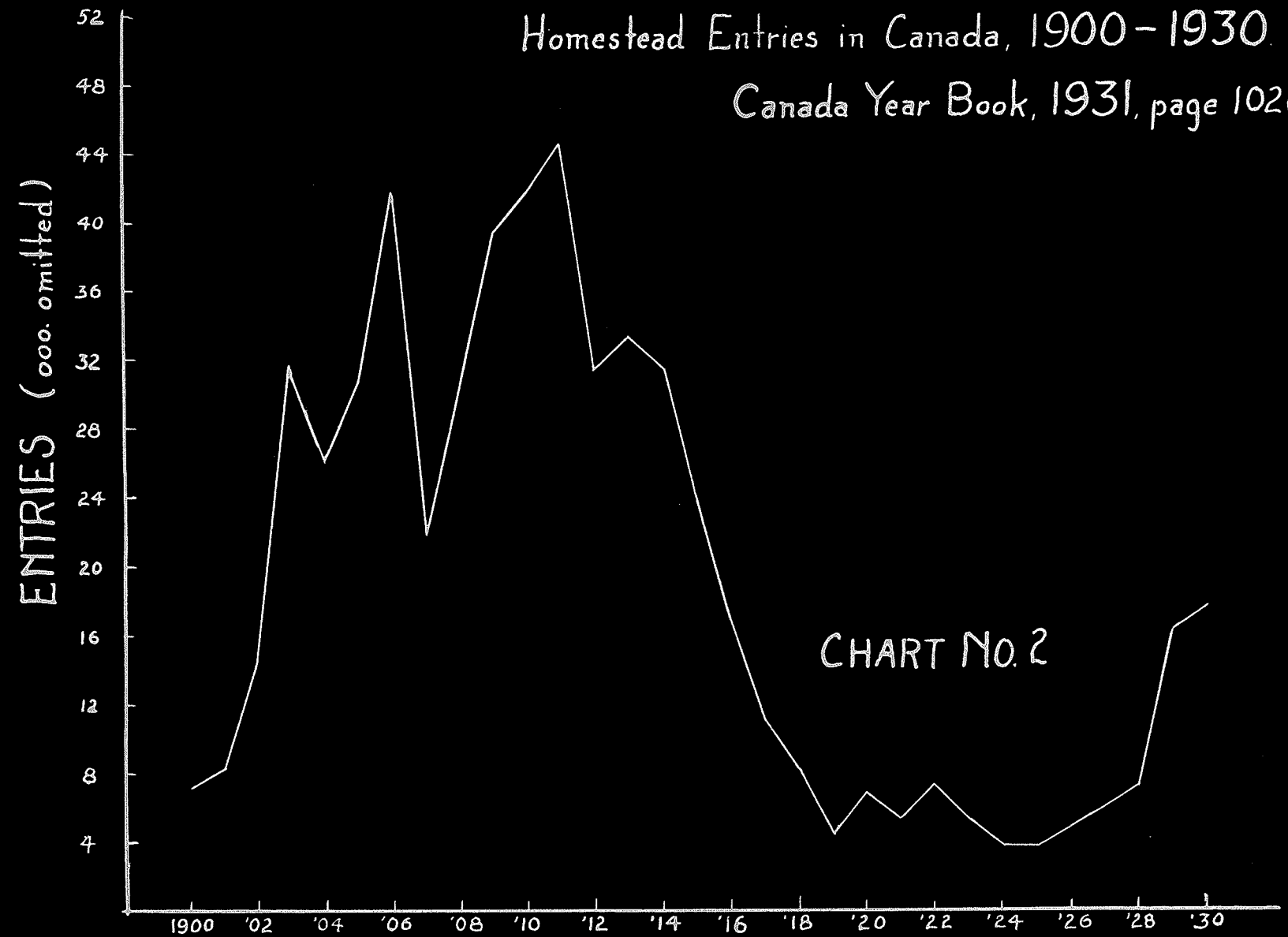
LAND SALES BY RAILWAY COMPANIES WITH GOVERNMENT LAND GRANTS, AND BY THE HUDSON'S BAY COMPANY, FISCAL YEARS ENDING 1900-1930

(000 omitted)

Year	Acres Sold	Average Price per acre $
1900	648	3.27
1901	621	3.36
1902	2,200	3.56
1903	4,229	3.46
1904	1,367	4.39
1905	790	5.09
1906	1,643	6.01
1907	1,238	6.02
1908	347	8.00
1909	109	11.08
1910	1,185	13.36
1911	1,407	13.59
1912	1,329	13.70
1913	707	13.95
1914	502	14.75
1915	193	17.01
1916	355	15.32
1917	755	16.35
1918	1,116	18.71
1919	1,039	17.47
1920	1,026	18.69
1921	554	19.61
1922	155	16.98
1923	123	15.12
1924	168	15.39
1925	247	14.95
1926	459	13.01
1927	666	12.45
1928	734	11.88
1929	560	11.46
1930	563	11.39

Modified from Canada Year Book Table, p.1022, 1931


Prices of Lands Sold by Railway Companies with Government Land Grants, and the Hudson's Bay Company
1900 - 1930.
Canada Year Book, 1931, page 1022.
PRICE PER ACRE
22
20
18
16
14
12
10
8
6
4
2
1900
'02
'04
'06
'08
'10
'12
'14
'16
'18
'20
'22
'24
'26
'28
'30
'32
CHART No. 1


Homestead Entries in Canada, 1900-1930
Canada Year Book, 1931, page 1020
ENTRIES (000. omitted)
52
48
44
40
36
32
28
24
20
16
12
8
4
1900
'02
'04
'06
'08
'10
'12
'14
'16
'18
'20
'22
'24
'26
'28
'30
CHART NO. 2

the value of land with a view to arriving at scientific principles of appraisal and to serve as a basis on which to formulate national land policies. This need is becoming imperative, first because of the tremendous burden of mortgage indebtedness on farm real estate, second because of the rapid growth of tenancy in recent years, and third because of the fact that a sound national land policy is desirable for future settlement of undeveloped lands and to assist in the re-establishment of settlers already misplaced.

TWO BROAD DIVISIONS IN A STUDY OF LAND VALUE

A study in farm real estate values may be considered under two broad divisions: First, the theory and explanation of the movements and composition of values both geographically, i.e. as between farms, districts, areas, countries, and chronologically, i.e. from time to time for the same farm, area, or region. Second, the methods and procedures for placing values on given pieces of property for various purposes. The emphasis in the first is on 'theory', in the second on 'practice'. The second is the phase of appraisal or valuation and is, or should be, essentially an application of principles developed in the first.

THE SUBJECTS INVOLVED

In leading up to a study of land value the peculiar characteristics of land as a production agent must be given

consideration. Consideration must also be given to the subjects of rent, interest, and capitalization, for these are of central significance. Moreover a study in the field of land value must be concerned with taxation; and it is closely connected with the field of agricultural finance because credit conditions and alternative investment opportunities of themselves have a reflex influence upon the real estate market.

Thus it is seen that a study in land values draws from a wide sphere. From a subjective standpoint it must include anything which influences the value of land; from an objective standpoint it should deal with those things which in turn are affected by land value.

THE GENERAL NATURE OF TREATING THE PROBLEM

It goes without saying that the problem has extensive social complications and is of such proportions as to make its neglect in the past seem preposterous. In this study the topic will be dealt with only in its broader aspects and it will undoubtedly appear but an humble effort in comparison with more intensive and comprehensive studies in this field which seem incumbent on the immediate future.

THE PURPOSE OF THE STUDY

The main purpose of the study is to deal qualitatively with the various factors which influence the value of land

with a view to indicating the nature and strength of their impact. This should be found helpful to one engaged in the field of the applied science of real estate valuation or land appraising. Also the objective aspect of the problem was constantly in mind and an attempt is made to suggest the connection with the problem of land utilization and credit especially as these are related to the effect of land value which is likely to result from haphazard methods and policies of valuation and land settlement. In relation to the future a few constructive suggestions are offered with a view to indicating the need for reform and for a definite and sane land settlement and credit policy, both on the part of the governing bodies and on the part of private interests responsible for advancing credit.

At the outset the specific end in view was that of dealing more particularly with the applied science of land valuation and combining with this the pure science of land value theory. Here primary emphasis would be placed on land appraising principles with land value theory as a necessary background. However, it was found that scientific literature dealing specifically with either problem is relatively limited. Thus it was thought the best procedure to give major consideration to the latter problem as it is basic to a study in land valuation.

At present there is very little literature dealing

with land valuation with the exception of that to be found in certain European countries[1]. In this connection it has been said 'that land valuation has had to wait on the development of the fundamental underlying sciences before it could be given a scientific basis', and further 'that it is probably only now that these scientific bases have developed to the point of furnishing a scientific foundation for farm appraisal principles'[2].

THE METHOD OF APPROACH

An attempt was made, in the first place, to collect all the literature available having any reference to land value, both that to be found in text books, bulletins and magazine articles. This was reviewed. From the body of information thus obtained the inductive method was used in an attempt to determine the various factors affecting land value and to trace the developments in theory. An attempt is made to draw out those theories which seem to be more generally accepted from time to time and also those which are captivating the attention of some of the more modern economists, especially those of United States.

A DEFINITION OF TERMS

The term 'value' in common usage is expressed in

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[1] Geo. and Farm Real Estate Valuation p. 5
[2] " " " " " " " p.64

several ways, all of which may or may not be indicative of one and the same thing. Among the terms used to suggest particular species of value may be found: market value; liquidation value; book value; real value; cash value; fair value; or true value. In economic terminology the term is used to denote economic value exchange, or market value, and to some extent speculative value.

Realtors speak of real value or economic value as contrasted with speculative value. The exchange value is the money price for which the land will sell in the open market at a particular time. The economic value is that value resulting from a capitalization of the net incomes anticipated from the property. The phrase is usually used with reference to improved real estate, as the economic value of vacant land cannot with any degree of certainty be segregated from the exchange value of the whole property. The economic value of unimproved property would involve speculation as to the cost of improvements, and the capitalization of the net incomes expected after the improvements were made. The element of speculative value is the difference between the economic value and the market or exchange value.

The 'value' to which this study pertains is, in the main, 'exchange value', that is, the price at which an owner is willing to sell, who does not have to sell, to a buyer who is willing to buy, but who is not pressed to buy. Over

a period of time this will tend to be the equivalent of the economic value of a property. The assumption is made that there is a condition of absolute freedom of competition. Such a value is one which is never precisely measurable as it is influenced by a multifarious group of factors, some of which are purely metaphysical.

The maxim of the willing seller and the willing buyer represents a fine idealistic concept of value, but in actual practice no such bargainers exist; their interests are diametrically opposed. If a transfer of real estate be concluded on a mutually agreeable basis it will be almost always found that the mutual willingness is caused by some other circumstance than price. If absolute freedom from economic friction were the condition in business transactions then and only then would price represent economic value.

PART II - GENERAL THEORY RELATED TO LAND VALUE

A DEFINITION OF VALUE

Value is and must be a matter of comparison between things valued. Changes in value can be thought of only in relative terms. It cannot be said, for example, that all things have risen or fallen in value because there is nothing outside 'all things' with which they can be compared. Even the uninstructed person thinks of value in a comparative sense, having, ordinarily, money in mind. His statement

that a thing has risen or fallen in value means that a unit of it exchanges for more or less money. He does not question whether it would be equally or more logical to say that the value of money has changed.

The financial disturbances of the Great War made the idea more familiar that the value of money itself can change and that it should be regarded as rising or falling according as to whether it will buy less or more of everything, or even of most things. Now it has become very common practice to decide first whether a commodity or service has changed in value compared with money and then to correct the result by allowing for any inflation or deflation in terms of the monetary standard.

THE SIGNIFICANCE OF THE TERM 'MARKET VALUE' OF LAND

A Test of Market Value - It is often contended that a great part of the value of land as evidenced by the selling price is artificial, and that it is raised above its normal level to the great injury of the community, especially the poorer classes. It is maintained that the price at which land is held may be perfectly moderate and reasonable, but that it may be a price considerably above economic value. The view is that the owner of land, in general, has an advantage in bargaining which allows him to exact something in the way of a monopoly price.

This argument obviously concentrates on the supply side of the market. But in a test of market value the demand side must also be taken into consideration. It is then through the interplay of supply and demand forces that prices are established.

The Effect of Purchasers Demand - In the case of land the demand of purchasers would seem to be the more effective in boosting prices. If this is the situation and it is detrimental to the interests of the community the only solution would be through devising some means of restricting the competition of buyers. So far no such scheme has been formulated and perhaps the only possibility would be in the way of nationalization and bureaucratic control. More will be said in connection with this phase of the problem later.

Price and Market Value - It becomes apparent that land, like all useful things, assumes value as it becomes scarce.[1] A price is set upon it and its value is reckoned either in terms of all other useful commodities or in terms of one commodity, gold. The price of this desirable and relatively scarce commodity is said to be its market value. And if the process through which market value is reached is a careful and adequate one then it will be just as practical and useful as a theoretically accurate measure of actual

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[1] Taylor, Agri. Econ.' p.211

worth as will any theory that has been based on careful observation of facts. Of course it must be admitted that in actual practice influences are exerted on the process of valuation which often cause wide discrepancies. In other words, competition does not work with faultless precision on the land market and prices found on that market may not reflect the actual value which a full appreciation of facts would warrant.[1]

THE CHARACTERISTICS OF LAND

The Term 'Land' - The term land is used to include all natural resources. The older concept would allow the inclusion of natural resources only in their original and 'indestructible' state.[2] Land was thought of as a free gift of nature. In later writings, however, the term is usually applied in a broader sense. It is realised that some capital improvements become so inextricably incorporated in the land that it is impossible to segregate the two. Improvements have varying degrees of permanence and they may be such that, to all intents and purposes, they are almost as permanent as the land itself. As a consequence land income has come to refer not only to the payment for land in its original form and proportion, but also for man's improvements which have been permanently or semi-permanently embodied therein.[3]

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[1] Taylor 'Agri. Econ.' p.211
[2] David Ricardo Principles, Chap 2, p.33
[3] Harver & Hanson, p.444, also U.S.D.A. Bul.No.1264, p.1.

Certain Peculiarities of Land as a Factor of Production - In contrast with the other factors of production, land presents certain peculiarities. It is subject to the vicissitudes of nature and, though these can be modified by man, as already stated, the land itself in the strict sense cannot be produced by him. To make a survey of the surface area of a country is to get but little information about the land as a factor of production. To obtain the physical area of land is but a mathematical declaration of its extent; it gives not even a vague idea of its potential capabilities in production either in terms of quantity or variety of goods. There must be supplemented a critical analysis of its quality and other physical limitations to productiveness. Some land yields no product, some yields moderately, while some yields abundantly to husbandry.

Land has other physical characteristics which do not find a counterpart in other goods. The first and most important of these which is of economic significance is its absolute immobility. Land represents a certain space embodying certain environmental conditions of climate which cannot be changed. However, though the physical location of a particular parcel of land cannot be altered, its economic location can be improved, thus narrowing the differential advantage which exists between the well and poorly located areas.

Another physical characteristic rivaling the latter

in importance is the significance of its economic implications is that of comparative indestructibility. It is true that land may lose, to a degree, some of the attributes which give it value, such as fertility. But it retains the characteristics of extent and location.

A further physical characteristic is lack of homogeneity. No two parcels of land are exactly alike in fertility, situation and other such factors. This precludes the possibility of dealing in land in the same way as in other commodities. In order that a good can be bought and sold on the ordinary market it must be of such a nature that it can be standardized and substituted to facilitate short selling. But a transaction in land pertains to a specific parcel of land which has qualities not likely to be found in the same degree elsewhere; it relates to a particular unit of land in a particular location.

The Development of the Theory of the Value of Land

The Evolution of Land Value Theory - From very early times a tendency had existed toward private ownership of land rather than its use being a common privilege to all. This tendency can be traced from Teutonic times through village community arrangements, to the feudal system of land tenure under which people were given certain privileges over tracts of land in return for services to their monarch.

It is only late in history that this system, in turn, has been supplanted and land has become private property dealt in and thought of in the same general way as other productive agents. Hence it is only late in the history of economic thought that land has not been treated as something exceptional and requiring a separate theory of value. The institution of private property in land has come to form the basis of the essential principle in the theory of land value.

A very obvious truism is that the produce of land is shared between laborers, tenant and landlord. In other words, it is shared between labor, capital and land. However, it is only if the shares of the first two are thought of as coming first and of the third as being a surplus that these shares involve any theory of the value of land in themselves. Quite often the shares of each are thought of as being one third to each as a reward for its contribution in the process of production.

Now if with or without reason the proportion of the annual produce accruing to land be regarded as this fixed share it is clear that the only possible theory of the value of land is that it must rise and fall with the aggregate value of the produce. And further, so long as there is no noticeable change in the value of the unit of produce this aggregate value will be taken to depend on the magnitude of

the produce.

