A STUDY OF CAPITAL AND RENTAL VALUES OF AGRICULTURAL LAND IN ENGLAND AND WALES BETWEEN 1858 AND 1958.

by

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Abstract.

This study is divided into two parts. In the first, or descriptive part, a time series is constructed of farm sale prices in England and Wales over the period 1857 - 1958. This is based on published auction data. A similar series is drawn up for farm rents from 1857 - 1938 on the basis of earlier survey results, and this is then continued to 1958 with data obtained from the Farm Management Survey and other sources. A review is made of annual reports of the condition of the farm real estate market, and a comparison of these reports with the time series of sale prices and rents shows a very close agreement.

In the second, analytical, part of the study analyses are made of the relationships underlying the observed changes in property values. The dependence of farm sale prices and rents upon the prosperity of the agricultural industry is examined and related to underlying economic and monetary conditions. A more detailed analysis is then made of the relationship between sale prices and rents and farm product prices, costs of inputs, and farming profits.

An attempt is then made to assess changes in the 'real' value of farm property by deflating the time series of sale prices and rents to allow for changes in the value of money. The real changes observed are attributed partly to economic, and partly to social and political factors. The effects of changes in the relationship between landlord and tenant, especially in connection with security of tenure are considered.

An analysis is made of the relationship between farm sale prices and rents and an explanation sought for changes observed in that relationship. The effect of changes in the long term rate of interest, and in the rate charged on mortgage loans, upon farm sale prices is then examined, and a comparison made of relative changes in farm sale prices and security prices.

A method of rental valuation, based on budgeting techniques, is submitted as an appendix.

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I should like to express my gratitude to the following persons:

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INTRODUCTION

Probably because of the dominance of the landlord tenant system of farming in England and Wales it has been customary to discuss the value of farm land in terms of rental rather than capital values. During the last century many books, papers and articles have been published on the subject of farm rents but there have been very few devoted to capital values.[1]

Most of these studies could be classified broadly as pertaining to the field of applied economics or agricultural economics, but a similar preoccupation with rent was also evident in economic theory. This was particularly true of those classical economists, foremost amongst them being Ricardo, who were interested in the relative importance of property incomes in the national income distribution.

Some of the few studies in the capital value of land were conducted primarily in order to form estimates of the total capital value of land. They did, however, provide comparative figures from which some indications of changes in land values could be drawn.

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1. In the section on land values in the "Bibliography of Rural Land Economy and Landownership, 1900-1957", by D.R. Denman, J.F.Q. Switzer and O.H.M. Sawyer there are forty-nine references to studies of farm rents compared with ten references to sale prices.

Estimates of this nature were made by Sir Robert Giffen[1] and Sir Alfred Milner[2] in the last quarter of the 19th century and by Sir Joseph Stamp[3] and Mr. H. Campion[4] in the 20th century.

The first major study concerned with changes in the capital values of agricultural land in England and Wales was that made by Mr. D.K. Britton[5]. This covered the period between the two World Wars and was subsequently extended by the present author up to 1951.[6] These studies showed that it was possible to calculate trends in farm sale prices which appeared reasonably reliable. It was therefore decided to see whether a time series of sale prices could be established over the whole of the longer period 1857 to 1958 on a similar basis to that used in the earlier studies.

At the same time it was thought that a study of land values would not be complete unless it also contained an account of the

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1. Sir Robert Giffen, "The Accumulation of Capital in the United Kingdom", Journal of the Royal Statistical Society, Vol. XLI, 1878.
2. Sir Alfred Milner, Evidence to the Royal Commission on Agriculture, 1897. C8540, p.23.
3. Sir Joseph Stamp, "The National Capital and Other Statistical Studies", P.S. King and Son, London 1937.
4. H. Campion, "Public and Private Property in Great Britain", Oxford University Press, London, 1939.
5. D.K. Britton, "The Sale Value of Farm Land between the Wars", The Farm Economist, Vol. VI. No. 5, 1949.
6. J.T. Ward, "The Sale Value of Farm Real Estate in England and Wales 1939 to 1951", The Farm Economist, Vol. VI, No. 4, 1953.

trends in farm rents as well as sale prices. For this purpose, a summary has been made of earlier studies of rent covering the period 1857 to 1938 while an attempt has been made to carry the time series so established on to 1958.

Purely descriptive accounts of movements in land values, while of interest in themselves, also provide the basis for further analytical work. In the second half of this study, therefore, an attempt has been made to review these time series against the general condition of the agricultural industry and of the economy as a whole, and also to see whether some of the major factors influencing land values can be isolated.

Some parts of this study have already been published by the author. Much of Chapters 5 and 12 and of Appendices II and III appeared in "Farm Rents and Tenure" published by The Estates Gazette in June 1959. Parts of the main time series of farm sale prices given in Chapter 3 were given in "The Sale Value of Farm Real Estate in England and Wales, 1937-9 to 1951", The Farm Economist, Autumn 1953, and in "Measuring Changes in Farm Sale Prices", The Chartered Surveyor, December 1957, while a review of the movement of sale prices over the whole period was given in "Farm Sale Prices over a Hundred Years" in the Centenary Supplement to The Estates Gazette, May 1958. Finally, a brief account of relative changes in land and security prices was given in "Equities versus Farms" in The Financial Times of 15th February, 1960.

These publications, and others, which in part relate to material contained in the thesis, and in part make further contributions to the subject, are submitted in support of my application for the degree.

PART I

DESCRIPTIVE

CHAPTER 1

Previous Studies of Farm Sale Prices.

The sale values presented in this study are original work but most of the basic data used in calculating a time series of farm rents were provided by earlier workers. The bases of these earlier studies of rent are considered in Chapter 4 where they are brought together in an attempt to establish a time series covering a period similar to that covered by the sale prices. The purpose of this Chapter is not to review all earlier research into the subject of farm land prices but to consider the methods of analysis used in, and the results obtained from, a number of major studies in this field. It was anticipated that this, together with consideration of the statistical data available, would indicate the most appropriate method of analysis to be pursued in the present study.

A.W. Ashby's and J. Pryse Howell's study of land values in South Wales.

Ashby and Pryse Howell made a study of the prices and rents recorded for agricultural land in South Wales over the period 1915 to 1925.[1] The method of analysis used was primarily cross

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1. A.W. Ashby and J. Pryse Howell, "Rents and Prices of Agricultural Land in South Wales 1915-1925", Welsh Journal of Agriculture, Vol.III. January, 1927. pp.5-23.

tabulation although one relationship (years' purchase and gross rent) was presented in the form of a scatter diagram.

After a brief review of the influence of changes in product prices in general, and of sheep prices in particular, upon land values, the study concentrated on the relationship between sale prices and rents, which, following the practice of the property market was designated as years' purchase. This was compared over certain groups of years with the prevailing interest rates. One interesting conclusion reached was that "evidently the prosperity of farming and the expectation of future prosperity more than counteracted the influence of the high interest rates ruling at certain times."[1]

D.K. Britton's study of farm sale prices in England and Wales, 1918 to 1939.

A comprehensive study of changes in farm sale prices in England and Wales was that undertaken by Britton.[2] It was this work which originally inspired the present study. Britton used sale prices recorded at auction sales published in the Estate Exchange Year Book

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1. A.W. Ashby and J. Pryse Howell, ibid, p.22.

2. D.K. Britton, "The Sale Value of Farm Land between the Wars." The Farm Economist, Vol. VI. No 5, 1949.

to draw up annual values of farms over the period 1918-39. The results were given for five different size groups and as a weighted average of all farms between 5 and 300 acres. No distinction was made between sales with and without possession which was not thought to be an important factor at that time.

Britton briefly compared the series of land prices with other series for farm product prices, farm rents and the 'Statist' index of wholesale prices. He also showed diagrammatically the movement of farm land prices in relation to farm product prices. No further statistical analysis was made but a visual comparison of the related series led to the following conclusions. Firstly, the changes in land prices in the inter-war years conformed closely in some respects to those in the agricultural price level and the general price level. Secondly, land prices showed more stability than prices in general. In this respect they stood between general wholesale prices and farm rents. Thirdly, farm rents exhibited a time lag in comparison with sale values. Fourthly, there was a noticeable difference in the relative changes which occurred in the prices of farms of various sizes. The smallest farms suffered the least decline in market value and recovered more fully during this period whilst the largest farms were affected by the slump more severely and subsequently their prices made only a partial recovery.

These conclusions are of major importance in considering the factors to be selected in analysing inter-relationships over the much longer period now open to study. A more detailed review of Britton's study is not given here because further reference is made to it in other parts of the present work. The basic data used by Britton have been incorporated into this study although his annual sale values and indices have been corrected by the use of a more precise system of weighting.

J.T. Ward's study of farm sale prices in England and Wales, 1939 to 1949.

Following Britton, the author made a study of farm sale prices in England and Wales over the period 1937 to 1949. This work was presented in a thesis "The Sale Value of Farm Real Estate" for the degree of B. Litt. in the University of Oxford and part of it was subsequently published.[1] This study was largely descriptive in nature. It sought to present the changes which had taken place in farm sale prices in England and Wales during the Second World War and in the early post-war years. A detailed analysis was made of the effect of farm size upon sale price per

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1. J.T. Ward, "Changes in the Sale Value of Farm Real Estate in England and Wales, 1937-9 to 1951," The Farm Economist, Vol.VII, No 4. pp.145-154.

acre, and corrections were made for variation in the average size of farms recorded as being sold from year to year by calculating average prices per acre within standardised size groups and weighting them with fixed weights. Unlike Britton's study, a distinction was made between farms sold with vacant possession and those sold without possession and separate indices were calculated for these two classes of property, while the difference was expressed as the premium for vacant possession.

No detailed analyses of causal factors were carried out but a study of the series in relation to published property market reports indicated that the general state of agricultural prosperity, as exemplified by product prices and farm incomes, was a major factor influencing farm values and that general monetary conditions, and, in particular, the rate of interest were also of considerable importance. In the case of farms sold without possession, market prices were partly subdued due to the failure of farm rents to follow the rise in farm incomes.