To have a large produce would be obviously a good thing, therefore a rise in the value of the land in a country has been looked upon as one of the greatest signs of national prosperity and the interest of the landlord was thought to be coincident with that of society. At any time a rise in the value of land in a particular locality within a country is taken to show that the locality is prosperous. The inference was drawn that the same condition would apply to a nation as a whole.

The Physiocrats went even beyond this popular belief in their opinion that a rise in land value, due not to an increase in produce but merely to a rise in the price of its product, was a sign of prosperity.[1] This argument overlooks the fact that such will be the case only if the greater part of the produce is exported. If the greater part is imported and consumed at home then the country, in general, is affected adversely. Thus in Canada a comparative rise in the price of farm produce is looked upon favorably since only a comparatively small proportion of our agricultural produce is used in domestic consumption while the volume of exports is large.

Applying the Law of Supply and Demand to Land - The

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[1]Cannan 'Review' p.221

old idea of land value was largely from the viewpoint of its being a social creation. The more modern concept regards it as being governed in the main by the supply of and demand for its produce. Ultimate increase or decrease in value are thought of as being dependent, other things remaining equal, on the relationship between the rate of increase in the economic land supply on the one hand and the rate of growth of wealth and population on the other. In a dynamic society in which improvements in agriculture are in the ascendency in comparison with the growth of population land values will rise. Increased product may result from an increase in the economic supply of land or to a geographic increase. In any event, if this is more than counterbalanced by increased demand for produce a rise in land values is imminent. And the greater the pressure of demand the higher will be the differential value of the better lands above those at the margin of cultivation at any particular time.

In applying the law of supply and demand to land, unlike other factors of production land was thought by earlier writers to be fixed in supply; it was a fixed known quantity. This dissimilarity was thought to make a fundamental distinction between land and other agents of production. From the other side of the market, the demand for its service was thought to be universal. It is true of any commodity that a relatively high demand for its use or service endows it with a high value unless supply is

increasing in like proportion.

Some modern thinkers consider the fact that the surface of the earth is a known quantity fixed by nature is of the same general nature as the fact that the different kinds of matter provided by nature cannot be increased.[1] The physical limitation of the supply of land has the same relevance to its value as has the limited supply of iron ore in the world to the value of a machine. Land is thought of more in the sense of an instrument of production - as a 'machine'[2] or as 'capital'[3]. In the analogy between land and a machine made from iron the value of each is augmented as its productive powers are increased. The iron ore is processed into a machine and derives its value indirectly through the utilities it aids in producing. The natural qualities of land are manipulated by man to enable it to produce desired goods. Its value, like that of the machine, is derived indirectly through the utilities which are produced by it. Like other requisites of production then it has a 'necessary' supply price,[4] according to this theory.

It is now generally, though perhaps not clearly realised, that if anything is both desired and sufficiently limited in quantity the general laws of its value are unaffected by its origin whether it be ascribable to nature

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[1] Cannan 'Review of Economic Theory' p.246
[2] Nancy 'History of Economic Thought' p.244
[3] Davenport 'Economics of Enterprise' p.161
[4] Ely 'Income and Cost in Land Utilization' p.30

or to use.[1] Land is, therefore, coming to be regarded by many as one of the numerous things which are desired as instruments for the production of desired things. What is desired in land is not mere area but productive powers. The price of land is determined in the same general way as are other prices that is superficially by demand and supply and the price acting forces behind them.

In applying economic law to the so-called 'stubborn' fact of fixity in supply older writers thought the outcome to be obviously that no effective competition would exist among owners of land to obtain purchasers. The owners of land would not compete with each other to meet the demand of users. On the other hand, users would compete strongly for a share of the supply. The only limit to the charge that could be exacted for land then would be the capacity of the users to pay.

All other commodities were thought to be supplied at a minimum charge for the reason that any higher charge would bring forth further supplies in competition until normal equilibrium was again established. Land was supposed to be supplied at a maximum charge because competition could not bring forth a further supply. Thus every increase in population would create an increased demand for land with a consequent increasing proportion of the wealth produced by the cooperation

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[1]Gannon 'Review of Economic Theory'

of land labor and capital continuously going into land value.[1] It was this fallacious view which led to various proposals of social reformers who would have appropriated this appreciation in value for the state by a single tax on property.[2]

THE SENSE IN WHICH LAND MAY BE THOUGHT OF AS BEING PRODUCED

Land is usually thought of as being unproducable. It is thought of in the unimproved state. However, in this state it is rarely other than worthless. In other words, it is only to a very limited extent that man is furnished with the products of nature in consumable form directly. He adds form utility in making land productive of the thing he desires; he adds time utility often in holding land until it 'ripens'[3] into its most economical utilization.

To this extent it may be said that land is produced and it may even be said that the difference between the idea of producing land and producing other goods is only one of degree. Of course the degree of difference is very great. Land has certain physical characteristics which are unique and which cannot be changed, such as absolute immobility. On the other hand there are those which though relatively indestructible can be conditioned and modified. In this connection

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[1]Cannon & Ricardo p.235
[2]Henry George 'Progress and Poverty' Book V. Chap.2.
[3]R. T. Ely 'Land Income' Political Science Quarterly, Sep.1923 p.p.416-13

Taussig says: 'That land in continuous cultivation without anything done in the way of restoration of fertility destroys its productive powers.[1] After a period the productive powers must be supported.

Land cannot be produced in the same sense that other productive agents are, but it has qualities which allow for manipulation by man. It has inherent powers of production which may remain latent without cultivation and improvement. It is only when these powers are aroused that land becomes an agent in the production process.

HOW THE UTILITY OF LAND IS DERIVED

Land is desired partly because it yields goods and services and partly because of the psychological enjoyment value sometimes attached to its ownership or to its being used in direct consumption for a home. The basic factor in value is the productivity of the land, but from an individualistic standpoint land possessing scenic attributes, conveniences, or other amenities will have higher utility.

These secondary factors will have a very strong appeal for individuals. They will spend on these forms of enjoyment perhaps a large proportion of their income. Earning power of certain properties may be capitalized at a very low rate in

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[1] Taussig 'Principles of Economics' Vol. II p.67

order to make them their homes. To others land may be desired only as a form of investment or a certain area may be desired to incorporate it in the present or in the future with other land. The dominant factor, however, which gives land utility is its productive power and to this may be added several minor factors.

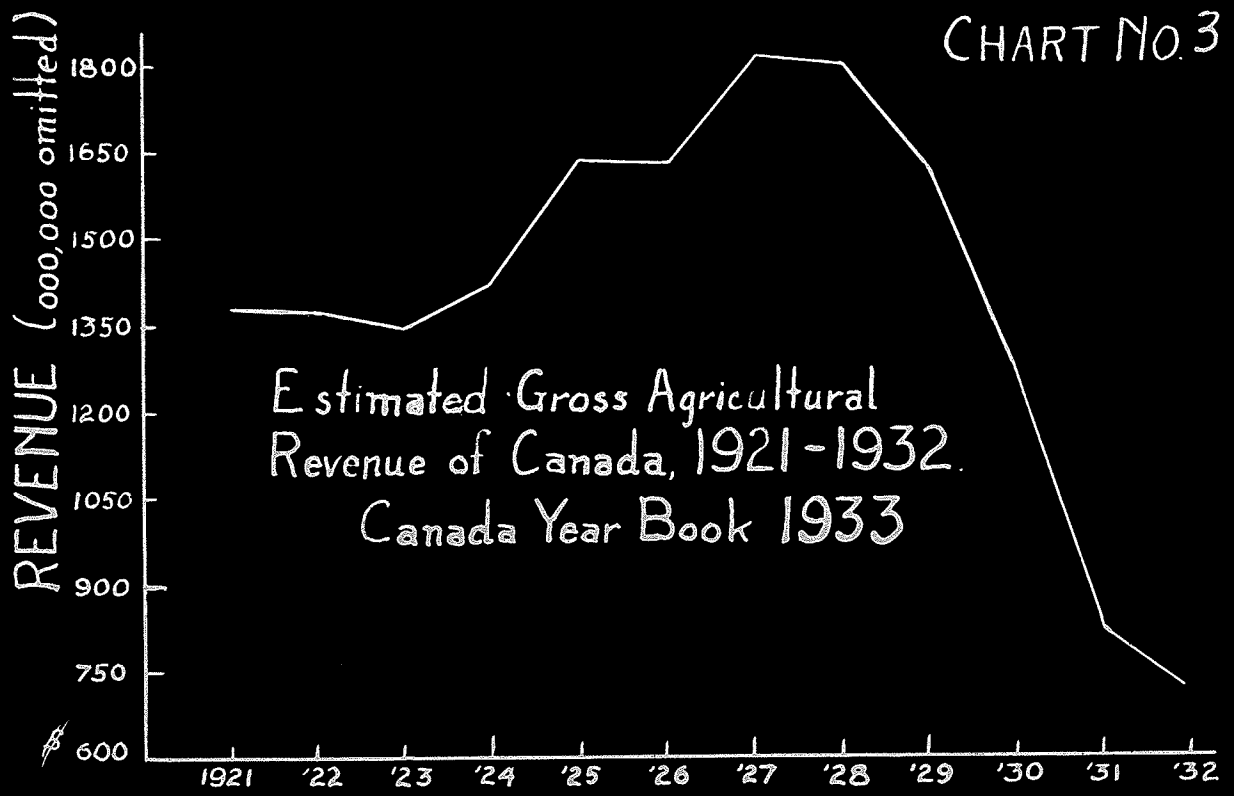
PART III - CAPITAL VALUE, LAND INCOME, AND APPRECIATION

CAPITAL VALUE OF AND INCOME FROM LAND

The capital value of land consists of more than the factor of its earning power, but that this is the main factor is suggested by charts numbers 3 and 4.
From one point of view it is regarded as essentially the capitalised amount of rent which may be received in perpetuity. In practice it is estimated on the basis of the prices likely to be realised at future times but on close examination even these may be regarded as being based on rental values. In the simplest case of agricultural land with no apparent prospect of appreciation from external influences capital value would be simply the capitalisation of net rental values. In other words, it would represent the present worth of all future incomes anticipated from the land.

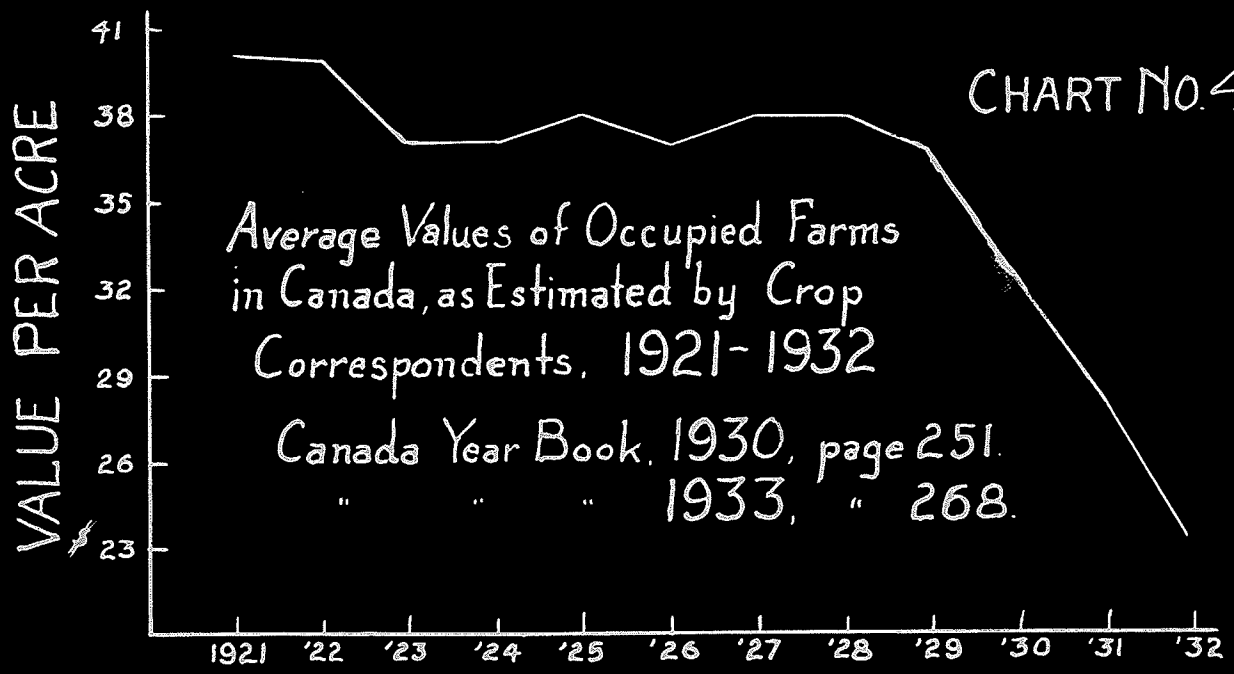
In purchasing property not only the immediate highest rental value, but in addition any higher rental value which to ordinary investors seems likely to attach through any

CHART No. 3



Estimated Gross Agricultural Revenue of Canada, 1921-1932.
Canada Year Book 1933

CHART No. 4



Average Values of Occupied Farms in Canada, as Estimated by Crop Correspondents, 1921-1932

Canada Year Book, 1930, page 251.
" " " 1933, " 268.

future and more remunerative use of or more intensive demand for the property is always taken into account. This principle applies not only to land but to all forms of productive property. The price would tend to be such that all anticipated incomes during the period over which the capitalization process extends would be covered on the basis of their discounted present worth. The capitalization process itself will be explained in a subsequent section.

Objective and Subjective Value of Land - In the determination of the market value of property the main consideration is productiveness. This value represents the sum which would be paid by any ordinary group of investors for land, together with its amenities. Aside from this a special subjective value may be attached to certain properties by certain individuals. The land may be such, however, that there would be no preferences for any particular parcel of it. This is more likely to be the case where there is considerable uniformity in an area. Here actual rental value would be almost the sole determinant in estimating capital value and there would be only a very minor influence exerted by the psychic element.

At the other extreme there is considerable land adjacent to urban centres. This land may have an immediate agricultural income bearing power and in addition a future or expectant value due to its location. This latter value

however would have no effect on the rent obtainable for immediate use of the land. The value of land may in this way be affected for a considerable period of years, perhaps ten, or twenty, but not likely any longer. Thus it is seen that the very nature of the connection between the income producing power of a property and its market value make speculation as to an unknown future imminent.

But it can hardly be said that all added increments to land value based on rentals are merely artificial and speculative. In fact it is only in proportion as future rentals are not forecasted sufficiently conservative that the element of speculation enters. Especially is this true of the land in close proximity to towns or cities. Here some increase in value may be certain. The owners of such property may have justifiable assurance that in a period of years its value will be enhanced. Thus the most economical utilization of the property may bring a rental at a very low rate on the investment at the beginning. In other words the capitalization may appear so high as to be unwarranted. Certainly any forecast of the future involves a certain degree of speculation but it would be illogical to attribute the entire margin above rental value to this factor.

A Farm is Both a Means of Gaining a Livlihood and a Home - One of the main characteristics of agricultural land in contrast with other forms of property is that it, as a rule,

constitutes both a means of gaining an independent livelihood and a home. In the city the business and the home are almost invariably distinct. The home is a consumption good and has value as such. The farm has value, not only because it provides this direct satisfaction, but because it also provides enjoyment indirectly through the creation of goods or services that yield profits.

Often in reference to agricultural conditions, or in reference to the relationship between land income and land value, the distinction is not made between the two inseparable elements, the farm as a home and as a business. As a result the returns from the farm often appear abnormally low. When income and expense are compared and a normal rate of remuneration for the use of land is contrasted with prevailing money rates it is often thought unduly out of proportion.

To the extent that land is a consumption good from which no objective return can be properly expected, there may be an apparent but not a real disparity between money rates of return in agriculture and in other forms of investment. When this 'home' element is considered it affords a partial explanation of why land is often worth more than net incomes capitalized at the current rate of interest. In proportion as the farm as a home possesses amenities a larger part of the valuation can be ascribed to this factor. The intensity of the influence of this factor will become greater with

increasing wealth and changes in the customs of people and in social environment.

If, therefore, the capitalization of net rent at the current rate of interest on sound securities be taken as the sole determinant of the value of land this would not be found to coincide with that value actually found on the land market. The home furnishes utilities directly, and not in the form of a money income which may be capitalized. Insofar as the home has subjective value a part of its value will be quite apart from its physical or economic productivity and if net rental is used as the starting point in the determination of the value of the land it will manifest itself by a tendency to give a lower rate of capitalization.