Ministry of Agriculture and Fisheries' estimates of farm values in England and Wales, 1925 and 1931

Factual estimates of farm values were made by the Ministry of Agriculture and Fisheries for each of the years 1925[1] and 1931.[2]

1. Ministry of Agriculture and Fisheries, "The Agricultural Output of England and Wales 1925", Cmd.2815, H.M.S.O. London, 1927. pp. 112-116.
2. Ministry of Agriculture and Fisheries, "The Agricultural Output of England and Wales, 1930-31", Cmd.4605, H.M.S.O. London, 1934. p.54.

The Ministry's Crop Reporters were asked to estimate average capital values for different types and sizes of farms in their districts. The estimates were not calculated statistically but were based on market knowledge of the actual prices at which sales had recently taken place. They provide the most comprehensive data available on capital values according to size and type of farm and for each of the two years for which they are available were used as an independent check upon the sale prices calculated from auction data.[1]

S.G. Sturmey's study of land values and interest rates in England and Wales.

In a study which provided no new data but used that calculated by Britton and Ward, Sturmey drew further attention to the relationship between property prices and interest rates.[2] The methods used were not statistical as Sturmey confined his analysis to the time relationship between changes in the price of Consols and in farm sale prices. He concluded in general terms that the four periods between 1918 and 1950 during which Consols were rising were periods when the sale value of tenanted farms was also rising.

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1. See Chapter 7.
2. S.G. Sturmey, "The Sale Value of Farm Land and the Long Term Rate of Interest, England and Wales, 1918 to 1950." The Farm Economist, Vol. VIII. No 1, 1955.

F.L. Thomsen's study of American land prices.

Three important studies of factors affecting land values were made in the United States by Thomsen, Bean and Chambers.

F.L. Thomsen made an analytical study of factors affecting estimated farm sale values in American over the period 1912-1933.[1] After testing a number of variables by graphical methods he concluded that nearly 99 per cent of the variation in farm sale prices over this period could be explained by cumulated changes in wholesale prices of farm products and by the level of farm real estate taxes. The ten year cumulation of farm product prices were "weighed universely as the number of years distant from the year for which the cumulation is calculated,"[2] and the taxes were weighed according to the same principle but for a five year cumulation.

A major criticism of Thomsen's analysis is that American land values and farm product prices were both affected by changes in the value of money over this period and a fairly high degree of correlation between the two series would therefore be expected on this ground alone. This relationship was heightened by Thomsen's

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1. F.L. Thomsen, "Factors Affecting Farm Real Estate Values in the United States," Jour. of Farm Economics, Vol. 17, 1935.

2. F.L. Thomsen, ibid. p.380

dividing the period into two parts, 1912-1921 and 1922-1933, of which the former was a period of rising prices while the latter was one of falling prices. General movements in the value of money have a pronounced effect upon both product prices and land values and must be regarded as major elements in the high degree of correlation claimed.

A second criticism is that Thomsen's method of analysis was also subject to the incidence of serial correlation.[1] In a later publication Thomsen himself pointed out the dangers of serial correlation and suggested that the use of first differences rather than absolute values would yield results of greater dependability.[2]

L.H. Bean's study of American land prices.

In another study of factors affecting the price of farm land in the United States over the period 1910-1937,[3] Bean analysed changes in the estimated value of farms solely in terms of product prices on the theoretical assumption that there was a direct positive

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1. See page 140 for further discussion on this point.
2. F.L. Thomsen, "Agricultural Prices," Mc.Graw-Hill, New York, 1936, p.240.
3. L.H. Bean, "Inflation and the Price of Land," Journal of Farm Economics, Vol.XX, 1938.

relationship between product prices and farm incomes. By multiple correlation he calculated the relationship between land prices in a given year and farm product prices in the same year and in the preceeding six years. Unfortunately, Bean did not give the total percentage determination but in a critical review of this work Low considered that "judging from Chart III it must have been over 90 per cent."[1] Further, Bean concluded that of the total variation in land values from 1912 to 1937 that were associated with prices, about 52 per cent were associated with prices in the current year, 25 per cent with prices in the previous crop year and 8 per cent, 6 per cent, 5 per cent and 1 per cent with prices in the respective previous crop years.

Bean also maintained that the effect of a change in product prices depended upon its magnitude as well as its timing. For example, a rise in product prices "of 130 per cent during the current year (1) is associated with a 47 per cent rise in land values; during the next year (2) it is associated with an additional rise of 27 per cent; during the subsequent year with rises that gradually approach zero after the seventh or eighth year."[2] On the other hand, a price rise of only 25 per cent was said to result in a rise in land values of about 8 per cent

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1. See pages 18/19

2. Bean, ibid, p.317

in the first year, of about 3 per cent in the next year with practically no additional influence in the subsequent years.

Bean's study was, however, subject to the same criticisms as Thomsen's, namely that much of the high degree of correlation found could be regarded as spurious because of the effect of overall trends in the value of money and of the mathematical bias inherent in the method of analysis used (deviations from long term trends).

C.R. Chambers's study of American land prices.

Another study of land prices in the United States was that carried out by Chambers using land sale values for the period 1900-1918.[1] The major point of difference between this study and those made by Thomsen and Bean was that Chambers analysed the influence of rates of interest and of anticipated future incomes upon prevailing land values. He calculated capital values on the basis of current land incomes capitalised at the prevailing rate of interest and then compared these estimated values with realised sale values. He attributed the differences observed to anticipated changes in future incomes and went on to show what rate of change in land values would have been necessary to justify the land prices observed in 1920.

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1. C.R. Chambers, "The Relation of Farm Land Income to Farm Land Value," American Economic Review, Vol.XIV, No 4. Dec. 1924, pp.673-98.

Chambers made no allowance for anticipation of capital gain as distinct from increased income and his analysis was open to criticism on this point, especially as he was dealing with a period in American history when there was a sustained rise in land values. Other American writers have taken a different view. Murray attributed the exceedingly low returns to investment in agricultural property, which were evident in Iowa during the long period of rising price prior to 1920, to the fact that "buyers and sellers of land were thinking more of the possibility of a further rise in the price of land than they were of a return on investment."[1]

Renne agreed with Murray on this point. "During periods of optimism speculative forces may temporarily so affect the sale value of land that it is not recognised as the reasonable or real economic value of the land."[2] Renne was referring to speculation in capital values not in land incomes.

H.B. Low's study of land values in New Zealand.

As far as is known to the author the most extensive statistical analysis of factors affecting land prices over time is that contained

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1. W.G. Murray, "Farm Appraisal", Iowa State College Press, 2nd Edition, 1947, p.163.
2. R.R. Renne, "Land Economics," Harper, New York, 1947, p.522.

in the study made by Low of land prices in New Zealand.[1] Low was partly concerned with the use of valuation techniques in New Zealand but Part II of his study, which he described as the "centre of effort", was concerned with calculating indices of land prices for the North Island of New Zealand and with their statistical analysis over time. In Chapter XII of his thesis Low applied the statistical techniques he had employed for analysing the New Zealand data to making broadly similar analyses of time series of land values for the United States and for England and Wales.

Low's analysis of New Zealand land prices was based primarily on records of 8,600 sales of holdings of 30 acres or more in the North Island. The information was obtained from official records under the Land Transfer Act. Using multiple correlation analysis of the logs of first difference, Low found statistically significant relationships in New Zealand between farm sale prices and product prices (butter fat, wool, lamb and mutton), farm costs, and numbers of transfers of farm property. He also found that annual average prices were affected by variations in the average

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1. H.B. Low, "Land Prices and Land Valuation in New Zealand." Unpublished thesis submitted for the degree of Ph.D. in the University of London, 1951.

size of farm recorded sold, but he corrected for this factor by the use of regression coefficients of prices per acre on acreage per farm, which were calculated for each of the forty years used in the analysis.

Low found that the relationship between the prices received by farmers for their products and land prices was statistically significant and explained 27 per cent of the variation in land prices. He also found that the most recent prices received by the farmer and those secured in the previous year both had a significant effect upon land prices, but that product prices received earlier than the previous year did not. In both results he differed from Bean and Thomsen, who, as has been seen, claimed a higher degree of determination for product prices, and also that product prices over the preceding ten years influenced land prices. Low considered that both these results were due to the methods of analysis used by the American writers (deviations from long term means) which resulted in an element of serial correlation in the time series used. He therefore analysed the American material by correlating first differences and found much lower coefficients of correlation than either Bean or Thomsen, and no relationship between changes in land prices and changes in product prices more than three years earlier. Nevertheless, even this

analysis showed a significant relationship between farm sale prices and product prices of the current year and of the preceding year.

Low also made a correlation analysis of farm sale prices and farm product prices in England and Wales during the inter-war period. For this purpose he used Britton's sale data and the index of agricultural prices published by the Ministry of Agriculture. Low stated "From an inspection of the graph of Britton's auction sale price index and the Ministry of Agriculture's index of prices received by farmers, it appeared that the correlation between the two in yearly-difference form would not be very high and this was found to be the case."[1] Prices received during the current year (i.e. contemporaneous with the land price) and the previous year only accounted for 29 per cent of the variation in land price. This figure was comparable with the 27 per cent determination provided by export prices for the North Island of New Zealand.

A second variable which Low used in his analysis of land prices in New Zealand was an index of farm expenses. This was based on all expenses except rent and interest charges on estate capital. It was introduced in an attempt to calculate net income.

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1. Low, ibid, p.378.

Theoretically, it would be expected to move in the opposite direction to land prices because, if costs rose, incomes would presumably fall and bring down land prices with them. In other words, it would be a negative relationship. In fact, Low found a positive relationship . He therefore rejected the concept of net income and used farm expenses as an independent variable with a positive correlation with land values. He maintained that for New Zealand, and also for the United States, farm expenses, positively correlated, accounted for more variation in land prices than did product prices.

Such a result, although statistically correct, raises serious logical doubt. Low attempted to resolve this in the following way. He argued that the relationship of land prices to farm costs was due to the fact that changes in costs make the farmer "more aware of general changes in the economy and changes in the value of money. Product prices fluctuate more widely; a change of 30 per cent in two years does not lead to land prices changing by the same amount because farmers recognise that prices will fall again as quickly. On the other hand, a rise of farm costs covering wages, manufactured goods and services, all of which move more slowly in practice, represents more solidly the core changes around which export prices tend to vary. A change in costs

therefore represents the extent to which it appears wise to allow land prices to change." [1]

Moreover, Low argued, if other prices rise and land does not it becomes an attractive investment in relation to its earning power. Farmers therefore tend to substitute it for other factors represented by costs and tend to push up its price. However, he concluded that costs could not be regarded as an independent variable but rather as one "whose fluctuation has a bearing on the degree to which land prices may respond to (product prices) and to the more fundamental forces affecting (them)."[2]

Low also used the number of transfers of land as an independent variable and found it to be highly significant when correlated with land prices. He did not, however, regard land transfers as a causal factor affecting land prices in the normal sense, but rather as an indicator of changes in buyers' and sellers' attitudes showing how the facts (product prices and farm costs) were being interpreted. In spite of this reservation, Low used number of transfers as one of his variables in his correlation analysis and the inclusion of this factor, which was highly significant, was an important element in obtaining a good fit over the period of time 1916-1944 for which this comparison was made.

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1. Lowe, ibid, p. 387.
2. Lowe, ibid, p. 388

Statistically, a 72 per cent determination of land prices in New Zealand was achieved by the use of these three variables namely, product prices, numbers of transfers per year and a farm expenditure index. Low also thought that the use of variables resembling these, in combination with longer series of product prices and of farm sale prices, might explain a considerably larger proportion of the variance of the latter in other countries, including England and Wales.

Low's use of the number of land transfers and of an index of farm costs in this manner raises serious questions of logic. Although both these variables were found to have a strong statistical correlation with land prices it is difficult on both theoretical and practical grounds to accept Low's explanation of the causal relationship between farm costs and land prices and he, himself, did not claim that number of transfers and land prices were causally related. The question must be posed, therefore, as to whether any other logical explanation can be found for the statistical relationships he calculated.

It is submitted that the logical explanation lies in the mutual dependence of all three variables upon the general price trend in the economy and in agriculture in particular. During a period of rising prices in the economy as a whole land prices and farm costs,

in addition to farm product prices, are likely to appreciate together while they are also likely to depreciate together during a period of depression. It is true that costs may lag a little behind product prices but over a trend lasting more than a year or two all will tend to move together. In addition, a strong market for agricultural products will be accompanied by a strong market for farm land and this will be characterised not only by rising prices but also by an increased number of sales.[1] Conversely, a weak market will exhibit falling prices and a lower volume of sales.

If the logic of this argument is accepted then it means that the positive correlation of land prices with farm costs, and with number of sales do not indicate causal relationships but rather mutual dependence upon another variable, namely, the movement of the general price level. For this reason, the number of sales has not been introduced into the analysis of the present study, except descriptively as an indication of the state of the market, while certain farm costs have been included on the assumption

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1. Outstanding examples of strong property markets exhibiting these characteristics are those in England and Wales from 1918 to 1920 and from 1940 to 1949

that their causal relationship with land prices is negative not positive.

A discussion of the methods of analysis used in these studies, of the conclusions reached, and of the criticisms to which both methods and conclusions are subject, is contained in Chapter 8. It is used, together with a consideration of the nature of the data available, to determine the methods of analysis most suited to the second part of the present study.

CHAPTER 2.

Sources of Data and Method of Calculating Farm Sale Prices.

The purpose of the present chapter is to discuss the sources of data and the method of calculation used to draw up a time series of farm sale prices for each year in the period of time under consideration, 1857 to 1958. For sixty seven out of these one hundred and two years the necessary calculations had to be preceded by a lengthy process of extraction of the basic material and subsequent analysis. For two periods, however, this preliminary work had been carried out before the present study was begun.

The first period was that from 1918 to 1939, which had been covered by Britton in the study to which reference has already been made.[1] It was not necessary to extract any further data for this period nor to calculate average sale values within size groups. It was, however, necessary to recalculate the weighted annual average prices because Britton had not included sale prices of farms over 300 acres in his annual values. A rather more precise method of weighting was also used in calculating the weighted averages for all farms.[2]

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1. D.K. Britton, "The Sale Value of Farm Land between the Wars", The Farm Economist, Vol. Vl, No 5, 1949.
2. Britton had simplified his size group weights for the four groups he included in the weighted average.

The second period was that extending from 1939 to 1949. Sale prices for these years had been calculated by the author in an earlier study, and, as the same methods of calculation had been used, it was not necessary to recalculate these values.

The data used.

The information used in calculating the annual sale prices of farm land was obtained from auctioneers' reports of sales submitted to the Estate Exchange and, subsequently, to The Estates Gazette. For the earlier years, from 1857 to 1891, these reports were not published, and auction details were extracted from manuscripts kept at the Estate Exchange. From 1892 onwards the information was published in the Year Book of Auction Sales by the Estate Exchange and this source was used until 1945. From the following year, reports in the Year Book were limited to properties sold in the Southern half of England. In order to continue a wider coverage than this, information for 1946 and subsequent years was obtained from the weekly reports published in The Estates Gazette which, like those in the Year Book until 1946, covered sales in every county in England and Wales. A comparison of these two sources for a number of earlier years showed that many of the reports were identical and that this change in the source of information did not affect the results obtained.

The analysis was confined to properties described as farms.

Small-holdings of less than five acres and farms specialising in fruit, hops, poultry or market gardening were excluded, as were parcels of agricultural land which were not classified as farms on the grounds that they did not support a residence or buildings. Particular care was taken to exclude farms sold for building lots and, in recent years, those sold "subject to planning permission".

The details recorded usually included the place and date of sales; a description (including the area and location of the property); whether it was sold freehold or leasehold, whether sold with or without possession, and the price realised. For some sales, details of rent and certain statutory charges were also given.

In all, details of 25,355 farms were extracted and used in the calculations.[1] The average number of farms recorded sold each year was 253 but there was a considerable range round this figure. The highest number of sales recorded was 1,217 in 1918, and the lowest 15 in 1864.

The sales data were widely distributed throughout all counties in England and Wales. A summary of the geographical distribution

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1. I should like to record my thanks to those members of the Department of Agricultural Economics at Wye College (University of London), who assisted in the work of extraction. The data extracted were recorded on index cards and then sorted manually.

recorded during the period is shown by agricultural divisions below. It is compared with the distribution of all holdings over 5 acres.

Division	Holdings of 5 acres and over (1941) per cent	Farm sales data per cent
Northern[1]	13	7
North Eastern[1]	8	8
Eastern	8	11
South Eastern	8	17
East Midlands	8	12
North Western	15	14
West Midlands	10	13
South Western	13	11
England	83	93
North Wales	7	2
South Wales	10	5
Wales	17	7
England and Wales	100	100

Although there was, in general, a wide regional distribution of sales data, the Northern Division of England and North and South Wales were under-represented, whereas the South East, East Midlands, Eastern

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1. In the Estate Exchange Year Book and The Estates Gazette the three Ridings of Yorkshire are not shown separately. For this reason the East Riding, usually included in the North Eastern division, is here included with the other two Ridings in the Northern division.

England and West Midlands were over-represented. Discussion with the Editor of The Estates Gazette and the Secretary of the Estate Exchange indicated that this was primarily due to the varying degree with which auctioneers in different parts of the country made their sales results available for publication.

It was not possible to tell how far, if at all, the over-representation of the Eastern and Midland regions, and the under-representation of Northern England and Wales, affected the annual average prices, without knowing how far the latter varied according to regions. There were insufficient data to calculate average prices on this basis. The estimates of regional values made by the Crop Reporters of the Ministry of Agriculture in 1925 indicated that the average values of all farms in the areas over-represented were rather lower than those for the country as a whole.[1] Part of this difference was, however, due to the greater proportion of larger farms in the Eastern part of England (size was a much more significant factor affecting capital value than region) and has, therefore, been partially connected by standardisation for size.

Of greater importance to the present study, the Crop Reporters' estimates of changes in capital values from 1925 to 1931 showed larger changes in the East of England than in the West. The estimated falls

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1. Ministry of Agriculture and Fisheries, "The Agricultural Output of England and Wales, 1925". Cmd 2815, 1927.

in value were 21 per cent for England and Wales, ranging from 36 per cent in the Eastern Division to 11 per cent in the South West and in South Wales. The average change calculated from the sales data was 25 per cent. This suggests that the over-representation of Eastern counties, which are more devoted to arable farming, in the sales data, may have resulted in wider variations in sale prices from periods of prosperity to depression than would have been the case if the data were fully representative of all regions in England and Wales.

The regional distribution of farms is, of course, closely related to types of farming. Sales data seldom included type of farm so that it was not possible to determine the proportions in which the different types of farms were sold.[1] The proportionately greater number of sales recorded in Eastern England, however, suggests that the mixed and arable farms of this area would be over-represented in relation to the pasture farms of the West and, particularly, to the

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1. In addition to showing the distribution of sales in the inter-war years on a regional basis, Britton also classified his data into three groups, 'arable counties', 'mixed counties' and 'pasture counties'. The classification was based on the proportions of land under crops and grass in each county in 1924. This procedure was not followed in the present study because the very striking changes which occurred in the distribution of arable and grass land over the much longer period now under review made such a basis of classification meaningless.

upland farms of Northern England and of Wales.