Capital Value Affected by Community Development - By some community development is considered second only to the productive power of the land as an element in its value; in some cases it is undoubtedly the main factor. Community development is generally understood to mean the existence or the construction of public improvements in the way of roads, schools, churches, etc. From the standpoint of the individual, farm development implies improvements in the way of buildings, fences, drains, etc. These augment the value of the land from the efforts of the farmer himself in contrast with external improvements which give greater value created by society.

A high correlation would be logically expected between

high productivity of land and community development. But it often happens that in two communities having equally favorable land, the one with the highest development in improvements may have much the higher land values.[1] Even in localities where the land is relatively unfavorable the character of the people may be such that with industry and thrift a high degree of community development is attained, resulting in a relatively high valuation of the land.[2] This condition can be thought of as having little effect in the pioneering exploitive stage of agriculture. But in the evolution toward greater stability in the industry it becomes of increasingly greater importance.

The Preferences of Population - A strong influence on land values may be wielded by the population of a country exhibiting a preponderant preference for farming as against other occupations. In a completely settled country this would have a tendency to create higher than normal land values because of the willingness of individuals to sacrifice a larger income in some other form of business. This might result in bidding so high for the land as to furnish a relatively small return for labor and capital. The general argument here presented will receive more careful examination in subsequent expositions relating more specifically to the various factors

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[1] Ewing, 'Systematic Comparative Valuation for Agr.land in Sask.' p.27
[2] The Annals, Vol. CXLVIII, p. 120

involved.

Personal preference may take other forms too. It may take the form of a preference for a particular farm perhaps for purely sentimental reasons. In such a case an individual might pay a price out of all proportion to capitalised net rent. It may be that family traditions and ties are so strong in a community that, rather than go to another section of the country, such high prices will be paid for property that the relative ratio of income to expense might appear ridiculously low. Of course personal preference exerts a comparatively minor influence on land values in a new country, but it is reasonable that a large number in a community having similar preferences cannot but influence land values to some extent even here.

APPRECIATION OF LAND VALUE

What the Term Implies - The term 'appreciation' is usually used to denote price movements which outlast the business cycle, or which tend to run counter to downward trends in business.[1] More precisely it is an upward swing of the value of particular goods or services after eliminating the effects of seasonal and cyclical factors and of the depreciation of the monetary standard.

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[1] Encyclopaedia of Social Sciences, Vo. 2. 'Appreciation'

In respect to particular parcels of land the term can be applied to 'ripening' for more economic utilization. Into this category is placed land which is being affected by the growth of population nearly or even to increasing demand from population at a distance. Whatever the cause, when increments to the value of land are being realized the term is used to refer to potential or actual marketability at higher prices.

What Appreciation Depends On - The accrual of appreciation depends upon a reduction of income costs remaining the same, or an increase in revenue costs remaining the same, or on a decline in the rate of capitalization net income remaining the same. A little thought in regard to the implication of these various factors makes it obvious that there would be tremendous difficulties encountered in attempting to ascertain the facts regarding appreciation, though it might still be observed to be existant. There would necessarily be a consideration of the several kinds of land, the lack of uniformity in the development in the several countries, the social, economic and physical differences of communities.

It is no wonder that the degree of appreciation, or depreciation as the case may be, is in practice not very closely estimated. Appreciation in the value of property may not be realized by the present owner due to the use of the property

at its existing capacity. He may be realising the appreciation which he anticipated when he purchased the property, but the prospects of the present will not be realised unless he sells it. The prospects of appreciation are always discounted in the present value, but they may or may not be realised in the future. Accrual of appreciation, then, may be anticipated but not realised, or it may be realised but not anticipated.

Two General Types of Limitations of Appreciation - There are two general types of limitations to appreciation in land values, these being physical and economic. The physical limitation is that of possible scarcity, or, in other words, it involves population pressure. In the economic field land may have a tendency to appreciate in value from one cause and to depreciate from another - a condition which may come from either or both sides of the old supply and demand formula. There may be a tendency to appreciation through improvements in transportation, or improvements of the land itself, or to the prospect of shifting to a more intensive type of farming. At the same time there may be a tendency to depreciate due to the field of competition in production becoming broader. These opposing forces tend to offset each other.

Facts such as these are often overlooked in the somewhat common belief that in a country with a growing population land values will necessarily increase. It is true that they tend to shift with population, but land values may be

rising in one area while general land values may be on the decline. Technological improvements, however, check the tendency toward appreciation in general through their effect upon costs.

Appreciation Can Only be Measured by Relative Comparisons - Land values may be averaged over widely separated years or over a considerable area, that is, they may be measured in territorial or time dimensions. These averages may disclose price advances in response to population growth, but in measuring appreciation on this basis the result is apt to be misleading when costs are taken into account. Costs do not necessarily change in the same proportion as land values. Thus actual appreciation in the value of land can be thought of strictly only in relative terms. An absolute increase in price might be found but this is not necessarily a reflection of a corresponding change in value.

The accrual of appreciation of land depends not only on the uses to which it is being put and the demand for these services, but also upon the cost of putting it to a given new use and upon the cost of holding it in its present use until a more profitable use ripens. All these conditions may vary with a number of influencing factors. Costs of improvement vary with interest rates, wages and costs of materials: Costs of holding vary with interest rates and taxation. The effect of these elements will be dealt with

in specific sections for their treatment.

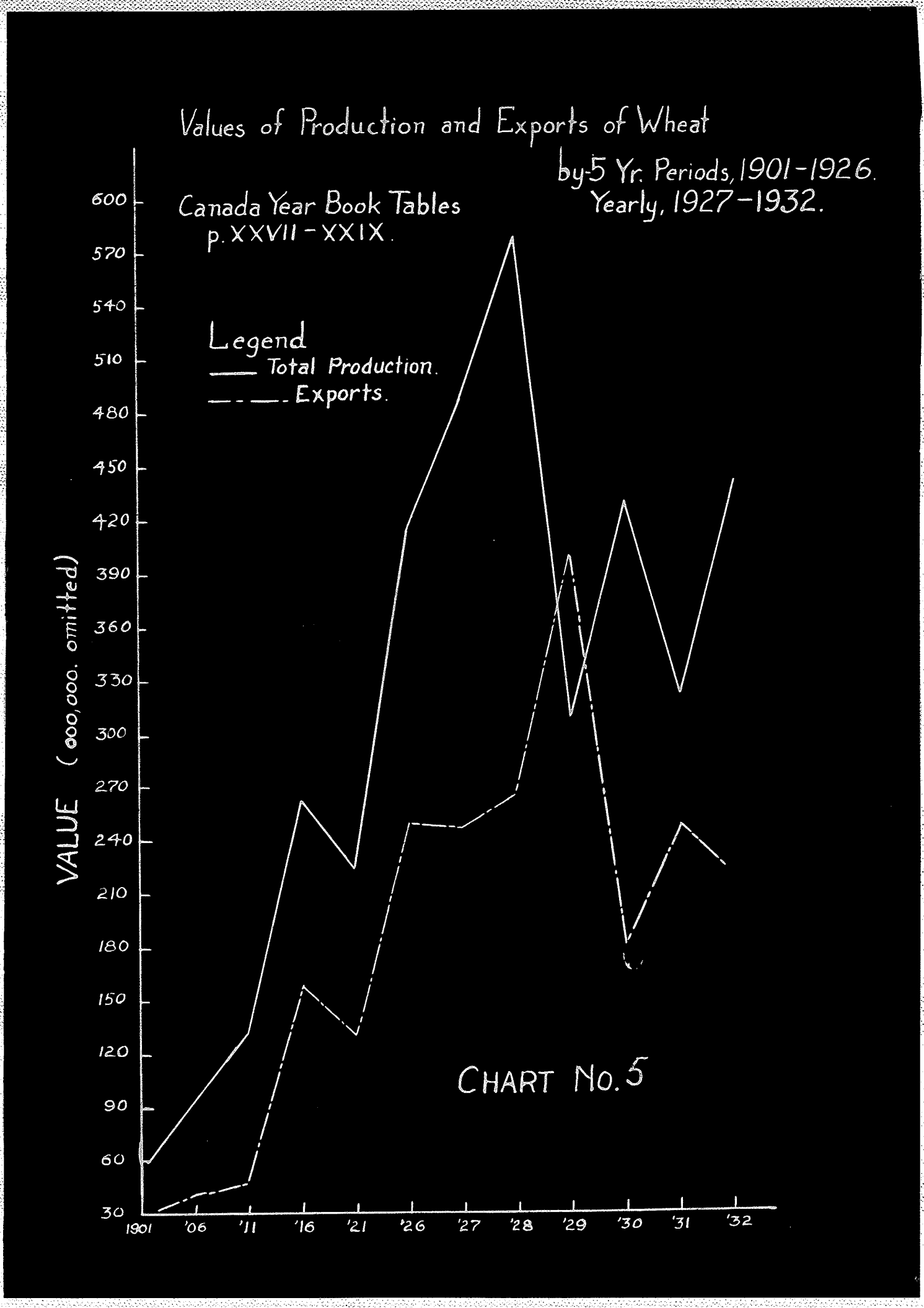
In the case of land, appreciation means an increased cost of doing business unless it can be offset by economies in other directions. If it is being realized existing owners will benefit, while in the converse condition, that of depreciation, they will lose and any likelihood of benefit will go to prospective purchasers.

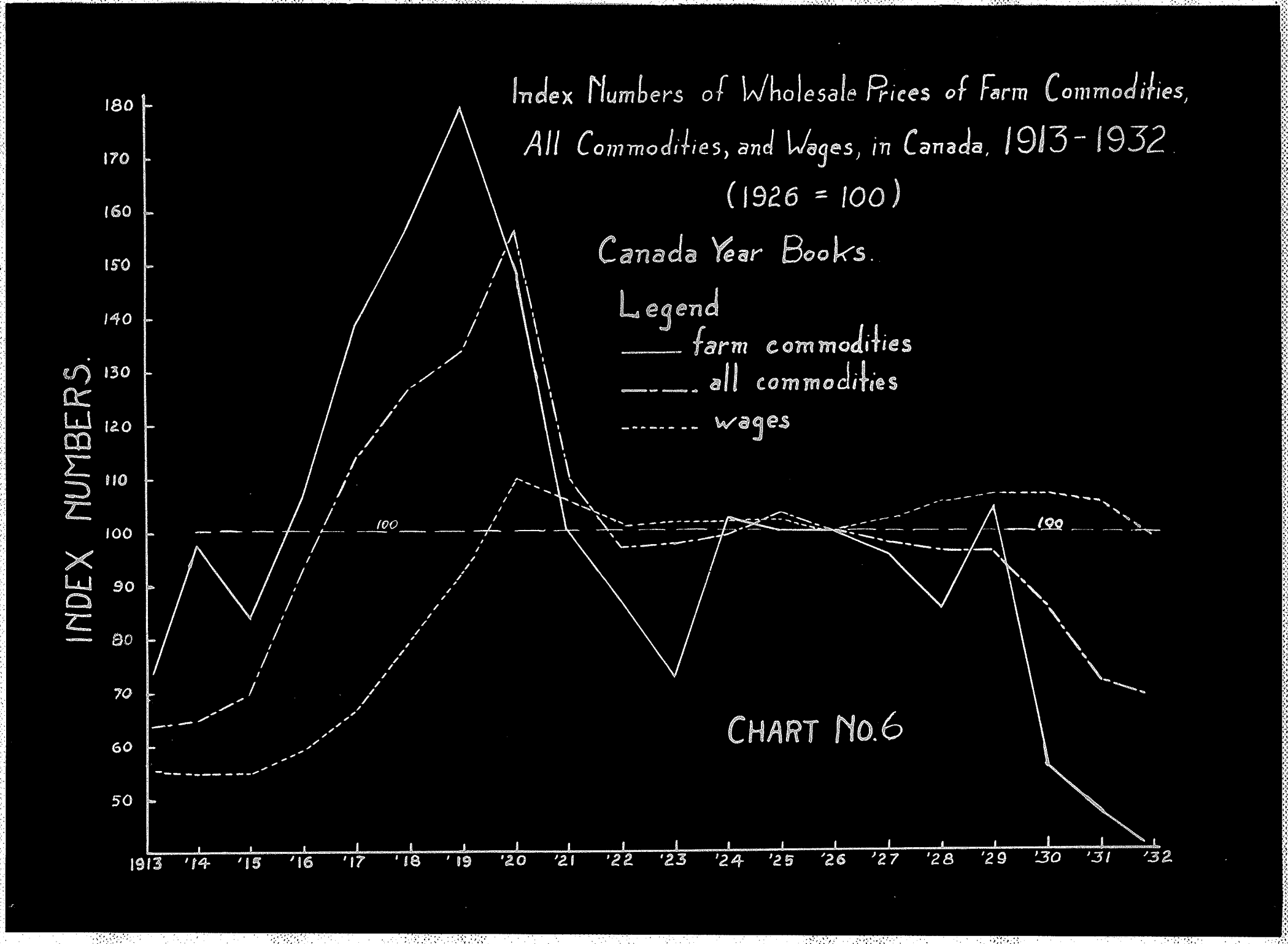
PART IV - THE SUPPLY OF AND DEMAND FOR AGRICULTURAL PRODUCTS

THE NATURE OF THE SUPPLY OF AGRICULTURAL PRODUCTS

A Lack of Adjustment in Supply - Other industries tend to adjust output to meet changing demands. This is found very difficult in agriculture since producers act to a greater degree from an individualistic standpoint. In this industry there is practically no concerted effort in the way of restricting output. The result is obviously that prices conform to production much more than production to prices. The lack of adjustment in output is roughly indicated by Charts numbers 5, 6, and 7.

In the farming industry, as already suggested, most of the capital investments are in fixed costs which must be met from year to year. Debts are incurred in large part when prices are high and in an attempt to meet fixed charges at


Values of Production and Exports of Wheat
by 5 Yr. Periods, 1901-1926.
Yearly, 1927-1932.
Canada Year Book Tables
p. XXVII - XXIX.
Legend
Total Production.
Exports.
VALUE (000,000. omitted)
600
570
540
510
480
450
420
390
360
330
300
270
240
210
180
150
120
90
60
30
1901
'06
'11
'16
'21
'26
'27
'28
'29
'30
'31
'32
CHART No. 5


Index Numbers of Wholesale Prices of Farm Commodities,
All Commodities, and Wages, in Canada, 1913-1932
(1926 = 100)
Canada Year Books.
Legend
farm commodities
all commodities
wages
INDEX NUMBERS.
180
170
160
150
140
130
120
110
100
90
80
70
60
50
100
100
1913
'14
'15
'16
'17
'18
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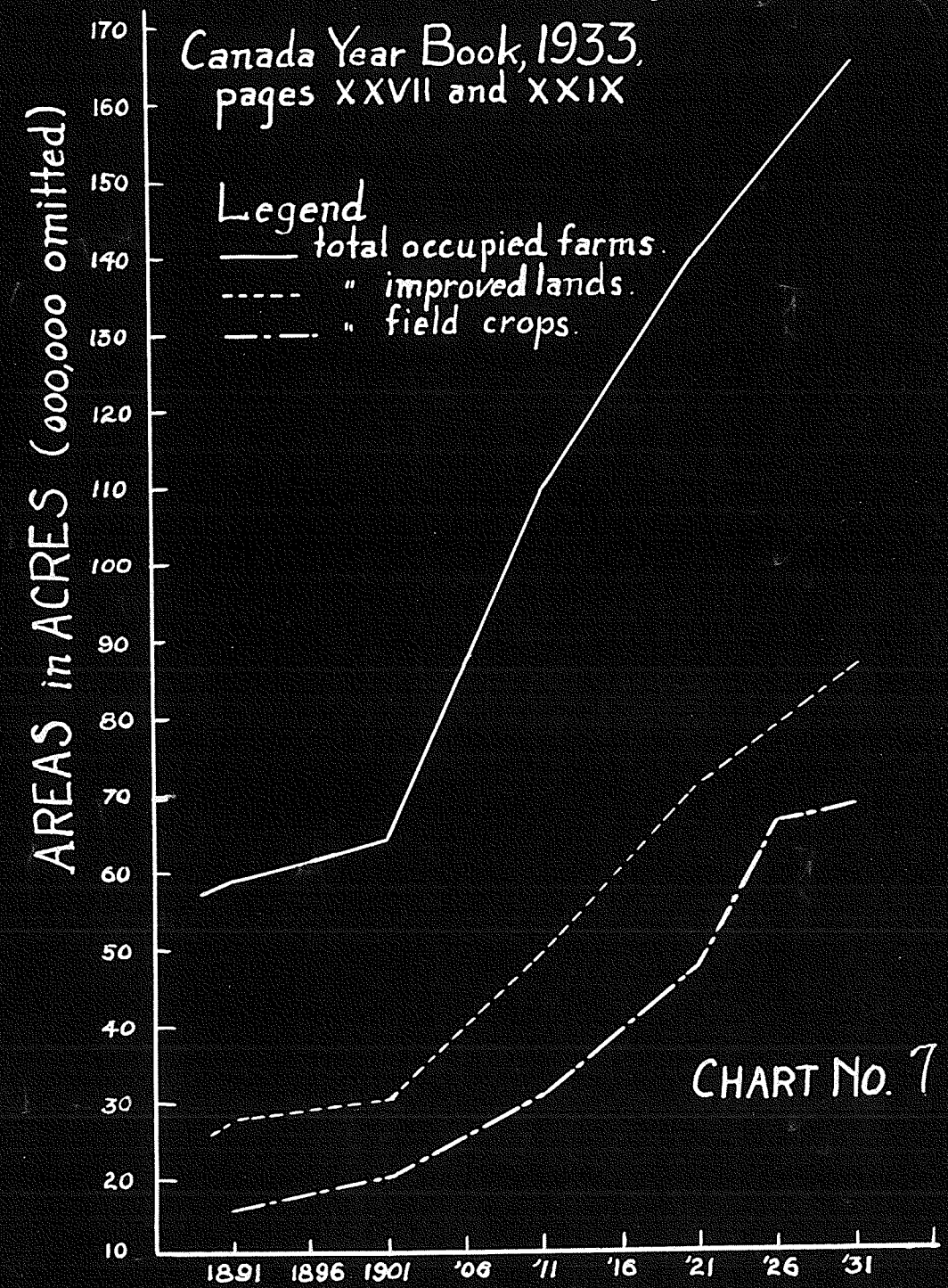
'20
'21
'22
'23
'24
'25
'26
'27
'28
'29
'30
'31
'32
CHART NO.6

Total Areas of Occupied Farms, Improved Lands, and Field Crops in Canada by Census Periods, 1891-1931.



a lower price level, farmers as individuals and as a group are much more likely to attempt to increase production than restrict it. The farm business, in the long run, must of necessity be sufficiently remunerative to cover both prime and supplementary costs of operation. In the short run, however, each producer, in an attempt to advance his own interest, will continue to operate his business as long as prime costs are covered and until such time as supplementary costs merge into those which are normally prime; sooner or later improvements and maintenance expenses are forced on him. In other words, the submarginal farmer will continue to produce until he is forced out of business. The result can be only one thing - land values will tend to remain depressed.

DIFFICULTIES IN THE WAY OF RESTRICTING OUTPUT

When prices fall the manufacturer can dispense with his labor and close down his plant, but not so with the farmer. He may be forced to get along with fewer laborers, but he will practice greater economy in the labor he does employ. Each farmer will aim to tolerate the conditions in the hope that they will right themselves and he will even lower his standard of living to make this possible. Farm maintenance and improvement may be neglected but acreage will tend to be curtailed as little as possible.

Moreover, even in normal times each farmer will attempt to increase output regardless of a comparative stability of

demand. His object is that of attaining greater advantage for himself.[1] The costs of production are lessened or he may look for a greater income, even at higher costs, from the greater net product but ultimately price falls are disproportionately greater than the advantage so attained. It is here that the main difference between agriculture and other industries lies. In both there is an attempt to decrease costs as much as possible, but in the case of the former the interest of a multitude of unorganized individuals is in conflict with that of the group. Moreover, the majority of farmers are unacquainted with the nature of economic conditions and forces; the outcome can only be a more irrational program in the industry as a whole.[2]

So long as the individual farmer can produce at a continuously lowering cost, or, in other words, with a rising income, his relative advantage is so far strengthened. In the long run, though, all are forced to adopt the same methods thus tending to make a continuous fall in prices inevitable. From a short time point of view the consequences are disastrous. However, in the long run all of these forces are counteracted since agriculture, like any other industry, must realize normal profits.

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[1]The Hedonistic Principle 'A History of Econ.Doctrines'Gide & Rist, [2]Ely & Morehouse 'Elements of Land Economics,' p.103 (p.355

THE NATURE OF THE DEMAND FOR AGRICULTURAL PRODUCTS

The Relative Inelasticity of Demand - Generally speaking, agriculture is an industry engaged in the production of the more absolute necessities of life, while the non-agricultural industries have to do, in the main, with luxuries. There are important exceptions but it is believed to be substantially true that the general demand for agricultural products is inelastic in character.[1] The consumption of certain substitutable goods exhibits a measure of elasticity but statistics bear out the a priori conclusion that the consumption of food, in general, is relatively fixed in amount and the demand for it is relatively rigid.

Demand being inelastic, shortages in the world supply may lead to 'famine' prices for short periods. In the event that such happens the actual conditions are exaggerated and speculation is induced. The result is an undue stimulus to production,[2] increase of supply and consequent fall in price. This cycle is by no means certain, nor is its impact on land values very great for some time. However when such a condition does come about the consequent period of over production is much more lasting. The interval taken for

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[1] Journal of Political Economy XXIV, Feb. 1916 'The Nature of Demand for Agricultural Products and Some Important Consequences'.
[2] Davenport, 'Economics of Enterprise, p.p. 194, 455

equilibrium to be again established is likely to affect land values to a much greater extent. The reasons for such a condition become clear elsewhere.

Minor Exceptions to the General Condition of Inelasticity of Demand - With reference to any particular article of food there may be a considerable measure of elasticity of demand. Likewise, in a country where food has been regularly cheap and plentiful, wasteful habits with reference to its use may be reformed in periods of scarcity and high prices. This will appreciably lessen the total demand for food without limiting actual consumption. The needs of the people will still be satisfied with a smaller product. There might too be considerable waste in harvesting and in marketing. Some of these wastes are undoubtedly unavoidable, yet it can hardly be doubted that there is considerably less rigidity of demand with reference to the food supply of a people with a generous and even wasteful standard of living. Thereas, in the case of the peoples of Asiatic countries the population in general tends to be living at a subsistence level and to a lesser extent in Europe demand would tend to be more firm.[1]

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[1] U.S.D.A. Bull. No. 674

PART V - THE SUPPLY OF AND DEMAND FOR LAND

THE SUPPLY OF LAND

Scarcity as a Fundamental Condition of Land Value - Scarcity is a fundamental condition of the value of land. This term is used not in a physical sense but in the sense of there being an economic scarcity. It is theoretically conceivable to imagine a supply of land suitable to a particular use in excess of the demand for that use, in which case the land would have no value. Such a situation is found in reality in new countries in which the supply of land may be far beyond the needs of the time.

The value of land is given rise to then by a dearth of supply relative to the demand for its particular services. It is this characteristic of land which is responsible for the tremendous differences in value. Some lands are suitable for the production of certain things for which they have a particular comparative advantage in producing. On the other hand, some lands have no particular advantages, their products being produced over wide areas. In each case the demand for the products may be great. Then the 'restricted' areas will have a monopoly advantage in the marketing of their products and consequently a relatively high price will be obtainable. This, in turn, reflects high land values. The lands engaged in general production will be at the same time comparatively low.

Is There Any World Scarcity of Land Above a Certain Grade? - So far in the older countries decrements in land value have been a characteristic result of the growth of supplies coming from the New World. This shows clearly that actually no world scarcity of land above a certain grade exists. In the New Lands the characteristic condition has been that of appreciation in land values in some sections and depreciation in others, while, in general, land values have risen. This indicates that more productive land has constantly been coming into use. Of course this argument should not be taken to disregard the influence of movements of population which factor is dealt with elsewhere.

Intensive Cultivation Contiguous to Urban Centres - Contiguous to centres of growing populations there is a relative scarcity of land for the production of goods of low specific value; goods which are costly to transport over long distances. These lands are farmed intensively and they may assume very high values. This is the condition found on the fringe of cities where the land is utilized in market gardening and dairying. Moreover, the contention is held that the value of land around a city is influenced not only by one city, but by several.[1]

The Effect of Increasing the Economic Supply of Land -

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[1] Research in Farm Real Estate Values, p.35

To think of supply of land in the economic sense, in which it increases and decreases in response to prices, and for clarity in the exposition of the significance of the phrase 'supply of land', repetition is made necessary. With price rises the margin of cultivation is extended, while with a fall in prices it contracts. But economic friction makes the process of adjustment a difficult and slow one. The response to higher prices is relatively easy and rapid. Large quantities of capital are expended in fixed investments in bringing the new and less remunerative lands into use. As a result production on these lands will continue so long as there is, in addition to the necessary return to current expenditures, any return to fixed capital. Ultimately these capital investments will be exhausted but the time required may be a long one, depending on the degree of their permanency.

The effect of this condition will be greater in proportion to the amount of land which is being farmed under such conditions. The larger the product from the margin of cultivation the lower will be the prices of farm produce and, consequently, the lower will be the value of farm lands in general. This same situation may result from a large population of farmers who may be content with a comparatively low standard of living.[1] Through greater industry and poorer living conditions these farmers tend to keep the

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1 Systematic Comparative Valuation for Agricultural Land in Sask. F. C. Evans, p.27

supply of farm products relatively large. In any event the same outcome emerges; if the economic supply is kept greater than conditions warrant depressed prices ensue. If the supply of farm products is kept beyond demand[1] the position of the owner of land is an unfortunate one.

The Nature of Competition for the Use of Land

How Supply and Demand Operate in Establishing the Price of Land - To understand how supply and demand operate in establishing the price of land it is helpful to consider the landlord as a middleman buying at wholesale and selling at retail. At any time there are lands for sale. On the one hand there are farmers ready to retire, move to some other place, or for any one of several reasons they stand ready to place their land on the market. On the other hand stand investors with capital and credit to invest either for the purpose of rental or the establishment of a home. The latter class of investor is he who performs the landlord function and his income depends on the margin which he can get between buying as cheaply as possible and exacting as much as possible in the form of rent or in a sale price.

Were competition strictly unhampered the margin of the middleman would be only large enough to cover the cost

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[1]Missouri Research Bull. No.203.

of his service. He buys in competition with other prospective investors. He must bid high enough to induce the former to sell and high enough to outbid other investors. If prices are higher than the productive value of the property warrant then he will normally not be able to find buyers.

If these two opposing forces are not sufficient to keep the landlord's margins from rising above a normal competitive level then more will want to buy property. As a result the margins will tend to be kept at a point which will call forth just the necessary investment in land.

However, it must be admitted that supply and demand price is frequently not a proper and fair price. The higgling and bargaining is not for a standardized commodity, thus either party may have an advantage in bargaining skill. Aside from this either buyers or sellers may be over anxious to make a deal, or they may be prevented from making a satisfactory deal by economic friction.

Is There Particular Prestige in Land Ownership? - The argument is often advanced that from the standpoint of the individual there is a very keen competition for the use of land. This is supposed to be due to a sort of prestige value attached to land ownership aside from the fact that the land may be desired for a home. Land is supposed to yield smaller profits because of preference for this form of investment. From the viewpoint of the retired farmer

he is thought to have little knowledge of alternative investments, so he will be willing to buy or to hold land at a price which is abnormally high in relation to what it will yield.[1]

But it seems unreasonable that there should be any more prestige in the ownership of land for the outside investor than in the ownership of any other form of property such as bonds. And in the case of the retiring farmer, if he does prefer to invest his capital in land then he has the alternative of buying farm mortgages rather than the land itself.

Normal rate of returns from land - Thus the returns from farms would tend to come close to the returns from mortgage securities for if loans become too profitable some farmers will sell their farms and buy loans.[2] If buyers bid up the price of land because they are willing to accept a low rate of return then others will sell. Moreover, at any given time there is only a comparatively limited number of seekers for land having an effective demand for it. This tends to give the demand for the use of land a considerable degree of inelasticity. A comparatively small number of farms offered for sale would materially affect the price if that price is in any degree abnormal.

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[1] U.S.D.A. Bul.No.1224, 'Relation Between Values & Land Income' and Taylor 'Agricultural Economics' p.209

[2] U.S.D.A.Bul. No.1224, p.43

From the demand side then the rate of capitalization should conform fairly closely to the mortgage rate of interest. From the supply side the same condition would be expected to emerge and even more simply. Potential sellers tend to compare the relative returns obtainable from selling and investing in mortgages with those obtainable by holding the property and renting it. Their action causes the average rate of return to be fixed at approximately the mortgage rate of interest also. If it is below they will be anxious to sell, if above they will be anxious to buy more.

IF A PRICE FALL ARE ALL LANDS AFFECTED IN THE SAME RATIO?

The question might be asked whether a rise or a fall in the price of land is on a flat dollar per acre basis or a fixed percentage affecting all grades of land alike. That is to say, if in response to price changes land tends to rise and fall in value on a percentage basis then a loan on the poorer land is just as safe as one on the better land. A fall in prices would reflect a uniform percentage fall in the price of all land. No land would become entirely worthless; the relative values being the same as before. If, on the other hand, the fall in price tends to be the same amount on all land then the poorest land becomes valueless.

A moments reflection suggests that the latter tendency is the one usually found in operation and it is the one which

is theoretically to be expected. This being the case, the poorest lands at any time have a very precarious value, one which is liable to be entirely obliterated at any time. No statistics have been found to bear out this conclusion but there seems positive evidence in price declines that it is the poorer or less favorably situated land that is most adversely affected. In fact the principle of diminishing returns and rent make such a condition inevitable. With a fall in produce prices and consequent contraction of the extensive margin of production naturally some land which had been of some value will go out of cultivation entirely.

PART VI - RENT AND CAPITALIZATION

RENT

Views of Ricardo, Smith and Marshall - Originally the term 'rent' meant a payment for the use of land as it exists or originally existed in nature or, in the words of Ricardo 'Rent is that portion of the produce of the earth which is paid to the landlord for the use of the original and indestructible powers of the soil'[1]. Now it is commonly taken to apply to the payment for the use of land in its originaly state together with the payment for such man-made improvements which are for all practical purposes as permanent as the land itself. It is thought of as accruing to land whether the land is operated by the owner or by the tenant

[1] Ricardo 'Principles of Political Economy & Taxation' Chap.II p.33

in the first place being called implicit rent, in the second explicit.[1]

According to Adam Smith rent is the outcome of the bounty of nature, that is, land has the power of enabling more people to live on the land than are required to till it.[2] Rent is not only the resultant of a physical law, but also of an economic one for with increasing population its revenue and, accordingly, its value may be increased indefinitely. This theory of rent is a simple deduction from the Malthusian law concerning population pressure on the means of subsistence.

Ricardo's conception of rent was somewhat different. He proceeded to defend the converse of Smith's view and to show how rent implies the scarcity rather than the liberality of nature. With this view particular attention is given to the fact that lands are of unequal productivity with the result that those which are of the highest grades will be the most valuable. However, the proof that the fertility of the earth by itself could never be the cause of rent is easily seen in the case of a new country. Here land will yield no rent regardless of its fertility if its quantity is in excess of the demand of the people for it. Rent only appears when growth of population makes necessary the cultivation of less advantageously situated or less fertile

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[1] Carver & Hanson 'Principles of Economics' Chap. XXVI, pp. 444-445
[2] 'Wealth of Nations' Rye Edition, p. 147, Vol. 1

land.

The classical theory of rent was somewhat modified by Marshall as rent appeared to him 'not as a thing by itself but as a leading species of a large genus. For the use of durable capital incorporated in land he used the term 'quasi-rent' to designate a relatively short period view of the return on capital that is immobilised in fixed forms.[1]

The Simple Doctrine of Rent as a Differential -

The simple doctrine of rent is that it is a differential return to superior land. Capital and labor applied at the margin of production, whether the extensive or intensive yields only normal profits. Moreover it is the cost of the last unit of product in terms of labor and capital applied at these margins which forms the theoretical basis on which is determined the price per unit of the total product.

Thus it is clear that to intra-marginal land accrues a surplus measured on the basis of the greater productivity of successive increments of labor and capital applied on it. The last unit of these factors used will bring normal profits while each preceding unit will yield a surplus in proportion to its superior productivity. That is to say, each unit of labor and capital applied yielding a

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[1] Marshall 'Principles of Economics' p.630 and 'Outline of Modern Knowledge' Edited by W. J. Rose, p.614

product selling at the same price as the most costly unit then the better grades of land will enjoy a surplus made up of the difference between the total product of successive units of labor and capital and their costs measured on the basis of the cost of the marginal units. For example, on two parcels of land suppose it is profitable to apply two units of labor and capital on the one and on the other only one unit. Suppose further that the cost of the marginal unit in each case can be represented by $10.00. If on the better land the first unit applied yields a product worth $20.00, while the second yields a product represented by $10.00 this latter sum being that which gives only normal profits on the investment. The second parcel of land then will be no-rent land while the first will yield a total product worth $30.00 at a cost of $20.00. In this case there will be a surplus made up of the difference between the value of the total product and the cost of the two units of labor and capital, this surplus of $10.00 being termed rent.