The probability that the calculated sales values would be primarily representative by mixed farms was enhanced by a further factor. The estimates of capital values made by the Ministry of Agriculture's Crop Reporters for 1925[1] and 1931[2] showed that, within size groups, the average values of mixed farms fell between those of arable farms and of pasture farms, and it is a reasonable assumption that this was true throughout the period. This, together with the predominance of mixed farms, meant that it was highly probable that the median values which were taken to calculate average prices within size groups related mainly to mixed farms. This conclusion was supported by the close agreement of average prices calculated from the sales data with the Crop Reporters' estimates for mixed farms.[3]

The time series of sale prices cannot, therefore, be regarded as statistically representative of changes in the capital values of all types of farms in England and Wales. It is probable that it reflects primarily the value of mixed farms and that the magnitude of the

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1. Ministry of Agriculture and Fisheries, "The Agricultural Output of England and Wales, 1925," Cmd.2815, H.M.S.O. London, 1927.

2. Ministry of Agriculture and Fisheries, "The Agricultural Output of England and Wales, 1930-1931," Cmd.4605, H.M.S.O. London, 1934.

3. For a comparison see page 135.

changes in prices recorded are rather greater than might have been recorded if a truly representative series could have been obtained. It is, however, worth recording that mixed farming has been predominant throughout much of England and Wales, with the exception of certain specialised areas, throughout much of the period.

In addition to the fact that the sales data could not be regarded as representative of all types of farming in England and Wales they were subject to a number of other limitations. In the first place, they related only to farms sold at auction and did not include those sold by private treaty. It is not known what proportion of farms is offered by auction, but it is thought that many of the larger agricultural estates are sold for investment by private treaty and individual farms on such estates may also be sold privately. Nor is it known whether there would be any difference in the average prices of farms sold by private treaty and those sold by auction. For statistical purposes, however, auction values have the great merit that they can usually be regarded as genuine competitive prices, whereas private treaty prices may be subject to conditions which are not made public.[1]

Further, nothing was known about the relative quality of farms sold which is, of course, a factor strongly affecting price. Variation

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1. Farms 'bought in' were excluded from the sales data extracted from the primary sources.

in the average quality of farms sold from one year to another would clearly influence average prices. It is known that when the demand for farm real estate is strong all classes of farms find a ready market but that when demand eases it also tends to become more selective. This suggests that the average quality of farm changing hands is likely to be better on a weak market than on a good one, and if allowances could be made for this factor the variation in sale price from the high to the low years might be rather greater than is indicated by the values calculated from the present data.

Finally, no allowance could be made for changes in the relative condition of farm buildings and other forms of permanent equipment and of the land itself over time. It may reasonably be assumed that during times of prosperity, and particularly if that prosperity has been experienced for some years, farms will tend to be better in these respects than during periods of depression. For example, it is known that farms generally were in better condition during the prosperous years of the early 1870's than they were at the depths of depression twenty years later. In other words, the commodity being sold is not homogenous over time and this too must have some effect upon relative prices. These reservations about the basic material must be borne in mind when considering the time series of sales data and its relationship to other variables.

Method of calculating annual average values.

The simplest method of calculating annual average values would be to find the total value of sales recorded during each year and then divide this figure by the total acreage sold. This would give unreliable results, however, because of variations in the average size of farm sold. The earlier studies had shown that average price per acre was strongly influenced by size of farm.[1] For example, the average price per acre recorded for farms sold with vacant possession in 1949 varied from £175 per acre for small farms of 5 to 50 acres, to £39 an acre for farms above 300 acres in size. In order to standardise for size the same procedure was adopted as had been used by Britton and also by the author in earlier work.

This method followed was to divide the sales records for each year into size groups, to calculate average prices per acre within groups, and then to weigh the group averages in proportion to the contribution each size group made to the total area of crops and grass in England and Wales. It is substantially the same method as that used to obtain the 'standardised' estimates of the rent per acre in the various counties of England and Wales which appear in the

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1. D.K. Britton, ibid, and J.T. Ward, "Changes in the Sale Value of Farm Real Estate in England and Wales, 1937-39 to 1951," The Farm Economist, Vol.Vll, No 4, 1953.

summary report of the National Farm Survey.[1] The advantages of this method were that it resulted in an overall average price per acre which was relevant to the distribution of farm land amongst the various size groups, and that it also provided average prices for size groups which could be used for further analysis. It was on these grounds that this system of standardisation was adopted.

No farms of less than 5 acres were included in the analysis, as it was not possible to distinguish from the sales records whether farms of this size were really smallholdings or primarily residential properties. Moreover, in the case of holdings of this size the value of the farm house has a disproportionate effect upon the purchase price per acre. The size groups and weights used for the period 1857 to 1938 when no distinction was made between farms sold with vacant possession and those sold without possession were:

Size groups	Weights
5 and under 50 acres	16
50 " " 100 "	17
100 " " 150 "	15
150 " " 300 "	29
300 acres and over	23

The weights used were based on the proportion of farm land in

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1. Ministry of Agriculture, "The National Farm Survey. A Summary Report," H.M.S.O. London, 1947.

each size group in England and Wales in 1924.[1] This was the basis of weighting originally selected by Britton for his study of land prices in the inter-war years, as being the most comprehensive and reliable available at that time. It was decided to retain these weights for that period, and also to extend their use to all years prior to 1918. It has been shown that there was relatively little change in the distribution of agricultural land amongst farm size groups over the period 1875 to 1939, except for some decrease in the number, and extent, of the larger farms over 300 acres.[2]

Within each size groups the average price was calculated by dividing the median purchase price by the median average. Extended medians[3] were used to reduce the effect of possible idiosyncrasies of individual items. This ensured a more representative average than

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1. Source: Ministry of Agriculture and Fisheries, "The Agricultural Output of England and Wales, 1925", Table 25. The size groups used in the official publication were not precisely the same as those used for analysing the sales data due to a slight difference in the limits. The Ministry groups were; "above 5 and not exceeding 50 acres"...."above 300 acres". If farms were distributed in a continuous series over the whole range this discrepancy would result in a slight under-weighting of the largest size group.

2. E. Thomas, "Changes in the Size of Agricultural Holdings in England and Wales during the Past 100 Years", Proceedings of the 1st International Conference of Agricultural Economists, 1929, pp. 139-156

For a further comment on weighting see pages 38/39

3. With an even number of records the median value was determined as the mean value of the central four items, while with an odd number it was determined as the mean value of the central three items.

would have been obtained by using the simple median price per acre, and also that average prices in individual size groups were not affected by extreme items, as would have happened if means had been used. A weighted average was then calculated in order to obtain an average value for all farms. All average values were expressed to the nearest whole number as it was thought that the nature of the data did not justify the use of decimals.

The earlier study by the author had shown that a factor which exerted a considerable influence upon sale prices from 1939 onwards was whether a farm was sold with or without vacant possession. In the years before the outbreak of the Second World War possession had relatively little effect upon price and Britton made no distinction between the two classes of farms but grouped them together for the purpose of calculating his average values. Examination of the sales data prior to 1918 showed very few farms recorded as sold with possession, a result which was not surprising in view of the fact that some 80 per cent of the farm land in England and Wales was tenanted at that time.[1] It was therefore decided to group all farm records together for these earlier years.

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1. Analysis of two individual years for which large numbers of sales were recorded e.g. 1918 and 1875 showed less than 10 per cent of the farms recorded as sold with vacant possession and that their average prices showed no significant variation from those of investment farms.

From 1938 onwards, the sales records were divided into two classes, farms sold with vacant possession and those sold without possession, and separate average sale prices were calculated for each of them. The same method of calculation was used as before. Both classes of farms were divided into size groups and the group median values were then weighted in accordance with the relative area of crops and grass in each size group. The weights used were based on acreage distributions for 1950, and were as follows:[1]

Size groups	Vacant possession	Without possession
5 and under 50 acres	12	10
50 " " 100 "	15	15
100 " " 150 "	14	14
150 " " 300 "	27	29
300 acres and over	32	32

In deciding whether or not to adopt this modification of the system of weighting after 1938 certain advantages and disadvantages had to be reviewed. The use of the 1950 weights gave a more representative weighted average for the years 1938 to 1958, while the 1924 weights were the most representative that could be used for

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1. Source: Ministry of Agriculture and Fisheries, "Tenure and Size of Holdings in England and Wales," Press release, M.A.F.3088, 1952.

the earlier years. On the other hand, introducing a change in weighting had some effect upon the relative prices of all farms in the different periods. It was decided that the procedure followed was a reasonable compromise. The average prices were more representative from 1938 onwards than they would have been if the original fixed weights had been used throughout, while the change, in fact, had relatively little effect upon the comparability of the time series.[1] A further point in favour of introducing the change in 1938 was that the series was already broken in that year to allow for the distinction between farms sold with vacant possession and those sold without possession.

In an earlier study,[2] an attempt was made to provide a general sale price and index number for all farms, for each year after 1938, by calculating a weighted average of the prices of farms sold with vacant possession and of those sold without possession. The weights used were proportional to the amount of land recorded sold in

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1. The effect of the change was to give rather greater weighting to farms above 300 acres after 1939 so that the weighted average prices of all farms after this year tend to be lower (by £1 an acre in the earlier years up to £4 an acre in the late 1950's) than they would have been if the earlier system of weighting had been used throughout.

2. J.T. Ward, ibid.

each category in 1950. The primary purpose of this calculation was to give continuity to the series originally prepared by Britton. This method of averaging was not continued in the present study because the distinction between the two classes of property became so clear cut after 1938 that it was thought more important to give separate series for each of them. Moreover, averaging them gave an artificial value which could not be related to any class of property and tended to obscure some important relationships.

CHAPTER 3.

Farm Sale Prices in England and Wales, 1857 to 1958

The results of the calculation of average farm sale prices are presented in tabular form in this Chapter. Average sale prices per acre, by size groups and weighted average prices for all farms are given for each year from 1857 to 1939 in Table 1. Similar data are shown for farms sold with vacant possession from 1939 to 1958 in Table 2 and for farms sold without possession during the same years in Table 3. Summaries of the annual weighted averages are then given in Tables 4 and 5 and illustrated in Chart 1.