Rent Affected by Managerial Efficiency - As already pointed out, rent arises from differences in productivity. By this is usually meant differences in the value of the product of farms of equal areas farmed with the same degree of intensity. It is obvious that the assumption must be made that the farmers possess the same degree of efficiency in their operations. Variations in the efficiency of farmers

and in their intensity of culture exert some influence upon the rent which will be paid for the land. In this regard Taylor says:[1] 'the farmer can make use of the highest degree of skill and knowledge without fear that the landlord will be able to take in the form of a higher rent all of the extra product due to more efficient management'. In other words, only a part of the extra profits will be retained by the farmer himself.

Thus differential rent cannot be measured solely in terms of differences in productivity. The relative degree of prosperity to which a farmer can attain is, in large part, determined by his own efficiency. The more efficient farmer can afford to pay more for the use of better land than his less efficient competitor. If, therefore, differences in productivity be measured in terms of differences in the value of the products which the marginal farmer could produce on the various grades of land under comparison, differential rents would be something greater than the differences in productivity. That is to say, the better grades of land are actually yielding a larger surplus product due to their being farmed more efficiently.

Inasmuch, however, as competition among the more efficient farmers[2] for the more productive grades of land

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[1] Taylor 'Agricultural Economics' p.199 and also p.631
[2] Marshall 'Principles and Better Principles' p.167
[3] Taylor 'Agricultural Economics' p.193

lends to a distribution of land among farmers in accordance with their efficiencies then differences in actual yield of the various grades of land are greater than the difference in yield which any given farmer could produce. And, since the better farmer could win as personal profits an extra product on the marginal land above that which the marginal farmer can produce, he must be allowed a somewhat larger profit on the better land to keep him from outbidding the marginal farmer for marginal land. That is, there would be a part of his extra produce which would go as extra profits while a part could be exacted by the landlord. The differential rent then will be somewhat less than the actual difference in the value of the surplus product of the more productive land over that of the least productive land. Thus the better lands will assume a value somewhat higher than would be justified by their superior productivity in itself. The element of efficiency in management is a modifying factor.

The Concept of Rent Held by Some Modern Economists - The concept of rent held by some of the most modern economists is that it cannot be thought of as a surplus due to differential productivity or anything else, but that land, like any other factor of production, has a supply price. From this view land owes its value not to its inherent natural qualities so much as to the work done upon it by man.

It represents capital investment made by generations of landowners who have progressively added to the value of the land by continuous expenditure upon improvements.[1] This suggests the cost of production theory of land as in the case of other things. Excluding rent as a price determining element with the dictum 'that rent does not enter into cost of production' is described by Cobb[2] as 'a trick of definition, the simplest of tautologies and nothing more'.

Fetter[3], merges rent with capital return and says, 'the old rent concept has passed'. Ely[4] suggests the use of the term 'land income' rather than rent to designate the share in distribution imputed to land, this income to include both the material and psychic returns from land. He suggests further that from the individual point of view actually no surplus exists in land income in the long run more than is necessary to bring the land into use. There is only ordinary returns on investment over a long period and any surplus which might occur at any particular time can only result from conjuncture of circumstances. From the social point of view, as in other businesses, surpluses tend to be offset by losses.

1'Atlantic Monthly' April 1922,pp.560-61
2'An Outline of Modern Knowledge' Edited by W.J. Rose,p.605
3Frank A Fetter 'Economic Principles'Vol.1,p.155 and also 'An Outline of Modern Knowledge' p.614
4Ely, 'Costs and Income in Land Utilization' pp.10-11

THE LAW OF DIMINISHING RETURNS AS APPLIED TO LAND

The classical theory of rent involves the condition of diminishing returns to successive increments of labor and capital, whether applied at the extensive or intensive margins of production. In the opinion of some of the more modern economists, however, this principle does not play a part in the determination of rent and land value which it does not play with regard to other things. Thus land value is not placed in a category by itself. Insofar as different grades of land are concerned they contend that other productive agents can be classified into grades with equal reasonableness.[1]

However, in this connection Ely[2] admits that there are grades in capital goods and labor, but that gradations in land are of far greater significance because less under control. In other goods all tend to employ better grades and temporary advantage disappears. In the case of land gradations are permanent and there is a constant tendency to increase rather than lessen the condition. Moreover, technical progress and developments tend to 'wipe out' inferior grades of capital goods but they increase gradations in land.

It is also contended by some that the ordinary

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[1]Carman 'A Review of Economic Theory' p.230 and also Fetter 'Principles' p.160
[2]Ely 'Cost and Income in Land Utilization' p.47

process of estimating rents and value in terms of differential productivity is on a fallacious basis. The explanation of this supposed fallacy, in reasoning, is that rents are usually compared by contrasting the amounts of surplus per acre, while Ricardo compared them by the magnitude of the surplus above normal profits to the farmer for the use of his capital and labor, these factors being applied to the point of marginal returns.[1]

Consequently the rent of any two grades of land is dependent on the difference between the produce which they yield with labor and capital used efficiently on each. The quantity of labor and capital which it is profitable to expend on all grades of land is obviously not equal. Rent per acre then will depend not only on the ratio of the whole return to expenditure, but also on the amount of that expenditure. For example, if on two areas of land one farmer spends $100 and gets total returns of $150, and the other, on an equal area, spends $10 and gets total returns of $17. If farm profits are 20 per cent the first farmer would get $20 on his outlay, while the second would get $2, thus leaving in each respective case $30 and $5 for rent, making the ratio of rent 30 to 5. At the same time rents on the basis of equal capital would not be in the ratio of 30 to 5, but as 30 to 30.

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[1] 'Ricardo Principles' Rhys Ed. pp.35-36

the poorer land on this basis being actually in a higher grade.

Thus the comparative values of two grades of land cannot be based solely on the principle of diminishing returns to labor and capital applied on that land. There must also be given consideration to the amount of that capital and labor which can be profitably applied to equal areas of the land.

THE PROCESS OF CAPITALIZATION

The Fundamental Principle as the Basis of Capitalization - The fundamental principle as the basis of capitalization and land values is that the impatience of men causes future incomes to be discounted more as they lie farther in the future. The rate of impatience, or, what is more commonly known as the rate of interest varies with practically every individual but for the community at large it manifests itself in the prevailing rate of interest. In the process of capitalizing prospective incomes from land the rate taken, as already mentioned, is that on long time mortgage investments.

Illustration of Capitalization - Capitalization can best be explained by illustration. Suppose the expected earning power of a piece of land to be $5 and the rate of interest to be 5 per cent. By continuously discounting

the successive incomes for a period of forty years the land would have an economic value of ∞. The usual short method is to divide the annual income by the rate of interest. This would give the land, in the assumed case, a value of $100. In practice, however, the selling value is usually above or below either of these estimates.

The buyer of land obtains a title to its annual income in perpetuity. No matter how much or how little this income may be no one can obtain it all in advance, but only a finite sum is ever asked or paid since a thing is prized less and less as its enjoyment becomes farther and farther removed. A comparatively smaller sum will be taken in the present rather than having to wait for its liquidation at some future time. If these discounted future rents are added together the result will be the value of the land which, as already indicated, is merely the sum total of all future rents payable today. To express this analysis more technically, present wants are estimated more highly than future wants and this leads to the discounting of future incomes at a rate which reflects the prevailing premium on the present.

Formulas for Calculating Capital Value - The ordinary way of determining the value of a piece of land is equivalent to finding the sum of an infinite series of prospective net annual rentals discounted at the same rate. The simple formula for such a calculation reduces to the

terms $V = \frac{A}{R}$ where 'A' is the annual rental and 'R' the current interest rate and 'V' value.[1] Of course this formula is based on the assumption that the prospective incomes are a constant sum and that the interest rate is likewise constant, a condition which never exists in the realm of reality.

The price of farm products as one modifying factor fluctuates from time to time and even general trends cannot with any degree of mathematical precision be projected into the future. Other variables affecting land income are labor and capital costs. Charges against the land itself in the form of taxes are more constant in amount than the other factors, but even they are an uncertain sum. Each of these variables will be discussed more fully as they are dealt with separately.

To allow for prospective increases in rents a formula has been offered by Dr. L. C. Gray, which somewhat modifies the more simple one. It is as follows: $V = \frac{A}{R} + \frac{I}{R^2}$ where 'I' is the arithmetic average expected increase in value; the other terms of the equation are the same as before.

Dr. Gray offers an interesting comment in this connect-

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[1]Taylor, 'Agricultural Economics' p.35

ion.[1] He says: 'There seems to be much confusion present in regard to the future element in land values. Some economists say that on the basis of future income land is often overvalued.' In Gray's opinion this is a misuse of the term value. Future value of land is made more uncertain than that of most goods due to the comparative fixity of its supply. The future net income is bound to be somewhat different than prospective income based on present expectations. The value based on the assumption of rising incomes, therefore, is no less a real value than one based on present incomes perpetuated. Neither is it likely to be realized in the course of time. From this argument overvaluation is impossible though value may be based on too ardent hopes.

When the value of land is expressed as a function of the three variables the rate of interest on farm mortgages, the income which the land earns at a given time, together with the anticipated increases in this income, then Mr. Gray's formula is useful in its determination. If the variable could be estimated with precision then the value computed on the basis of this formula should roughly conform to economic value of property. It should also furnish the basis for interpreting the ratio of annual value to capital value for any given year.

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After a little study of the relationship between the terms of this equation it is seen that the ratio of capital value is very sensitive to changes in interest rates. The higher the rate of interest the higher will be the ratio of rent to value and the larger the expected increases in value relative to annual income the lower the ratio of rent to value. Increases in annual value, while expected increases are constant, bring about constant increase in the ratio of rent to value. In general it may be stated that in any given year the ratio of rent to value depends on the current rate of interest, and the relative size of annual income and anticipated increases in income.

These relationships may be illustrated by the following hypothetical tables:

EFFECT OF CHANGES IN 'n' ON THE RATIO OF RENT TO VALUE (A AND I BEING CONSTANT)

n	A	I	V	A/V
Yrs.	$	$	$	%
4	5	0.20	250	2.0
5	5	0.20	150	2.0
6	5	0.20	139	3.6

EFFECT OF CHANGE IN 'A' (I AND R CONSTANT)

R	A	I	V	A/V
5	5	0.20	100	2.0
5	6	0.20	200	3.0
5	7	0.20	220	3.2

EFFECT OF CHANGE IN 'I' (A AND R CONSTANT)

R	A	I	V	A/V
5	5	0.10	140	3.6
5	5	0.20	100	2.0
5	5	0.30	220	2.3

In these tables the assumption is that in all cases incomes are increasing but the formula is equally applicable where they are decreasing.

Thus, when the net value of the produce of land may, with or without justification, be expected to rise the expected rise will tend to be capitalized. Where the income from the land is abnormally high and diminution is expected, then the capitalization will tend to be discounted proportionately. This was the prevalent condition during the period of the Great War. During this period the capitalized value, though high, was not as high as the income from the land at the

tion could justify. This may be indicated by a rough comparison of charts numbers 6 and 9.

PART VII - THE MOST IMPORTANT FACTORS WHICH AFFECT LAND VALUES

THE EFFECT OF POPULATION ON LAND VALUES

From One Point of View Land Value is Ultimately a Question of Population - Undoubtedly people tend to seek the more favored land but it is equally true that population as a whole makes the land more valuable and great movements of population result in an extraordinarily unequal distribution of land value.

The flow of population to a particular area may be largely determined by natural advantages of position and fertility but this is not necessarily the case. Influx of population may be due partly to social advantages; it may be due to the proximity of public institutions such as schools and churches. Whether the value be due largely to public improvements or to natural advantages the fact remains that as population increases land values tend to rise and vice versa. This is, of course, on the assumption of comparative stability in the arts and techniques of production.

If, for some reason, population shifts land values tend to shift with it. This condition resulted when transportation facilities caused an influx of settlers

to the western part of Canada. This tended to give a wave of high land values in the new fields with a trough representative of comparatively lower land values in the East. Movement of population was by no means the only reason for the growth of land values in the West, but it exerted a strong effect. No statistics have been found which bear out the suggestion however that values were affected in the East but they undoubtedly would.

The General Upward Trend of Population in the Three Prairie Provinces - The general trend in population has, until recently, been upward in the West.[1] This, in part, led to unsound and over anxious investment, lands not being valued on the basis of economic worth with the long period in view. The new settlers were provided with large funds, often at high interest rates. Such loans seemed conservative from the percentage of the valuation allowed yet the value itself was often an inflated one. So long as values continued to rise loans did not have to be paid out of actual earnings; they could be indirectly paid out of capital. In other words, every incentive was given to encourage new settlement. Lenders were very lenient in pressing for payment of their loans on the presumption that increasing demand for the use of land would make their equity secure.

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[1] Table II, page 67.

TABLE II

POPULATION BY PROVINCES BY CENSUS PERIODS 1901-31

(000; N.W.T.; and Yukon omitted)

Area	1901	1906	1911	1916	1921	1926	1931
P.E.I.	103	96	94	92	89	87	88
N.Scotia	460	465	492	505	524	515	513
N.B.	331	334	352	363	388	396	408
Quebec	1,649	1,734	2,006	2,154	2,361	2,603	2,874
Ont.	2,183	2,299	2,527	2,713	2,934	3,164	3,432
Man.	255	366	461	554	610	639	700
Sask.	91	238	492	648	758	821	922
Alberta	73	185	374	496	588	608	732
B.C.	179	279	393	456	525	606	694
Canada	5,371	6,297	7,207	8,001	8,788	9,451	10,376

THE EFFECT OF WEALTH ON LAND VALUES

Rates of Ordinary Profits in Agriculture Normally Low - There is a constant tendency for land values to find a level with business values. At any time there is an infiltration of capital from the one form of investment to the other, thus tending to an equilibrium in pure profits in the two. Investors are always seeking the most profitable and safest investment for their capital. Thus any factor which affects safety, immunity from taxation, liquidity, or any other such element in the one field affects both.

No claim is made that there is any sudden or exact approximation to equilibrium reached at any time but the tendency in this direction exists nevertheless and thus prevents any wide divergences of profit to continue for long. Nor is the claim made that profits in the ordinary sense, apart from the sense of pure profits, tend to equality. It might even be conceded that ordinary profits in agriculture tend on the average to be low. In fact it is the general consensus of opinion that this is so.[1] Among many reasons for such a condition is given the idea that investment in land is thought of as a safe heritage. However, this factor is not as effective as is sometimes thought. Normally it is found that differences in the rates of profits are more

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[1] Nelson 'Economics of Farm Organization' p.164

generally to be accounted for by other causes. Taking account of risks and lack of liquidity of real estate investment would lead to an expectation of high rates of ordinary profit. When rates are abnormally low they are to be explained mainly by the fact that there has been undue optimism in regard to future productivity.

Increasing wealth and the Demand for Labor - The theory has been advanced that with increased wealth there is an extension of the demand for labor. The result will be a higher wage level and an extension of the demand for farm produce and a correspondingly higher price. The economic limits of production will be extended and as a consequence land values will rise in proportion to the increase in wealth.

But does an increase in wealth in this way necessarily mean a corresponding increase in the demand for the use of land? It is likely that such will be the case, but it may not. An increase in wealth is almost sure to increase the quantitative demand for labor. This being so higher wages will increase the demand for agricultural produce. In turn this will reflect an increased demand for the use of land for production. This is apart from the fact that increased wealth will be expected to increase land values through the greater availability of capital lowering impatience rates.

It is conceivable though that there may be an increase

in wealth without a corresponding increase in the demand for labor. The effect of the demand for labor will depend, in large part, on the uses to which that labor is put. The greater the extent to which it is used in those industries requiring comparatively little labor the less the demand for labor will increase. For example, there may be a considerable demand for labor for making finer materials, more highly finished goods, more elaborate machines, and processes. This will give employment to much more labor.

Increased Consumption is More Qualitative than Quantitative - As has been previously stated, the demand for agricultural products is, generally speaking, inelastic in character. Any increase in demand therefore will manifest itself mainly in an increase in the demand for agricultural luxuries. In this connection Ely says:[1] 'It appears that the increase in general consumption in advanced countries is, in general, more of a qualitative than a quantitative sort.' Moreover he says[2] 'with growing wealth there is sure to be additional wealth devoted to economic improvements in land utilization.' The adverse effect of this condition on land value will be dealt with in the following section.

Growing Wealth Increases the Demand for Public

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[1] Ely - 'Costs and Income in Land Utilization' p.61
[2] 'The Agricultural Outlook and the Land Problem' Proceedings of the National Conference on Land Utilization, Nov. 1931, pp.9-10

Services - Aside from the consequent increase in employment which usually follows the growth of wealth, it would be expected that the consumption of such products as milk would increase as they are made more accessible to the consumer. As a result there would be an increased demand for farm animals and for land on which to raise feed crops.[1] Factors such as these, though their influence in themselves may be small, help to strengthen the effect of quite an imposing array of factors which influence land value.

Increasing wealth increases the demand for lands having highly esteemed qualities. But, in general, Ely says:[2] 'there is no evidence that in advanced countries there is any increase in the demand for land at all proportional to the increase in wealth.' On the other hand he says,' to think of the world as a whole there are hundreds of millions insufficiently nourished and as they tend to be sufficiently fed it can only be through an increase in the economic supply of land.'

THE EFFECT OF IMPROVEMENTS ON LAND VALUE

Internal Economies lead to Greater Efficiency - Improvements and developments which affect agriculture may be those which are external to the industry or those internal

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[1] Missouri Bul.No.203, p.8
[2] Ely 'Land Income and Costs' p.42

to it. It has been characteristic in the progress of civilization that a continuous tendency has taken place in the way of making labor capable of producing a greater product. With the growth of skill, knowledge and invention in manufacturing machinery has been made more efficient and the cost relatively lower.

In the establishment of internal economies the improved knowledge of the farmer has been a very important factor. He has learned the advantage of employing more scientific methods in lowering costs and increasing output. More efficient machinery has been employed and labor has thus become a factor of lesser importance in the production program. Science has aided in developing a higher class of livestock and in developing such higher quality grains which, in themselves, are more efficient. It has also aided in developing more satisfactory practices in soil management which have allowed an increased product with a lesser degree of fertility depletion.

Better land is More Favorably Affected - Internal improvements in the industry may be said, in general, to increase the value of better land to a greater relative extent than poorer land. The production of land, since land is a composite of many qualities, is governed by the presence or absence of these qualities. In the case of good land the deficiency in quality is only slight and by

the use of fertilizer containing the lacking element the deficiency can be overcome with little expense, while the deficiencies of poorer land may be so great that the cost of rectifying them would be prohibitive.

The general effect of these improvements, aside from the influence of an increasing population and increasing demand, would be to raise the value of the land affected first. But ultimately the improved methods are universally adopted and values are thereby depressed. It does not matter whether the improvements are internal or external to the industry their effect is the same. Those external to the industry may take the form of developments in transportation and communication, thus enormously diminishing the disadvantage of distance.

Improvements Affect Land Value Through the Principle of Diminishing Returns. All the factors involved in the previous section exert their influence through the principle of diminishing returns. With improvements unit costs of capital and labor applied to land are less and thus the margins of cultivation are extended, allowing a greater product from the same number of units of these complementary factors. On the lands already in use smaller costs would tend to raise land value but this tendency is offset by a fall in the price of the produce more than proportionate to the economies effected. However this theoretical conclusion

will bear more careful consideration.

In an analysis of pure economic rent of land itself, as the basis of land value, this element would have to be segregated from that yield on permanent and semi-permanent improvements. Since this segregation is practically impossible and the opposing tendencies on which the result depends are difficult to illustrate the deductive method is best adapted on the basis of exposition.

In the application of the deductive method certain assumptions and hypothesis must be made in order to bring out clearly the most important conditions. The assumption first, is that the country is an isolated one dependent on its own resources for food supplies. Under modern conditions there is an element of reality in such an assumption for actually the world can be thought of as one agricultural producer and consumer. The second assumption is that of a stationary population. Accordingly there will be no appreciable increase in the demand for produce and the supply of land is fixed.

In the case of the isolated country partially adopted improvements, as already suggested, will not tend to appreciably affect the aggregate national product or prices. Producers under these conditions will obtain a temporary advantage, but when the improvements are sudden and general they will overcome population. Adjustment in demand will take some time

and depressed prices will be inevitable. So long as improvements tend, in general, to overcome population increase then the price of products must fall, the margin of cultivation will contract and the value of land will fall.

Thus any factor which tends to diminish marginal costs will, in general, have a double effect. It will tend to increase production at both the intensive and extensive margins. The consequent fall in prices will make the application of the same number of units of labor and capital on both margins unprofitable, thus both margins will tend to recede. The decrease in produce due to the recession of the margin will be compensated for by the greater productivity of the better grades of land.

But the value of the new marginal product must necessarily be equal to the value of the old marginal product since it is that which just gives current profits. The greater technical productivity of the better land might be expected to give it even a greater differential advantage than before. This will indeed be so.

However, regardless of the increased product resulting from land which may be given a much higher degree of differential advantage, lessened cost of production, though increasing supply will reduce the value per unit so much as to more than counterbalance any relative increase in the produce. Therefore, when technical productivity is translated

into terms of value, the value of all land tends to be adversely affected by improvements.[1]

The Ultimate Effect of Improvements - The ultimate effect of improvements are likely to be somewhat different than the foregoing conclusion. In the first place improvements are, in general, not sudden but are introduced gradually and simultaneously with an extension of demand, or, in other words, they are coincident usually with growth of population. The probable outcome of a fall in the price of produce is, therefore, an extension of the demand for it. This is the situation which has actually been found to exist. Over a period of time improvements have prevented the pressure of population from exerting any tremendous influence on prices. In fact they have advanced the productive powers of land to such an extent that the extension of the demand for produce and greater productivity have tended to keep pace with one another with the result that produce prices have not risen. On the other hand, the extension of the demand for better land has tended to raise its value relatively. This can still be the case even with continuously lowering produce prices. To offset any decrease in the price of produce there may be a more than corresponding increase in the aggregate physical product. The value of the gross product may be greater, thus tending to give better land a more favored

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[1] J. S. Nicholson 'Principles' Vol. III, Chap. 5, pp.1 4-120

position.

THE EFFECT OF TAXES ON THE CAPITAL VALUE OF LAND

An Illustration - Assuming that a given parcel of land brings in an annual rental of $600 for its use, while the market rate of money is 5 per cent. On this property there is an additional charge of 3 per cent made in the form of a tax. Then the capital value of the land calculated by the ordinary short method would be $7,500.

Next assume that the tax is reduced to the equivalent of 2 per cent, making the rent, plus money rate, equal to 7 per cent. Here the capital value of the land would be increased to $8,555; a decrease of 1 per cent in taxation makes the land worth $1,055 more. This is based on the further assumption that the tax is levied against the full assessed value. If the tax is based on a certain percentage of this value then the capital value will be less proportionately. For example, if the tax was levied against 50 per cent of the actual value then taxes would be only half as much at the same rate. It is apparent then that the capital value of land is affected by the market rate of money, on the tax rate and upon the assessment rate with an assumption of the status quo in regard to economic conditions.

Capital Value of Land is More Adversely Affected by Taxes for National Purposes - Almost everyone realizes that increased taxes reduce net income other things

remaining equal and thus capital value is reduced, while decreased taxes have the opposite effect. This condition is more true as the taxes are used for national purposes rather than for local improvements. Though people realize the effect of taxes, it is seldom that the full extent of their influence is appreciated either in adding to the value of property or in diminishing it. The burden of taxes and mortgage debt has been described by Shenber as "one of the most painful effects of a declining price level upon agriculture."[1]

Taxes Imposed Exclusively and Specifically on Land - The view has been held by some early writers that, regardless of where the initial impingement of a tax, the ultimate incidence would be on land. The more personal taxes that would have to be paid the less the profits of the business and the less would be left for the owner of property. Hence the theoretical conclusion that the value of property would be less other things equal, as taxation in general becomes greater.

The view that a tax of any kind ultimately effects land values is obviously fallacious, just as would be a contention that all material progress concentrates on the value of land and increases it and that in the converse

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[1] The Farm Real Estate Situation 1931-32, U. S. D. A. Bul. No. 201, H.H. Shenber.

case of material retrogression there necessarily follows an adverse concentration on land value. General taxation surely diminishes the ability of the taxpayer to expend his income in other directions or, in other words, it decreases his purchasing power. It does not, however, affect the demand for land any more than it affects the demand for other things.

Taxes imposed specifically and exclusively on land, however, are now thought of as a distinct charge on that property and are, therefore, a deduction from its value. It is not a payment which the occupier would have to make in addition to the payment which would be made to the landlord if those taxes were not imposed. But it does not necessarily follow that all forms of taxation impinge on land any more than they do on labor and capital.

/The Net Effect of Property Taxes is Not Always to Leave Land Value Less - It must not be inferred that the net effect of all property taxes is to depress the value of land. The fact that taxes in themselves are a deduction from the returns which would otherwise be obtained and thus reduce the value of property is offset by counteracting effects. Taxes expended for locally beneficial purposes add to the value of property and consequently the payment of those taxes is counterbalanced by added value. In the final outcome there may be neither an increase nor diminution

in the cost for the use of the property.

When taxes are onerous and consequently expenditure on them does not increase the net product of the land, or, in other words, expenditure on them does not increase rent, they are usually caused by or are coincident with developments in the community. This is likely to lead to an increase in the population of the community through these amenities making it more desirable. This is true within limits which will vary with degrees of prosperity. In times of depression taxes will tend to be evaded as much as possible. It is generally true, though, that improvements induce an influx of population which causes the value of the property to rise, resulting in the balancing of the payments.

Thus the factors and conditions which tend to increase the value of property usually counterbalance and often more than counterbalance the effect of the rate in decreasing its value. Still taxes are a definite and unquestionable deduction from the present value of property just as public and private improvements and growth of population do unquestionably and definitely tend to add to that value. Often the latter fact is clearly perceived, while the former is almost entirely overlooked. This is, in large measure, responsible for much unwise public expenditure.

SHIFTING OF TAXES ON AGRICULTURAL LAND

A Tax on Economic Rent Cannot be Shifted - It is practically universally admitted that a tax on the economic rent of agricultural land falls entirely on the landowner. Land on the extensive margin of cultivation does not pay economic rent. It is, in part, the cost of production on the no-rent land that fixes the price of agricultural produce in the long run. As a tax on the economic rent of land would mean that there would be no tax on the land to the produce of which price adjusts itself, such a tax could not affect the price of produce and, therefore, must come off the economic rent of the supermarginal land. The onus of the tax would fall on the owners of the better land, and, as will be seen more clearly later, it is impossible to shift it.

Ricardo's View - The greater part of the annual value of land, however, is not in the form of economic rent as this term is applied to land in its strict sense. A large part of this value is a return for expenditures on permanent improvements on the land. Ricardo held the view that a tax based on this portion of the produce of land would be like an exclusive tax on the profits of a particular trade and its ultimate incidence would be on the consumer.[1]

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[1]Ricardo 'Principles' edited by Hyn, Chap. XII, p.117

This condition, however, would emerge only in the event that the tax would bear particularly upon agriculture and on the assumption of the supply of land being restricted to that within the country and upon the further assumption of inelasticity of demand. Theoretically the effect of the tax would be first to diminish profits in the industry below normal. Capital and labor would tend to seek other fields of employment; these factors would be applied to land less intensively. Finally, lessened production would cause prices to rise sufficiently to make profits as great as in other businesses. The value of the land would be the same as before.

No Tax on Agricultural Land Can be Shifted - As a matter of fact, under existing conditions no tax on agricultural land can be shifted to the consumer. The greater part of the farmer's produce enters the world market and the price is thus dependent on the condition of world demand and supply. A tax on the land in any country could have but a minor effect on the world's market for produce since outside competition forbids any corresponding increase in price.

Therefore, it is seen that under ordinary conditions the whole burden of a tax falls in such a way that the owners at the time the tax is first levied or anticipated, will have placed on them the burden of the capitalized amount of

the tax for all time. The capital value of the property will at once tend to be reduced by the capitalized value of the tax. Of course this condition will be affected by any compensating effect likely to follow.

INTEREST RATES AS AN INFLUENCE ON LAND VALUES

An Illustration of the Nature of the Impact of Interest Rates on Land Value - Perhaps no factor is more clear in affecting the value of land than is the interest rate of money. For example, if the earning capacity of a farm at a certain time is $1,000, while money for farm real estate purposes is procurable at 5 per cent then at that particular time, on this basis, the farm would be worth $20,000. Of course it might be worth more than this sum but the assumed figure is taken for the purpose of illustration. If the interest rate were to fall only 1 per cent, making it 4 per cent, this would make a difference of $5,000 to the capital value of the farm, making it worth $25,000. Were the interest rate to rise to 6 per cent the farm would fall in value to approximately $13,333.

Property Owners Tend to Ask the Same Prices - In reality though the price of land tends to be fairly stationary and fluctuations in interest rates do not have

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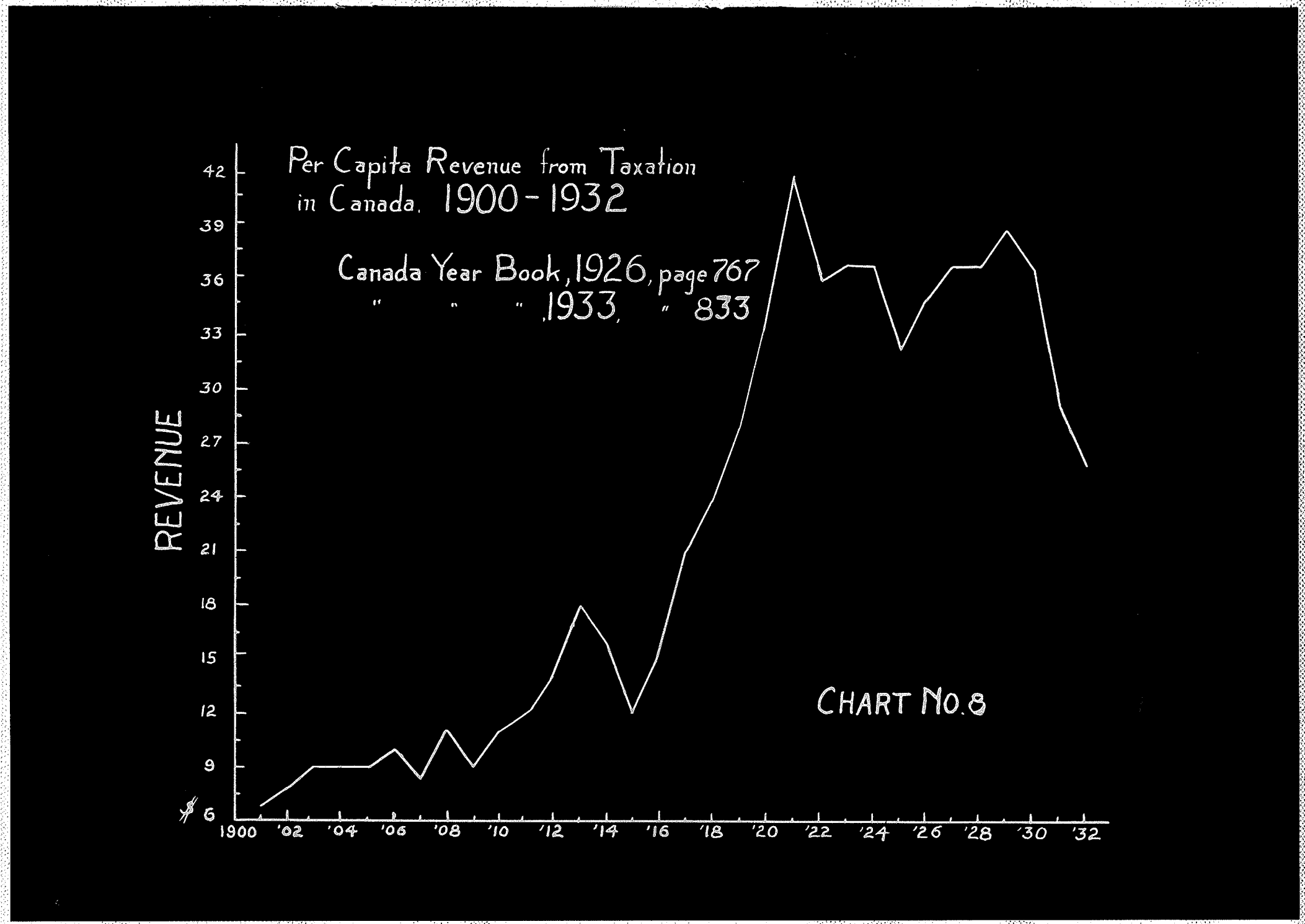
Note: Chart No. 8 is shown on page No. indicating the increase in taxation in Canada from 1900 - 1932.


Per Capita Revenue from Taxation
in Canada. 1900-1932
Canada Year Book, 1926, page 767
" " " 1933, " 833
REVENUE
$ 6
9
12
15
18
21
24
27
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33
36
39
42
1900 '02 '04 '06 '08 '10 '12 '14 '16 '18 '20 '22 '24 '26 '28 '30 '32
CHART No. 8

the sudden and great effect that is here suggested. The value of real estate tends to be capitalized over a long period at the normal rate of money. During a short period it has been shown that the actual price is relatively stable.

Property owners are not immediately cognizant of the effect of a change in the interest rate of money. Its effect manifests itself but slowly and the same prices tend to be asked. The fact of changing value too is not evident because land, unlike most commodities, is not placed on the market sufficiently to indicate changing value as it occurs. In other words, regardless of conditioning factors the movement of land values is a slow one, there is always a lag in comparison with movements in the prices of commodities.