For some purposes it is advantageous to express a time series in index numbers rather than in the original values because the former help to bring out trends in price movements and also facilitate comparisons with time series of other variables. Index numbers of the time series were therefore calculated and are shown in Tables 4 and 5. The main series of index numbers are shown with base years 1867-1876 for comparison with time series of other variables which are frequently based on this period. In Table 5 a second base, 1938-39, has been introduced primarily for the purpose of analysing the separate series shown for farms sold with vacant possession and those sold without possession from 1938 onwards.

Table 1. Farm Sale Prices, England and Wales, by Size Groups, 1857-1939.

Year	5 and under 50 acres		50 and under 100 acres		100 and under 150 acres		150 and under 300 acres		300 acres and over		All farms	
	No. of farms	£'s per acre	No. of farms	£'s per acre	No. of farms	£'s per acre	No. of farms	£'s per acre	No. of farms	£'s per acre	No. of farms	£'s per acre
1857	8	34	1	43	6	45	1	48	2	29	18	40
1858	7	40	6	40	4	38	11	39	7	35	35	38
1859	9	34	13	32	9	39	6	40	3	31	40	35
1860	12	44	6	56	12	43	12	35	2	37	44	42
1861	5	47	5	55	6	29	6	38	2	37	24	41
1862	3	69	5	43	2	27	3	38	1	35	14	41
1863	5	42	4	42	6	41	4	37	1	20	20	35
1864	3	63	3	35	2	38	5	45	2	17	15	38
1865	3	56	5	30	7	58	4	36	1	11	20	36
1866	4	40	5	50	4	42	3	27	1	29	17	36
1867	5	78	5	49	3	40	5	31	2	37	20	44
1868	9	60	5	43	10	38	6	39	2	35	32	42
1869	2	68	8	52	5	42	8	36	4	38	27	45
1870	8	75	12	41	5	45	10	31	5	33	40	42
1871	9	72	10	52	10	45	20	45	8	39	57	49
1872	13	67	19	47	19	50	23	42	11	43	85	48
1873	16	86	8	49	18	54	20	49	10	41	70	54
1874	66	64	56	51	25	54	27	38	6	43	180	48
1875	45	72	31	54	19	54	30	54	9	35	134	52
1876	5	100	14	63	12	58	12	57	5	22	48	57
1877	20	88	14	59	9	48	11	44	5	29	59	51
1878	13	89	11	65	10	50	9	40	2	26	45	51
1879	6	80	4	53	2	68	1	31	1	22	14	46

Table 1. (continued). Farm Sale Prices, England and Wales, by Size Groups, 1857-1939.

Year	5 and under 50 acres		50 and under 100 acres		100 and under 150 acres		150 and under 300 acres		300 acres and over		All farms	
	No. of farms	£'s per acre	No. of farms	£'s per acre	No. of farms	£'s per acre	No. of farms	£'s per acre	No. of farms	£'s per acre	No. of farms	£'s per acre
1880	4	55	4	46	2	27	1	34	1	34	12	38
1881	5	31	2	52	2	42	2	43	1	29	12	39
1882	2	68	5	55	2	41	1	20	1	36	11	41
1883	3	56	4	49	2	37	2	16	1	21	12	32
1884	1	100	1	48	1	45	2	13	1	20	7	39
1885	4	57	4	32	5	24	2	24	2	18	17	30
1886	1	71	1	21	3	20	2	19	4	18	11	28
1887	3	36	1	34	5	26	2	18	1	19	12	24
1888	4	72	5	24	5	18	2	16	5	16	21	26
1889	10	72	5	28	5	26	5	17	2	11	27	28
1890	14	46	5	28	2	22	3	19	3	12	27	24
1891	4	50	7	26	2	19	1	20	3	18	17	25
1892	9	43	17	20	4	36	2	14	1	6	33	21
1893	11	26	9	23	3	13	9	28	2	8	34	20
1894	12	26	8	24	8	15	6	13	4	11	38	17
1895	63	31	39	22	24	21	28	12	6	8	160	17
1896	122	36	77	22	45	18	54	17	7	13	305	20
1897	106	23	111	20	68	21	76	18	19	17	380	19
1898	123	29	113	23	55	24	53	19	19	17	363	22
1899	99	33	94	25	57	22	47	15	14	15	311	21

Table 1. (continued). Farm Sale Prices, England and Wales, by Size Groups, 1857-1939.

Year	5 and under 50 acres		50 and under 100 acres		100 and under 150 acres		150 and under 300 acres		300 acres and over		All farms	
	No.of farms	£'s per acre	No.of farms	£'s per acre	No.of farms	£'s per acre	No.of farms	£'s per acre	No.of farms	£'s per acre	No.of farms	£'s per acre
1900	56	28	59	20	38	24	35	17	13	13	201	20
1901	49	25	45	25	52	20	46	12	12	15	204	18
1902	45	30	39	22	38	27	42	16	10	11	174	20
1903	57	35	60	27	47	17	43	19	10	18	217	22
1904	52	35	45	21	29	15	45	14	8	10	179	18
1905	47	35	49	25	24	21	41	21	11	10	172	22
1906	65	37	42	28	31	19	39	16	10	10	187	21
1907	27	33	16	30	23	19	21	19	5	13	92	22
1908	38	24	45	21	35	17	26	16	7	15	151	18
1909	54	36	61	25	41	22	42	21	11	11	209	20
1910	99	35	113	27	73	23	62	24	22	15	369	24
1911	173	40	125	29	89	26	121	21	35	21	543	26
1912	132	32	125	27	93	23	117	23	30	21	497	25
1913	108	30	123	24	101	20	96	22	26	17	454	22
1914	105	31	111	25	59	21	87	18	20	15	382	21
1915	47	35	50	26	58	24	53	19	20	16	228	23
1916	127	29	80	26	50	18	73	19	17	21	347	22
1917	93	32	122	31	134	27	152	21	52	20	553	25
1918	332	36	298	30	234	30	284	25	69	21	1217	28
1919	335	40	236	32	231	28	241	26	111	23	1154	29

Table 1. (continued). Farm Sale Prices, England and Wales, by Size Groups, 1857-1939.

Year	5 and under 50 acres		50 and under 100 acres		100 and under 150 acres		150 and under 300 acres		300 acres and over		All farms	
	No. of farms	£'s per acre	No. of farms	£'s per acre	No. of farms	£'s per acre	No. of farms	£'s per acre	No. of farms	£'s per acre	No. of farms	£'s per acre
1920	176	49	262	38	189	32	248	28	75	23	950	33
1921	256	40	219	31	117	24	143	24	55	16	790	26
1922	45	50	47	28	24	24	33	21	8	21	157	27
1923	38	47	43	31	36	26	36	24	6	19	159	28
1924	119	47	81	27	61	29	68	25	30	23	359	29
1925	79	45	96	32	55	28	68	25	22	15	320	28
1926	49	51	54	31	31	25	28	19	14	15	176	26
1927	40	40	48	30	25	25	32	22	11	23	156	27
1928	43	44	32	25	32	25	30	22	15	17	152	25
1929	84	33	73	24	51	19	66	15	40	11	314	19
1930	56	38	48	26	35	17	40	16	9	13	188	21
1931	73	36	81	27	52	22	63	16	14	10	283	21
1932	75	41	60	27	40	15	50	16	20	10	245	20
1933	69	41	51	24	41	22	35	19	13	9	209	21
1934	61	48	65	31	46	20	50	18	8	19	230	26
1935	80	46	56	23	44	24	44	16	13	17	237	23
1936	79	43	58	30	38	25	54	20	23	15	252	25
1937	67	36	71	29	43	29	63	21	17	17	261	25
1938	88	47	91	31	55	25	47	18	27	13	308	25
1939	92	40	54	30	53	21	54	19	10	12	263	23

Table 2. Farm Sale Prices, England and Wales, by Size Groups.

(With vacant possession 1938-1958).

Year	5 and under 50 acres		50 and under 100 acres		100 and under 150 acres		150 and under 300 acres		300 acres and over		All farms	
	No. of farms	£'s per acre	No. of farms	£'s per acre	No. of farms	£'s per acre	No. of farms	£'s per acre	No. of farms	£'s per acre	No. of farms	£'s per acre
1938	34	50	39	40	22	30	22	21	13	15	130	27
1939	43	58	20	30	23	27	23	24	6	10	115	25
1940	83	82	53	35	27	29	28	26	7	20	198	33
1941	58	77	60	45	25	32	46	34	12	22	201	37
1942	121	93	75	46	47	42	45	29	11	25	299	40
1943	113	97	81	56	24	38	39	39	4	37	261	48
1944	97	96	48	57	25	53	32	33	6	26	208	45
1945	127	158	85	61	47	45	49	37	9	26	317	53
1946	207	147	115	66	46	52	44	40	8	37	420	57
1947	207	178	110	87	63	73	51	56	14	44	445	74
1948	282	175	122	101	75	74	73	62	21	50	573	79
1949	202	175	133	100	65	75	67	64	12	39	479	76
1950	202	175	123	96	69	75	51	64	11	54	456	80
1951	220	167	125	105	54	82	60	70	18	68	477	88
1952	202	172	124	89	86	77	51	72	133	37	476	76
1953	217	129	158	86	73	78	79	64	11	51	538	73
1954	169	138	139	87	72	71	72	66	19	54	471	75
1955	231	161	146	85	68	77	63	68	20	58	528	80
1956	206	134	97	93	54	75	56	68	11	60	424	78
1957	157	141	87	84	47	77	49	71	9	51	349	76
1958	149	139	151	92	68	81	70	84	18	68	456	86

Table 3. Farm Sale Prices, England and Wales, by Size Groups.

(Without possession 1938-1958).