Interest Rates and Land Value Bear an Inverse Relationship to Each Other - From the fact that land value is sensitive to changes in interest rates, assuming these to be comprehended, it is apparent that land value and interest rates should bear an inverse relationship to each other. It follows then that a system of land credit by lowering interest rates at the same time may increase the selling value of property. In this way the prospective buyer may pay the small amount of interest on a larger principal. In other words, his position may become even

worse than before. Taylor says,[1] 'The effect of better credit in this respect depends on the source of funds'.

The demand side of the market for land is affected by the influence of a strong class of bidders - the wealthy farmers. They will hesitate to sell their present property and they will want to buy more. The solution of this problem is to sell to these farmers the bonds on which the credits are being advanced. If this is done the desired lowering of land values will be attained.

The lowering of farm values will allow, over a period of years, a larger part of the farm income to be used as working capital rather than being used in the payment of interest. It would seem though that any attempt to supply agriculture with credit at cheaper rates than are normal in comparison with other forms of investment must, over a long period prove fruitless. Wickens says,[2] 'during periods when the rate is below the market it tends to inflate real estate values.

THE EFFECT OF THE SUPPLY OF FUNDS

Effective Demand is Dependent on the Supply of Funds - The supply of funds in the hands of those willing to invest

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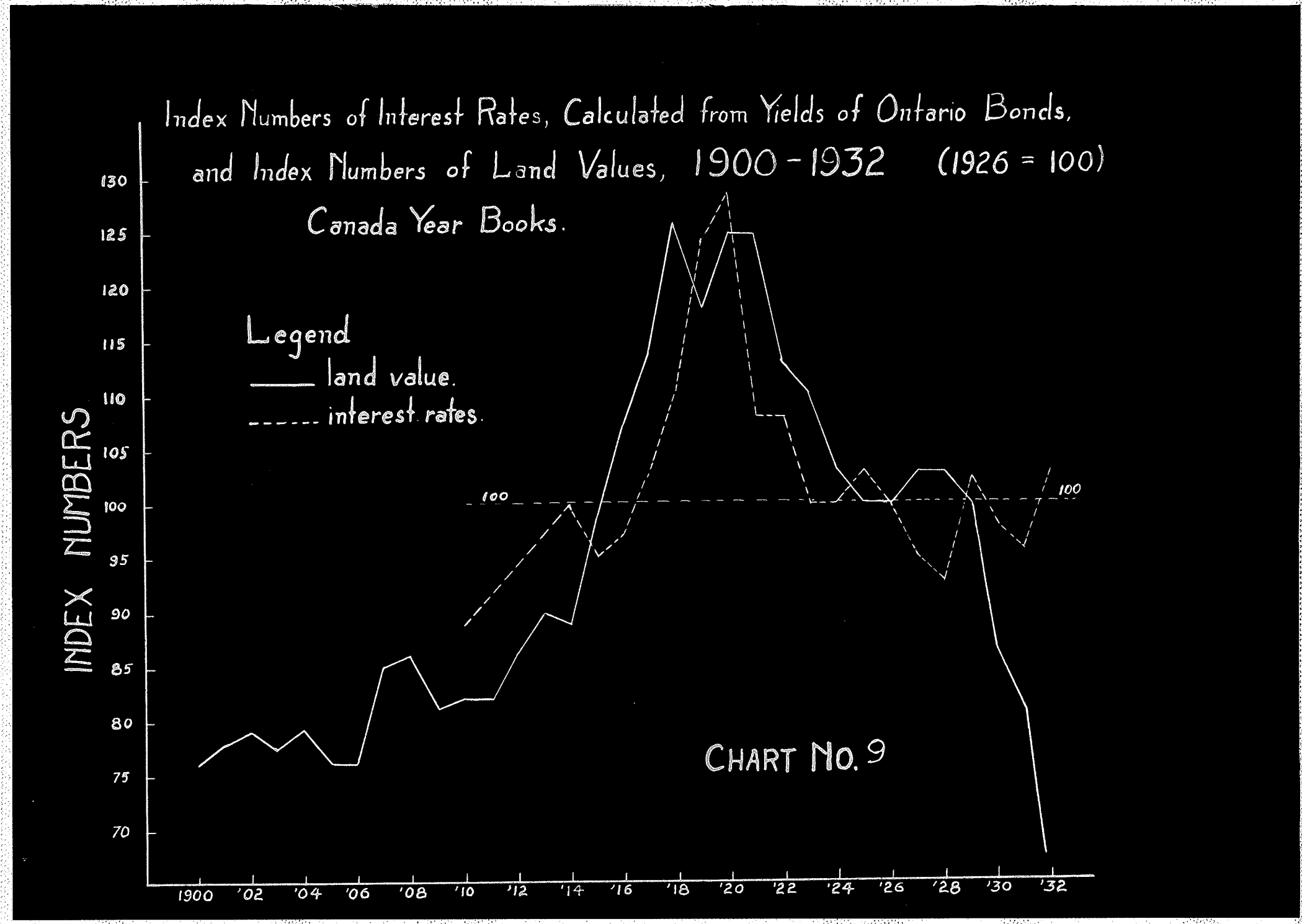
[1] U.S.D.A. Bul. No.1224
[2] 'Research in Farm Real Estate Values' p.33
Note: Chart No. 9, page 87, indicates trends and interest rates and land values in Canada 1910-32


Index Numbers of Interest Rates, Calculated from Yields of Ontario Bonds,
and Index Numbers of Land Values, 1900-1932 (1926 = 100)
Canada Year Books.
Legend
land value.
interest rates.
INDEX NUMBERS
130
125
120
115
110
105
100
95
90
85
80
75
70
100
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1900
'02
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'32
CHART NO. 9

in farms is a fairly important influence in affecting the value of land. Due to difficulty of liquidation real estate does not offer particularly desirable security for the ordinary investor. His action on the real estate market will be to invest in farm land when he fore-sees the possibility of winning a comparatively larger profit by doing so. This tendency to invest in real estate will be stronger in proportion to the amount of surplus funds available. Within the community itself there may be a large number of thrifty and industrious people who are saving capital and are anxious to expand the size of their holdings. Their influence cannot help but make itself felt also.

Inadequacy of Capital Causes Depression of Values - Where there is inadequacy of capital available from the outside and where there is a comparatively small accumulation within the community, values may be lower than actual conditions would warrant. Highly capitalized farms involve large investments. Thus values must fluctuate with the eagerness and willingness of comparatively wealthy persons to buy and this will be strongly affected by the volume of funds which they have at their disposal.

THE EFFECT OF THE TARIFF

Tariff Does not Benefit Produce Entering the World Market - Another factor which affects land value is the tariff. If a country sells the greater part of her

produce on the world market then there can be no benefit from a tariff on that produce. On the other hand a tariff on imports raises living and operating costs of the farm business. The net income of the farmer is necessarily made lower. Capital and labor costs will be higher with the result that these factors will be more costly to use. Ultimately land value is adversely affected.

Domestic Prices of Agricultural Products in Canada Must Conform to World Prices - Where the tariff applies to goods which would be, in large part, imported then the tariff gives the producer of these goods an artificial advantage. He is enabled to compete with the foreign producer but his higher costs, due to comparative disadvantage, are likely to offset partly any tendency which the tariff might have in raising the value of his land. But this condition certainly does not apply to Canadian agriculture where domestic prices must necessarily conform to world prices.

The price of our farm produce cannot be raised by a tariff. This general statement, however, must not be left unqualified for there are exceptions, such as in the case of the tariff on butter at the present time, which may tend to raise the value of the dairy farm.

THE EFFECT OF HIGH RATES OF LAND VALUE

High Rates Contribute to Lower Land Values in Several Ways - In the first place the costs of purchased

goods are made higher. In the second place the operating costs of the farm are made higher. High wages cause higher taxes since taxes, in large part, are used for the payment of labor in some form. It is apparent then that a higher wage level reflects higher costs, both in terms of those internal to the farm and those external to it.

The Tendency to Depress Prices May be More Than Offset by Counteracting Effects of Wages - The condition outlined in the foregoing section will be partly offset by a higher price for produce and, in fact, it may be offset to a very great extent since in agriculture wages tend on the average to be low in comparison with other industries and aside from this fact wages are but a comparatively small item in farm expense., the usual farm being of the family size.[1]

The tendency to depress prices may, in general, be more than offset by a rise in wages in other industries, that is if there is a rise in real wages as contrasted with nominal wages, provided most of the product can be used in domestic consumption. Of more immediate and concrete significance than numbers in a population is the standard of living and purchasing power of the people. The populations of India and China are dense but the standard of living and

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[1]Ely, Morehouse 'Elements of Land Economics' p.113

wages is low. Consequently land prices in these countries are relatively low. In the western civilizations, on the other hand, wages tend to be higher and this condition is found coincident with high land values.

THE EFFECTS OF SPECULATION ON LAND VALUES

The Nature of Speculation in Land - Speculation in any commodity has its essence in the anticipation of fluctuations in value. In the case of speculation in land there is a marked distinction from that in other goods. There is no real estate sold on the stock exchange, there is no short selling. Thus land speculation tends always to be 'bullish'; it tends to raise the price and to lead to inordinate increases in land value which later tends to result in precipitate depressions.

Speculation in land usually takes place in periods of 'boom'. It begins on the stock exchange with the rails affecting real estate last. However, it is claimed that speculation in land does not last long, that soon after it sets in the deluge approaches fast.[1] These periods of 'boom' are usually preceded by a period of continuous price rise.[2] Normal activity in buying on the basis of expected increments in value is far superseded. Prices soar far

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[1]Country Gentleman - 'A Boom is the Worst Thing for a Farmer' April, 1926.

[2]U.S.D.A. Bul.No.974

above the normal relationship to actual or potential income. However, there is supposed to be a lesser tendency to speculation in land than in most other things. This is partly due to the fact that it constitutes non-liquid collateral for banks and they are not anxious to advance loans under such conditions.

The foregoing is perhaps using the term speculation more in the sense of what is ordinarily spoken of as gambling. In an agricultural area newly opened for settlement a rise in land value may be fairly certain, depending mainly on growth of population, development of transportation facilities, local markets and social utilities. In a developed area increases may be fairly certain too, depending largely on the course of agricultural prices, their relation to other commodities and on tendencies in taxation.

Legitimate speculation in land.- The presence of many uncertainties makes the buying of land in any case partake more or less of the nature of speculation. During times of prosperity, however, there is a tendency to undue optimism and the future probabilities are overestimated. On the other hand, in periods of depression men tend to underestimate the future. This psychological element causes land to rise too much in good times and to fall too far in bad times.[1]

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[1] U.S.D.A. Bul.1224.

Those having plenty of funds are enticed to speculate in land by the large profits that are sometimes made. If this speculation is wise then it may be socially beneficial; it may keep land from falling as low as it otherwise would in times of depression. In periods of prosperity it may prevent prices from rising as high as they otherwise might during a period of inflated values. Unwise action in this regard would have the opposite effect.

Speculation in the economic sense would involve the weighing carefully of all factors influencing the value of land so that a rational forecast of future tendencies could be made. Under this condition there would be a tendency for land to be bought when its price is relatively too low and to sell at the other extreme. The result would be a harmonizing of land prices to supply and demand conditions, taking into consideration not only immediate but future prospects.

UNWISE SPECULATION - The actual situation has too often been a tendency to buy and sell at the wrong time. As a result prices have been inflated at the one extreme and they are deflated at the other. In fact, at low prices there seems a tendency to sell rather than buy, thus further depressing prices. At the one extreme unreasoned optimism may lead to phenomenal rises in prices. At the other extreme unreasoned pessimism may lead to the opposite condition.[1]

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[1] Taylor, 'Agri. Economics' p.203

The farmer as an individual has been more or less indifferent to speculative enterprise even in its worst forms. Indeed as speculation causes the value of land to rise a superficial consideration has often led to the belief that the farmer is helped through his property having a higher selling value. The irreparable injury to the industry as a whole is seldom realized. Whether the farmer be an owner or a tenant the enhanced capital investment becomes a charge against income. With high land values there is the tendency to expect a greater return to the land itself. The evils though manifest themselves when prices fall and the farmer is left saddled with debt incurred in the period of optimism, when there is a tendency to forget that financial obligations must be met from the earning capacity of the farm rather than from added increments in its value.

The Effect of Various Conditions on Land Value

Prosperity and Depression found Coincident in General Business and Agriculture. The conditions of general business is an important contributing factor to the value of land. When business is good wages are high, demand is in great and the value of land is affected through the higher price of its produce. There is a rather common opinion that prosperity in business receives its impetus from prosperity in agriculture. Whether this view be taken or the more logical one of interdependence, the general situation remains

the same. In the converse case, where business is in depression, the condition is likewise found in agriculture.

When prices are low there is a tendency, though not as manifest as it theoretically should be, to constrict output. Land experiences a decline in value. The marginal farmer will be forced out of business though with greater friction than in the case of other businesses. The condition will arise that the remaining units of land will be left to compete with one another for tenants and buyers, thus tending to further lower land values.

The Value of Land in Need of Improvement is Depressed by High Cost of Material and Labor - From the point of view of owners who stand ready to sell land in need of improvement, nothing affects the value of their land more than the cost of these improvements. If costs of labor and materials are high then, figuratively speaking, a tax is thus imposed on the land. The high cost of improvements reduces the prospective profit on such land. Owners under these conditions tend to seek buyers with a consequent tendency to lower prices. On the other hand when costs of improvements are less owners desire to improve, hesitate to sell and land prices tend to rise. Thus general business as reflected through higher wages or higher prices is bound to influence the value of land. However, the tendency of higher costs to depress values is usually more than counterbalanced

by the effect of a higher price for produce and thus prosperity in both fields is almost bound to be coincident.

THE EFFECT OF AREA ON LAND VALUE

Concentration of Land Use Increases Operating and Capital Costs - It is obvious that concentration of use tends to influence land value. The more extensively land is cultivated the less efficiently can labor and capital be applied to it. To paraphrase Adam Smith[1] in this connection, bringing operations within a narrower 'compass' makes less labor necessary and less capital expense in such items as fences. However, this is not meant to convey the impression that what is ordinarily thought of as small scale farming is necessarily the more profitable, nor that the smaller farms should have the higher value.

The Farm should be of Optimum Size for Efficient Association of Labor and Capital - The farm value will be greatest only when its size is optimum for a proper association of labor and capital with it. The area of a farm under certain conditions may be too large or it may be too small. When size is such that labor and capital can be most economically used the farm will be most valuable. Here the managerial ability of the entrepreneur himself is a very important

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[1] Adam Smith 'Wealth of Nations' Rhys edition, Chap. VI, Part I. p.133

factor and also the adequacy or lack of capital at his disposal. It is apparent that the area of a farm may be such that it is too large as a 'one-man' farm but too small as a 'two-man' farm. The same applies in considering capital in the form of units of implements.[1] Ely says that 'up to the point at which the land area bears a proper proportion to labor and capital an increase in area increases the total returns both absolutely and relatively.[2] The value of the land will increase likewise.

THE EFFECT OF SOIL ON LAND VALUE

Soil is One of the Most Important Physical Factors - Among the most important physical factors affecting land value are the characteristics and qualities of the soil itself. Unlike the influence of the more abstract economic factors, the relationship of soil to land value is a concrete one.

Different Soils are Adaptable to Different Uses - Some soils are adaptable to certain utilizations, which for other purposes are practically worthless. This is a fact which has been too often overlooked. The policy of cheap and free land has been detrimental to agriculture due to the fact that there has been very little effort in the way of planned settlement. Many settlers under a laissez-faire

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[1] Spillman 'Farm Management' on the law of recurring efficiency
[2] 'Costs and Income' p.63 (pp.305-10

policy have obtained land too poor to provide themselves with a reasonable standard of living. At the same time their product finds its way to the market, thus depressing the values of the better land. Over a long period it is true that the least productive lands go out of use, but so long as they continue to remain in cultivation they do so to the detriment of all.

The Factor of Soil Management Plays a Large Part.

In regard to soil the factor of management plays a large part. Fertility varies not only greatly from region to region, but it fluctuates up and down rapidly in response to good or bad methods of farming. Thus an area may have land which is quite productive but with improper treatment its fertility will be unnecessarily depleted. Proper management becomes imperative too in relation to prevention of infestation by weeds. It has been estimated that land may lose 40 to 50 percent of its value from this cause alone.[1] This is leading to the realization that a definite policy for the conservation of land value is becoming a pertinent problem.

FACTORS WHICH AFFECT LAND VALUE FROM THE STANDPOINT OF VOLUME OF PRODUCTION AND COSTS

Climate an Important Factor. The character of the soil itself is the best guide to its productivity. But

[1] Weed Survey of the Prairie Provinces' Nat. Res. Council Report No.25

there are various environmental factors which affect it. One of the most important of these is climate. Land value may alternately rise and fall in response to favorable or unfavorable conditions of weather. It is generally thought that the effect will not be felt in the course of a year or two but if the same condition prevails for a longer period then the impact on land value will be certain. However these conditions, though always prevalent, are usually highly localized and specifically restricted. For example, statistical evidence might be obtained which would indicate this condition in areas in Southern Saskatchewan and South Western Manitoba at the present time.

The Topography of Land Affects Its Value - If land is flat it is more easily cultivated. In this respect land varies from that which is very adaptable to cultivation to that which may be suitable only for grazing, or to no utilization whatever. Topography too affects exposure to sunshine, wind and it is very important in relation to drainage.

Distance from the Market and Type of Road is a Factor - Distance from the market and type of road are two other important factors. The degree to which this affects land value differs with the type of farming practiced. Where the major product is grain, studies have shown that distance has very little influence on land value for the first few

miles from the shipping point. One study found the distance of indifference to be about six miles with a tendency to a sharp fall in values beyond twelve miles.[1] In relation to distance from the market it has been suggested that export grain crops will not bear more than a fifteen mile haul[2] while ten miles is about the effective economic limit of haul.

In the case of more intensive types of farming in which the product is delivered to the market during the course of the entire year the influence of distance would tend to be strong. Closely related to this factor is the case of transporting the goods to market. Naturally good roads would make marketing costs somewhat less. Distance from the central market too exerts a very strong influence through freight rates. These also add to costs indirectly since freight is a deduction from net product.

Drainage and Irrigation - It is usually thought that drainage projects necessarily make land more productive. Granted that the surface soil is such that it is of high productivity and that the prospective yields will more than pay the expense of the drains. It does not follow that these yields will be realised. Indeed the surface soil may be very fertile, but the character of the subsurface must also be taken into account. There may be a surface

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[1] Isaiah Bowman 'The Pioneer Fringe' p.72 *73
[2] Systematic Comparative Valuation for Agricultural Land in Cook. p.15

layer of perhaps 8-10 inches or more of first class soil, but this may be underlain by a horizon of gravel or sand. Now if the drains lower the water, table far enough there may be a condition of over-drainage in which case the land may become almost worthless. In the converse case, where land is irrigated, its productivity may be lessened if the water used has a constitution of salts which would make the land alkaline. These are factors which must be given consideration.

PART VIII - THE EFFECT OF HIGH LAND PRICES

INCREASE OF TENANCY AS LAND IS CAPITALIZED AS MORTGAGE SECURITY

Since the value of land at any given time is, in large part, due to the projection into the future of the average incomes of the preceding years it will, in large measure, be dependent on the future bringing the incomes anticipated. This element leads often to abnormally high prices. The price fall which ensues forces the owners of property often to concede their title to it as collateral for a mortgage they are unable to meet with a smaller income. This is one of the most serious effects of high prices.

The consequence under these conditions would be an increase in the number of tenants. The percentage of tenancy is usually high in those areas where land incomes have been

increasing most rapidly.[1] It does not necessarily follow, however, that a high percentage of tenancy is due to high land values.

A HIGH PROPORTION OF TENANCY IS NOT NECESSARILY DUE TO HIGH LAND VALUES

The earnings of tenants may be found to be relatively high in proportion to land value and the earnings of prospective purchasers. In fact this is the situation in some of the European countries, notably England, where approximately 86 per cent of the land is tenanted.[2] Here variations in tenancy cannot be explained by variations in land values as such. (see Chambers, U.S.D.A. Bulletin 1254,p.65, for opposite view see Spillman,pp.402-409) This is a matter, in general, of the composition of those values and not of their absolute amount. That is to say, the growth of tenancy is not to be explained in the main by the fact that land values are high but by the proportion of that value which is not justified by the earning capacity of the land.

This can be taken as a partial qualification for the claim that if land values are low enough tenants will be able to save sufficiently to purchase the land. On the very high priced lands the tenants have less chance of saving enough capital to buy it. They have a much greater possibility

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[1] Source 'Agricultural Economics' table,p.665
[2] Taylor 'Agricultural Economics' p.327

of doing so on low priced lands even where the elements entering into the value of such lands are in the same percentages as in the high priced lands. The initial investment will bear a higher rate to capital value and there will be a smaller margin on which to pay interest. It is only to this extent that there can be thought a causal relationship between high land values and tenancy.

TENANCY IN CANADA IS DETRIMENTAL TO AGRICULTURE

Tenancy is not necessarily a bad condition.[1] So long as the income of the tenant is relatively high he may actually be better off than would be the case were he an owner. He will have a larger operating capital with which he can operate a larger acreage without involving himself in a large investment in the land itself.[2]

However the general evils of tenancy under conditions which exist in Canada are too pronounced to speak of the system as having other than detrimental effects both to the land and society. Here tenancy is a very unsatisfactory method of land tenure. It almost invariably results in the tenanted property losing value. The tenant is interested usually in obtaining as large an income as possible with only the immediate future in view. As a consequence improvements

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[1] Spillman 'Farm Management' pp.346
[2] Spillman 'The Law of Decreasing Efficiency' pp.309-12

will be at a minimum, there will be a tendency to 'soil mining' and, in general, maintenance of buildings and of the condition of the land will be neglected insofar as the tenant is concerned. This system of land tenure can be satisfactory only under long term leases and where the tenant has assurance of receiving due compensation for improvements which he might make.

PART II - DIFFICULTIES ENCOUNTERED IN APPRAISING LAND

ACCURATE ESTIMATION OF PROSPECTIVE INCOME IMPOSSIBLE

The appraisal of land on the basis of projecting annual net income into the future is far from being faultless. It is unsatisfactory insofar as an accurate estimation of current income involves a multitude of modifying factors of which the evaluator must be cognizant. Some of these, such as peace and tranquility, it is impossible for him to foresee. Moreover, current income is difficult to measure because of the impossibility of finding the true value of such items as family labor, the operators labor, and the value of produce used by the home. The methods used for evaluating these items have been too arbitrary and, in most cases are based on economics which are unsound.

For purposes of appraisal on the basis of annual net income, accuracy is essential. The seriousness of

errors become evident when it is realized that a comparatively insignificant miscalculation of net income may give a fairly satisfactory estimate for some purposes but to use it as the basis of capitalization it might lead to a considerable discrepancy from actual value.

There has been considerable work done in Europe dealing with land appraisal practice,[1] but in the newer countries the comparative instability of agriculture presents tremendous difficulties. There are constant changes being made in costs and farming practices and these lead buyers and sellers to place varying emphasis upon the different elements taken into account in determining values. Again shifts in types of farming are taking place and these may bring in their train a whole chain of modifications in the emphasis upon the various factors affecting real estate values.

PART 2 - THE NEED FOR A NATIONAL POLICY TO CONSERVE LAND VALUES

LACK OF PLANNED SETTLEMENT

Even superficial observation leads to the conclusion that a definite land value policy is one of the most pertinent problems in the agricultural situation today. The value

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[1] See. in R. E. Ast. Values, p.5

of land is more in the nature of a result than a cause in the chain of economic causation, but the effect of land prices which are out of all proportion to economic worth calls for action. The condition is more serious in the case of land which has been developed without regard to its proper utilization. Under a laissez-faire program in the past, especially in periods of rapid expansion, there has been tremendous activity in undesirable settlement.

Vast acreages have been disposed of for agricultural purposes which have become a source of prolonged, if not endless trouble. Much of the worst land has been weeded but there is still much fruitless endeavour in attempting to establish farms under very discouraging conditions.

CONSERVATION OF VALUE OF ARABLE LAND UNDER CULTIVATION

The fact must be borne in mind that every acre under cultivation, whether marginal or good land, contributes to an agricultural surplus. And to the extent that farmers in general are injured, the submarginal farmer himself does not benefit. The same argument holds in the case of reclaiming waste land through drainage or other means involving large public expenditures. It is generally admitted that there is sufficient arable land already in use to supply the needs of the world for some time. Surely it would be desirable to develop some positive constructive means of helping to stabilize its value.

DISCOURAGEMENT OF SETTLEMENT ON POOR LAND

The suggestion is that the government should assume the responsibility of discouraging the settling of poor land. It should make a survey of all land in order that prospective settlers will have access to some knowledge as to what the land is suited for. In fact even more positive action which would assist in the establishment elsewhere of settlers, able only to wrest a mere existence at present, would be better.

Some land unsuited to its present use might be purchased by the government and put into beneficial public service, while other land could be left in the hands of private owners, who probably could be encouraged to develop a more satisfactory utilization for it.

THE EXTENSION OF FOREIGN MARKETS

Perhaps one of the most pertinent problems which demands political action at the present time is the need for an extension of markets. The uncertain foreign market for agricultural products is a major factor in agriculture today. Canada is heavily dependent on the foreign market for the disposal of her surplus production of wheat especially. At the same time there is increasing foreign competition and an unrelenting reluctance on the part of the great trading nations to reduce tariff and quota barriers which are preventing the rejuvenation of foreign trade.

The reaction of these forces are jeopardizing the position of the Canadian farmer. It seems obvious that tariff reform throughout the world must come and when it does the value of land will be made more certain.

A TEMPORARY MEANS OF RAISING LAND VALUE

A temporary palliative may also be suggested which could be attained through legislative means. This would be in the form of the somewhat dubious process of inflation. Assuming the outcome of inflationary effort to be a rise in the general price level, farmers on the whole would certainly benefit, since raw materials as a rule benefit before finished products in a price rise.[1] Wholesale prices paid to producers change first, because of the anticipation of the market middleman of future needs of consumers, and because of the reluctance with which retailers change prices. Real estate prices are likely to respond only sluggishly to rises in commodity prices. However rises in farm product prices could hardly do otherwise than move them upward.[2]

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[1] U.F.A. 'The Price Situation', July 1933.
[2] For further reference see 'Too Many Farmers' Wheeler Macmillan, especially Chapts. IV, XLV, and XLVII

SUMMARY

The common experience of the past has been that land values have tended to remain steady or to rise often in spite of a fall in the prices of agricultural produce. The Industrial Revolution marked a new epoch in the history of mankind and the momentous growth of industrialism made a growing percentage of urban population imminent. This, perhaps more than anything else, gave to individuals and agencies concerned with realty values a feeling of complacency and a sense of security that the [illegible] cultural produce not keeping pace with the growth of supply was remote.

The aftermath of the Great War set forces in operation which are characterised by a marked break in the general trend during the preceding period and fluctuations in land values as a result have been violent. This has raised very practical problems for those interested in real estate values; problems which had been largely foreign to the experience of the past and which are now engaging attention.

The present study aims to suggest the general nature and importance of the problem. It also aims to indicate the general theory of the value of land as an agent of production both from a subjective and objective standpoint, and to point out the various factors which affect land value as

well as to indicate the general way in which land value is affected by these factors.

A mass of literature was first gathered and with the inductive method of approach an attempt is made to review the theories related to land values. The remainder of the initial section of this treatise is engaged in defining the various species of value with a view to indicating the sense in which the term is used.

The second section embodies general theory related to land value. The term 'value' implies a comparison between the worth of things or, in other words, strictly speaking nothing has intrinsic value - value can be thought of only in relative terms.

Consideration is next given to the significance of the term 'market value' of land. It is the price which any ordinary group of investors will pay for land under strictly competitive conditions and is established superficially by supply and demand and by the price making forces behind them. A somewhat common view is that owners of land have a 'monopoly advantage' in the land market, but it seems more likely, however, that the demand of the purchaser is more effective in boosting prices. If the latter is actually the case then great difficulties stand in the way of a solution of the problem.

Land may be divided into three categories: urban; agricultural; and mines and forest. The early writings show the remuneration to land in the production process was considered only for its use in the natural and raw state. In later writings it has come to include not only the return to land in this strict sense, but also for improvements, which for all practical purposes are as permanent as the land itself.

The theory of land value has developed since the institution of private property in land. Formerly the privilege of using land had been given in return for services to the monarch or feudal lords. In private property land shares the produce of agriculture, and thus its value is dependent on the value of that produce.

In a sense land may be thought of as being produced. Man adds form utility by making land productive; he may add time utility by holding it until a more productive use emerges; and he may add place utility by improving its economic situation. However the distinction between producing land and producing other things is marked since land has peculiarities which are unique.

The utility of land is derived indirectly through the services or goods it produces.

Capital value is influenced by physical productivity

mainly, and by subjective values, which are largely social creations, such as the farm being a means of gaining a home and others; and population having a preference for farming, all of which tend to raise this value.

Appreciation in land value is the result of an increasing demand for the use of land, while concurrent forces, such as those exerted by decreasing costs, tend to lower it. The present capital value of land is higher as appreciation in value is anticipated.

In the marketing of agricultural products there is little attempt made to restrict production in response to the force of economic conditions. On the other hand the demand for agricultural products is relatively inelastic.

In relation to land, economic scarcity is a fundamental condition of its value. The effect of scarcity is more manifest where restricted regions have special comparative advantages in the production of certain things. However, generally speaking, there is no world scarcity of land above a certain grade.

In relation to the demand for land if there is a condition of competitive bargaining the landlord's remuneration should conform closely to the cost of his service. The normal rates of return from land should conform closely to the mortgage rates of interest.

Treatment is given to rent and the process of capitalization. The classical view of rent is that it is a differential return to land of superior productivity while some modern economists think of rent more in the sense of interest on investment.

Capitalization is the process of estimating the present worth of land by discounting future income from the land.

In dealing with the specific factors which affect land value, the first is population. The general rule is that as population increases, other things remaining the same, land values will rise. Moreover, if for any reason population shifts land values will do likewise.

Wealth raises land value by lowering the impatience rates of investors. Increased wealth will be certain to increase the qualitative demand for agricultural produce and it will likely also increase the quantitative demand to some extent.

Improvements decrease land values in the aggregate when they are sudden and general, but as population increases the ultimate effect will be a rise in land values due to lowered costs of production.

The value of land bears an indirect ratio to the amount of taxes payable on it, yet the net effect of all

taxes is not to depress values especially if these are used for local rather than national purposes.

A tax on the economic rent of land cannot be shifted from the producer and since agricultural produce is largely dependent on the world's market price taxes on that produce impinge on the producer, not on the consumer.

The nature of the impact of interest rates on land value is clear. However they do not affect the value of land as much as theoretically they would be expected to. Property owners as a rule do not realize changes in interest rates and consequently they tend to ask the same prices.

Real estate involves a large investment thus the effective demand for land necessarily depends on adequacy of capital.

Where the bulk of the agricultural produce of a country is exported a tariff cannot raise the value of that produce. On the other hand a tariff on imports, by raising costs of production, depresses value.

High wages tend to depress land value by raising production costs. However, with the higher price level likely to ensue the net effect will be that land value will be raised.

Speculation in land is due to the uncertainty of

future value. Conservative and wise speculation will tend to steady the land market while undue speculations tends to boost prices when they are already abnormally high and to further depress prices when they are already abnormally low.

The causal connection between the state of general business and land value is not as clear as is the case with most of the other factors. However, it is a truism that prosperity or depression is found coincident in general business and in agriculture.

The smaller a unit of land is the less will be the comparative capital and operating costs. But a small farm is not necessarily the more valuable. The area of a unit of land should be such that it is optimum for the most efficient association of labor and capital with it, with due regard to the capacity of the manager.

One of the most important physical factors affecting land value is the soil. The value of land will depend on the use to which it is being put; different soils are adaptable to different uses. Again in the case of soil it will assume its highest value only when it is being properly cared for.

Climate is another factor of great importance. The value of land will rise or fall in response to favorable weather conditions.

The topography of land affects its value. It affects ease of tillage, exposure to wind and sun, and it is important in drainage. Drainage itself is a conditioning factor as land value may be depressed by drainage in to ways. In the first place the increase in value due to greater productivity may be more than offset by the effect of the drainage rate. Again it may cause a condition of over-drainage. Irrigation too may raise or depress values. The prospect of higher productivity may be offset by excessive cost or perhaps alkalinity may be induced.

Other factors are the distance from market and the type of road. These are effective through cost of marketing. Another factor is that of peace and tranquility throughout the world. This affects confidence in the future.

From the standpoint of the effect of high land prices, there is an increase in tenancy. This form of land tenure is wrought with such evils in this country that it is undesirable. Moreover high land prices burden those having mortgaged holdings and tends to cause a lower standard in their living.

In appraising land there are many difficulties. Prospective incomes are impossible of accurate forecast, as are many other factors involved.

Finally, with regard to a definite policy for the

future, undesirable settlement should be discouraged and a positive attempt should be made to conserve the value of the arable land already in use. There is much to be done in the way of extending foreign markets for agricultural products.

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