Year	5 and under 50 acres		50 and under 100 acres		100 and under 150 acres		150 and under 300 acres		300 acres and over		All farms	
	No. of farms	£'s per acre	No. of farms	£'s per acre	No. of farms	£'s per acre	No. of farms	£'s per acre	No. of farms	£'s per acre	No. of farms	£'s per acre
1938	37	39	42	27	24	16	19	17	10	12	132	19
1939	39	28	29	30	28	17	26	18	3	14	125	19
1940	49	41	35	25	15	21	10	17	3	10	112	19
1941	67	52	60	36	39	31	53	23	20	18	239	27
1942	80	60	75	32	33	30	43	17	12	15	243	25
1943	77	51	76	36	37	29	50	27	8	14	248	27
1944	85	47	52	40	34	34	28	22	3	24	202	30
1945	93	48	90	36	39	29	55	24	17	24	294	29
1946	84	72	44	40	17	33	32	26	7	17	184	31
1947	36	73	32	48	15	30	18	28	11	22	112	34
1948	55	97	38	56	26	47	31	30	4	29	154	43
1949	57	67	39	47	34	37	29	33	12	30	171	38
1950	38	68	44	44	17	60	14	38	7	19	120	39
1951	42	53	36	56	24	43	26	41	3	38	131	44
1952	33	69	13	51	12	35	18	35	5	25	81	38
1953	24	56	22	42	12	38	22	37	5	23	85	35
1954	30	78	12	54	11	34	13	30	4	36	70	41
1955	14	64	14	55	7	44	3	43	3	60	41	52
1956	11	81	17	51	4	37	6	41	2	42	40	46
1957	7	83	6	43	3	68	1	40	1	40	18	49
1958	14	79	9	64	6	52	5	45	2	42	36	51

Table 4. Changes in Farm Sale Prices, England and Wales, 1857-1939.

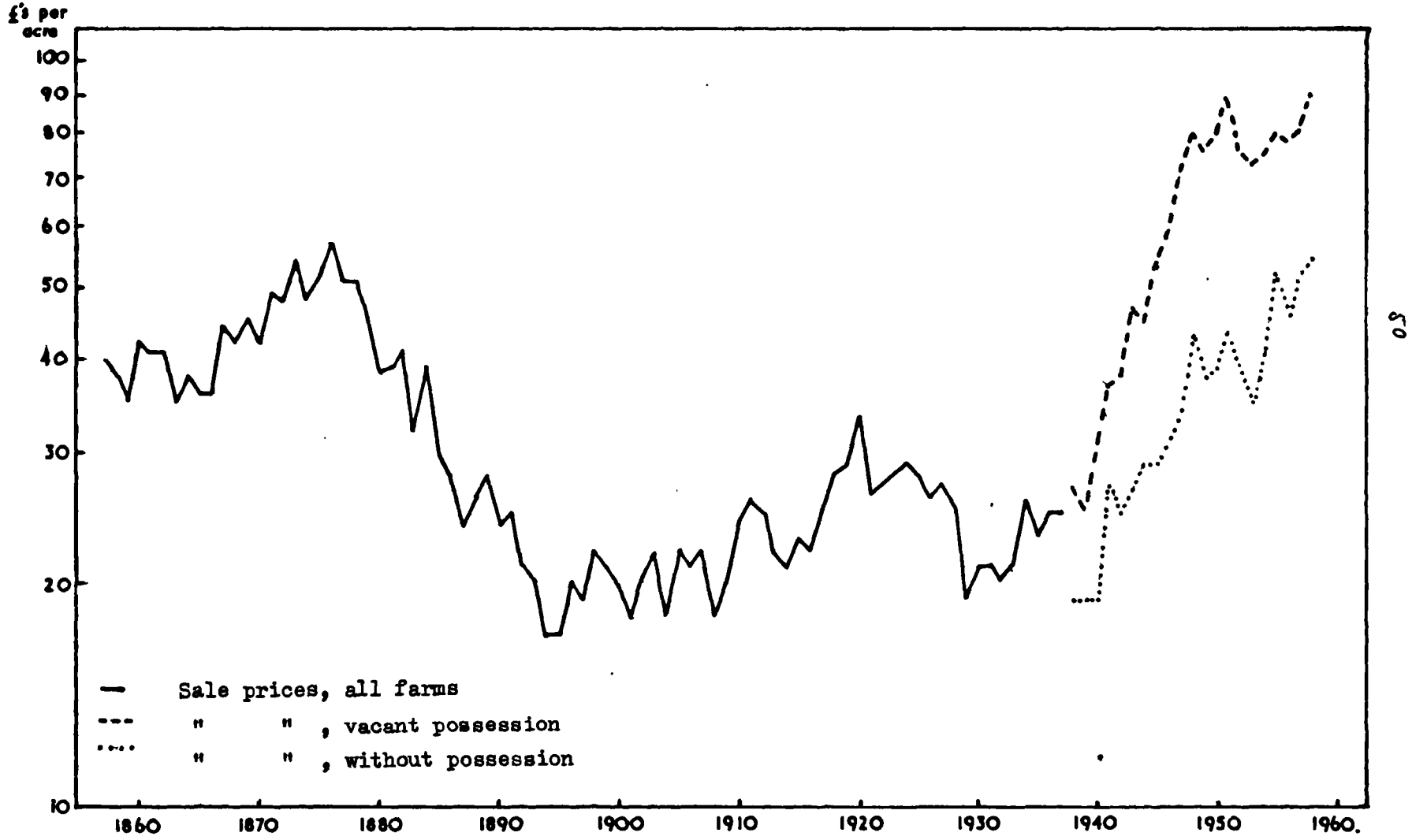
Year	£'s per acre	Index no.	Year	£'s per acre	Index no.	Year	£'s per acre	Index no.
1857	40	84	1880	38	79	1910	24	50
1858	39	79	1881	39	82	1911	26	54
1859	35	73	1882	41	86	1912	25	52
			1883	32	67	1913	22	46
1860	42	88	1884	39	82	1914	21	44
1861	41	85	1885	30	63	1915	23	48
1862	41	85	1886	28	59	1916	22	46
1863	35	73	1887	24	50	1917	25	52
1864	38	79	1888	26	54	1918	28	59
1865	36	75	1889	28	56	1919	29	61
1866	36	75						
1867	44	92	1890	24	50	1920	33	69
1868	42	88	1891	25	52	1921	26	54
1869	45	94	1892	21	44	1922	27	56
			1893	20	42	1923	28	59
1870	42	88	1894	17	36	1924	29	61
1871	49	102	1895	17	36	1925	28	58
1872	48	100	1896	20	42	1926	26	54
1873	54	113	1897	19	40	1927	27	56
1874	48	100	1898	22	46	1928	25	52
1875	52	109	1899	21	44	1929	19	40
1876	57	119						
1877	51	107	1900	20	42	1930	21	44
1878	51	107	1901	18	38	1931	21	44
1879	46	96	1902	20	42	1932	20	42
			1903	22	46	1933	21	44
			1904	18	38	1934	26	54
			1905	22	46	1935	23	48
			1906	21	44	1936	25	52
			1907	22	46	1937	25	52
			1908	18	38	1938	25	52
			1909	20	42	1939	23	48

Index numbers, 1867-76 = 100

Table 5. Changes in Farm Sale Prices, England and Wales, 1938-1958.

Year	Vacant Possession			Without Possession		
	£'s per acre	Index no. (1867-76 = 100)	Index no. (1938-39 = 100)	£'s per acre	Index no. (1867-76 = 100)	Index no. (1938-39 = 100)
1938	27	56	104	19	40	100
1939	25	52	96	19	40	100
1940	33	69	119	19	40	100
1941	37	77	142	27	56	142
1942	40	83	146	25	52	132
1943	48	100	181	27	56	142
1944	45	94	173	29	63	158
1945	53	110	204	29	61	153
1946	57	119	227	31	65	163
1947	74	154	270	34	71	179
1948	79	164	308	43	90	226
1949	76	158	293	38	79	200
1950	80	166	308	39	82	205
1951	88	183	339	44	92	231
1952	76	158	293	38	79	200
1953	73	152	281	35	73	184
1954	75	156	289	41	86	216
1955	80	166	308	52	108	274
1956	78	162	300	46	96	242
1957	76	158	292	49	102	258
1958	86	178	331	51	106	268
~~1959~~						

Chart 1. Changes in Farm Sale Prices, England and Wales, 1857-1958.



Farms below 300 acres.

The number of sales recorded for each size group and the total number of sale records for each year are also shown in the first three tables. The small number of sales recorded, especially in the earlier years, will be noted. In view of this limitation of the data the variation between average sale prices for all farms from one year to another was, perhaps, less than might have been expected. It was, however, evident that some part of this variation must be attributable to random deviations resulting from the small number of sales.

Variations of this nature might be expected to be particularly prevelant in the average sale prices of farms above 300 acres because, for most years, the smallest number of sales were recorded in this group. It was because the limited number of records resulted in "erratic" prices for the largest farms that Britton excluded this group in calculating weighted averages for the years 1918 to 1938.[1]

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1. D.K. Britton, "The Sale Value of Farm Land Between the Wars", The Farm Economist, Vol.VI. No 5.

In order to test the advantages of this procedure a second series of sale prices was calculated for farms between 5 and 300 acres. These are shown in Tables 6 and 7 and illustrated in Chart 2 in comparison with the series based on all farms.

A comparison of the two series showed that although the average annual values of farms below 300 acres were slightly above those for all farms (as was to be expected from the nature of the calculations) their general movements were very similar and the trends in values were virtually identical. The second series, in fact, did little to smooth the annual fluctuations in values which might be attributed to random variations in the sales records. This was primarily because not only the largest farms, but all size groups, were represented by small numbers of sales, especially in the early years.

The second series was, moreover, subject to the disadvantage that by omitting farms which occupied (in 1924) approximately one quarter of the farm land in England and Wales it made the series less representative of all farms in the country.

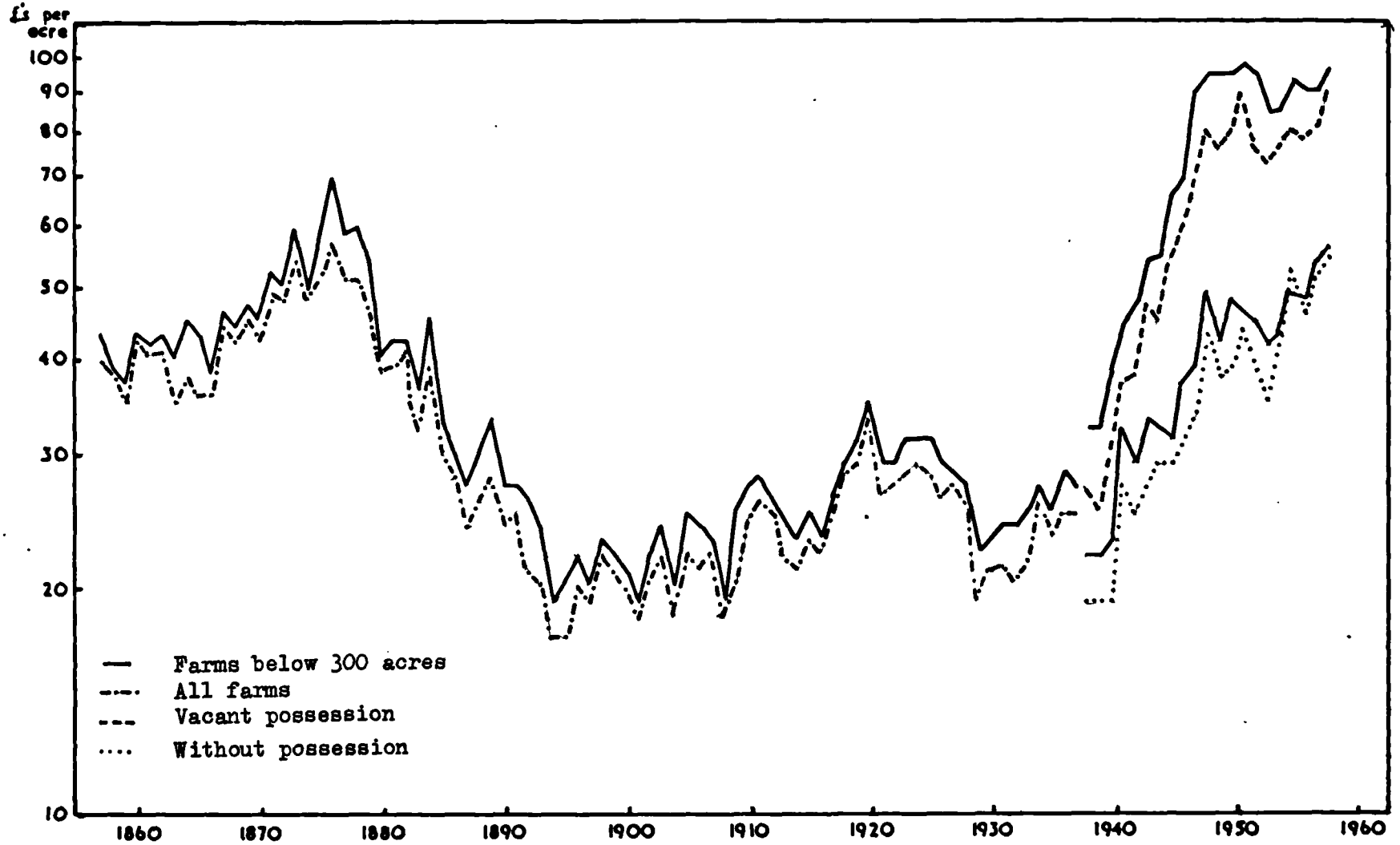
Table 6. Changes in Farm Sale Prices, England and Wales, 1857-1939, All Farms and Farms below 300 acres.

Year	All farms £'s per acre	Farms below 300 acres £'s per acre	Year	All farms £'s per acre	Farms below 300 acres £'s per acre	Year	All farms £'s per acre	Farms below 300 acres £'s per acre
1857	40	43	1880	38	40	1910	24	27
1858	38	39	1881	39	42	1911	26	28
1859	35	37	1882	41	42	1912	25	26
			1883	32	36	1913	22	24
1860	42	43	1884	39	45	1914	21	23
1861	41	42	1885	30	33	1915	23	25
1862	41	43	1886	28	30	1916	22	23
1863	35	40	1887	24	27	1917	25	26
1864	38	45	1888	26	30	1918	28	29
1865	36	43	1889	28	33	1919	29	31
1866	36	38						
1867	44	46	1890	24	27	1920	33	35
1868	42	44	1891	25	27	1921	26	29
1869	45	47	1892	21	26	1922	27	29
			1893	20	24	1923	28	31
1870	42	45	1894	17	19	1924	29	31
1871	49	52	1895	17	20	1925	28	31
1872	48	50	1896	20	22	1926	26	29
1873	54	58	1897	19	20	1927	27	28
1874	48	49	1898	22	23	1928	25	27
1875	52	58	1899	21	22	1929	19	22
1876	57	67						
1877	51	57	1900	20	21	1930	21	23
1878	51	58	1901	18	19	1931	21	24
1879	46	53	1902	20	22	1932	20	24
			1903	22	24	1933	21	25
			1904	18	20	1934	26	27
			1905	22	25	1935	23	25
			1906	21	24	1936	25	28
			1907	22	24	1937	25	27
			1908	18	19	1938	25	28
			1909	20	25	1939	23	26

Table 7. Changes in Farm Sale Prices, England and Wales, 1939-1958. All Farms and Farms below 300 acres.

Year	Vacant possession		Without possession	
	All farms	Farms below 300 acres	All farms	Farms below 300 acres
	£'s per acre		£'s per acre	
1938	27	32	19	22
1939	25	32	19	22
1940	33	38	19	23
1941	37	44	27	32
1942	40	47	25	29
1943	48	53	27	33
1944	45	54	29	32
1945	53	65	29	31
1946	57	67	31	37
1947	74	88	34	39
1948	79	93	43	49
1949	76	94	38	42
1950	80	93	39	48
1951	88	97	44	46
1952	76	94	38	44
1953	73	83	35	41
1954	75	84	41	43
1955	80	90	52	49
1956	78	87	46	48
1957	76	87	49	53
1958	86	95	51	56

t 2. Farm ic c, n nd a d ales, 7-10 .
F rm d F below 3 0 cres.



Moving averages.

A more satisfactory means of modifying some of the random variations, and at the same time establishing price trends, was found in the use of moving averages. After tests with three, five and seven year periods, it was decided to use five year moving averages as these proved long enough to smooth the random variations but short enough to show up the shorter, as well as the longer trends.

The moving averages of all farms were obtained by calculating moving averages of the prices recorded within size groups and then weighting these as before to obtain an average for all farms. This method was selected because, although more laborious than calculating a simple moving average of all farm prices, it had a major advantage in providing smoothed average prices for all size groups which were used subsequently for further analysis. The results of these calculations are shown in Tables 8, 9 and 10 and the five year moving averages for all farms are illustrated in Chart 3.

A disadvantage of using moving averages is that the upturn or downturn of the smoothed series may not coincide with these points in the original series. In delineating trends and selecting periods for analysis, therefore, reference was made back to the original series as well as to the smoothed series.

Table 8. Five Year Moving Averages of Farm Sale Prices, by Size Groups, England and Wales, 1857-1939.

Five year period	5 and under 50 acres		50 and under 100 acres		100 and under 150 acres		150 and under 300 acres		300 acres and over		All farms	
	No.of farms	£'s per acre	No.of farms	£'s per acre	No.of farms	£'s per acre	No.of farms	£'s per acre	No.of farms	£'s per acre	No.of farms	£'s per acre
1857-61	41	40	31	45	37	39	36	40	16	34	161	39
1858-62	36	47	35	45	33	35	38	38	14	35	156	40
1859-63	34	47	33	46	35	36	31	37	8	31	141	39
1860-64	28	53	23	46	28	36	30	38	7	28	116	39
1861-65	19	55	22	41	23	39	22	39	6	21	92	38
1862-66	18	54	22	40	21	41	19	36	5	19	85	37
1863-67	20	56	22	41	22	44	21	35	7	23	92	38
1864-68	24	59	23	41	26	43	23	35	8	26	104	39
1865-69	23	60	28	45	29	44	26	34	10	30	116	41
1866-70	31	61	35	47	27	41	32	33	14	33	139	41
1867-71	36	67	40	47	33	42	49	36	21	35	179	44
1868-72	44	65	54	47	49	44	67	38	30	36	244	44
1869-73	53	74	57	52	57	47	81	40	38	37	286	48
1870-74	117	73	105	53	77	50	100	41	40	39	439	49
1871-75	151	76	124	55	91	52	120	45	44	40	530	52
1872-76	147	81	128	57	93	54	112	48	41	37	521	53
1873-77	154	86	123	60	83	54	100	48	35	34	495	54
1874-78	149	83	126	59	75	53	89	47	27	31	466	52
1875-79	89	86	74	59	52	56	63	45	22	27	300	51
1876-80	48	82	47	57	35	50	34	41	14	27	178	49
1877-81	48	69	35	55	23	48	22	38	9	28	137	45
1878-82	30	65	26	54	16	47	12	32	5	30	89	43
1879-83	20	52	19	51	8	43	5	26	3	31	55	38

Table 8 (continued). Five Year Moving Averages of Farm Sale Prices, by Size Groups, England and Wales, 1857-1939.

Five year period	5 and under 50 acres		50 and under 100 acres		100 and under 150 acres		150 and under 300 acres		300 acres and over		All farms	
	No.of farms	£'s per acre	No.of farms	£'s per acre	No.of farms	£'s per acre	No.of farms	£'s per acre	No.of farms	£'s per acre	No.of farms	£'s per acre
1880-84	15	56	16	50	8	48	6	21	3	30	48	38
1881-85	15	56	16	47	11	48	7	18	4	25	53	35
1882-86	13	54	15	41	14	42	9	19	8	23	59	33
1883-87	14	48	11	45	17	39	8	18	8	19	58	31
1884-88	15	57	12	40	20	35	8	18	13	18	68	31
1885-89	24	52	16	36	23	23	11	19	14	17	88	27
1886-90	34	49	17	35	18	22	12	18	15	15	96	26
1887-91	35	55	23	36	17	22	11	18	8	15	94	27
1888-92	41	57	39	25	16	25	13	17	14	13	123	25
1889-93	48	47	43	25	14	24	20	20	11	11	136	24
1890-94	50	38	46	24	17	21	21	19	13	11	147	21
1891-95	99	35	80	23	41	21	46	17	16	10	282	20
1892-96	217	32	150	22	84	21	99	17	20	9	570	19
1893-97	314	28	244	22	148	18	173	17	38	11	917	19
1894-98	426	29	348	22	200	20	217	16	55	13	1246	19
1895-99	513	30	434	22	249	21	258	16	65	14	1519	20
1896-1900	506	30	454	22	263	22	265	17	72	15	1560	20
1897-01	433	28	422	23	270	22	257	16	77	16	1459	20
1898-02	372	29	350	23	240	23	223	16	68	14	1253	20
1899-03	306	30	297	24	232	22	213	16	59	15	1107	20

Table 8 (continued). Five Year Moving Averages of Farm Sale Prices, by Size Groups, England and Wales, 1857-1939.

Five year period	5 and under 50 acres		50 and under 100 acres		100 and under 150 acres		150 and under 300 acres		300 acres and over		All farms	
	No.of farms	£'s per acre	No.of farms	£'s per acre	No.of farms	£'s per acre	No.of farms	£'s per acre	No.of farms	£'s per acre	No.of farms	£'s per acre
1900-04	259	31	248	23	204	20	211	16	53	13	975	20
1901-05	250	32	238	24	190	20	217	17	51	13	946	20
1902-06	266	34	235	25	169	20	210	17	49	12	929	20
1903-07	248	35	212	26	154	18	189	18	44	12	847	21
1904-08	229	33	197	25	142	18	172	17	41	12	781	20
1905-09	231	33	213	26	154	20	169	19	44	12	811	21
1906-10	283	33	277	26	203	20	190	19	55	13	1008	21
1907-11	391	33	360	26	261	21	272	20	80	15	1364	22
1908-12	496	33	469	26	331	22	368	21	105	17	1769	23
1909-13	566	35	547	26	397	23	438	22	124	17	2072	24
1910-14	617	34	597	26	415	22	483	22	133	18	2245	24
1911-15	565	34	534	26	400	23	474	21	131	18	2104	23
1912-16	519	31	489	26	361	21	426	20	113	18	1908	23
1913-17	480	31	486	27	402	22	461	20	135	18	1964	23
1914-18	704	33	661	28	535	24	649	21	178	19	2727	24
1915-19	634	34	586	29	507	26	603	22	169	20	2499	25
1916-20	763	37	798	31	638	28	798	24	227	21	3227	27
1917-21	892	39	937	32	705	28	868	25	230	20	3632	28
1918-22	844	43	860	32	595	26	749	24	169	20	3217	28
1919-23	555	45	607	32	397	27	501	25	155	21	2210	29

Table 8 (continued). Five Year Moving Averages of Farm Sale Prices, by Size Groups, England and Wales, 1857-1939.

Five Year period	5 and under 50 acres		50 and under 100 acres		100 and under 150 acres		150 and under 300 acres		300 acres and over		All farms	
	No.of farms	£'s per acre	No.of farms	£'s per acre	No.of farms	£'s per acre	No.of farms	£'s per acre	No.of farms	£'s per acre	No.of farms	£'s per acre
1920-24	634	47	652	31	427	27	528	25	174	21	2415	29
1921-25	537	46	486	30	293	26	348	24	121	19	1785	28
1922-26	330	48	321	30	207	26	233	23	80	19	1171	28
1923-27	325	46	322	30	208	27	232	23	83	19	1170	28
1924-28	330	45	311	29	204	26	226	23	92	19	1163	27
1925-29	295	43	303	28	194	24	224	21	102	16	1118	25
1926-30	272	41	255	27	174	22	196	19	89	16	986	24
1927-31	296	38	282	27	195	22	231	18	89	15	1093	23
1928-32	331	38	294	26	210	20	249	17	98	12	1182	21
1929-33	357	38	313	26	219	19	254	16	96	11	1239	21
1930-34	334	41	305	27	214	19	238	17	64	12	1155	22
1931-35	358	42	313	27	223	20	242	17	68	13	1204	22
1932-36	364	44	290	27	209	21	233	18	77	14	1173	23
1933-37	356	43	301	26	212	24	246	19	74	15	1189	24
1934-38	375	44	341	29	226	24	258	18	88	16	1288	25
1935-39	406	42	330	29	233	25	262	19	90	15	1321	24

Table 9. Five Year Moving Average Prices of Farms Sold With Vacant Possession, by Size Groups, England and Wales, 1938–1958.

Five year period	5 and under 50 acres		50 and under 100 acres		100 and under 150 acres		150 and under 300 acres		300 acres and over		All farms	
	No.of farms	£'s per acre	No.of farms	£'s per acre	No.of farms	£'s per acre	No.of farms	£'s per acre	No.of farms	£'s per acre	No.of farms	£'s per acre
1938–42	339	67	247	39	144	32	134	27	49	18	943	31
1939–43	418	75	289	42	146	34	152	30	40	23	1074	36
1940–44	472	83	317	48	148	39	161	32	40	26	1167	40
1941–45	516	89	349	53	168	42	172	34	42	27	1286	42
1942–46	665	104	404	57	189	46	178	36	38	30	1505	47
1943–47	751	118	439	66	205	52	205	41	41	34	1651	53
1944–48	920	135	480	75	256	59	228	46	58	37	1963	60
1945–49	1025	151	565	83	296	64	259	52	64	39	2234	66
1946–50	1100	167	603	90	318	70	286	57	66	45	2378	73
1947–51	1113	169	613	98	326	76	316	63	76	51	2430	79
1948–52	1108	173	627	98	349	77	332	66	75	50	2461	80
1949–53	1043	164	663	95	347	77	334	67	65	50	2426	79
1950–54	1010	156	669	93	354	77	336	67	72	53	2418	78
1951–55	1039	153	692	90	353	77	340	67	81	54	2490	78
1952–56	1025	147	664	88	353	75	338	68	74	52	2437	76
1953–57	980	141	627	87	314	76	337	67	70	55	2310	76
1954–58	912	143	620	88	309	76	357	71	77	58	2228	79

Table 10. Five Year Moving Average Prices by Size Groups of Farms Sold Without Possession, England and Wales, 1938-1958.

Five year period	5 and under 50 acres		50 and under 100 acres		100 and under 150 acres		150 and under 300 acres		300 acres and over		All farms	
	No.of farms	£'s per acre	No.of farms	£'s per acre	No.of farms	£'s per acre	No.of farms	£'s per acre	No.of farms	£'s per acre	No.of farms	£'s per acre
1938-42	272	44	241	30	139	23	151	18	48	14	851	22
1939-43	312	47	275	32	152	25	182	21	46	14	967	24
1940-44	358	50	298	34	158	29	184	22	46	16	1044	26
1941-45	402	52	353	36	182	31	229	23	60	19	1226	28
1942-46	419	56	337	37	160	31	208	24	47	19	1171	28
1943-47	375	58	294	40	142	31	183	26	46	20	1040	30
1944-48	353	68	256	44	131	35	164	26	42	23	946	33
1945-49	325	72	243	46	131	35	165	28	51	24	915	35
1946-50	270	76	197	47	109	41	124	31	41	27	741	38
1947-51	228	72	189	50	116	43	118	34	37	28	688	40
1948-52	225	71	170	51	113	44	118	36	31	28	657	40
1949-53	194	63	154	48	99	43	109	37	32	27	588	39
1950-54	167	65	127	50	76	42	93	36	24	28	487	39
1951-55	143	64	97	52	66	39	82	37	20	36	408	42
1952-56	112	70	78	51	46	37	62	37	19	37	317	43
1953-57	86	72	71	49	37	44	45	38	15	42	254	45
1954-58	76	77	58	53	31	47	28	40	12	46	205	49

Table 11. Moving Averages and Index Numbers of Farm Sale Prices, England and Wales, 1857-1939.

Five year period	£'s per acre	Index no.	Five year period	£'s per acre	Index no.	Five year period	£'s per acre	Index no.
1857-61	39	81	1887-91	27	56	1917-21	28	58
1858-62	40	83	1888-92	25	52	1918-22	28	58
1859-63	39	81	1889-93	24	50	1919-23	29	60
1860-64	39	81	1890-94	24	44	1920-24	29	60
1861-65	38	79	1891-95	20	42	1921-25	28	58
1862-66	37	77	1892-96	19	40	1922-26	28	58
1863-67	38	79	1893-97	19	40	1923-27	28	58
1864-68	39	81	1894-98	19	40	1924-28	27	56
1865-69	41	85	1895-99	20	42	1925-29	25	52
1866-70	41	85	1896-1900	20	42	1926-30	24	50
1867-71	44	92	1897-01	20	42	1927-31	23	48
1868-72	44	92	1898-02	20	42	1928-32	21	44
1869-73	48	100	1899-03	20	42	1929-33	21	44
1870-74	49	102	1900-04	20	42	1930-34	22	46
1871-75	52	108	1901-05	20	42	1931-35	22	46
1872-76	53	110	1902-06	20	42	1932-36	23	48
1873-77	54	112	1903-07	21	44	1933-37	24	50
1874-78	52	108	1904-08	20	42	1934-38	25	52
1875-79	51	106	1905-09	21	44	1935-39	24	50
1876-80	49	102	1906-10	21	44			
1877-81	45	94	1907-11	22	46			
1878-82	43	89	1908-12	23	48			
1879-83	38	79	1909-13	24	50			
1880-84	38	79	1910-14	24	50			
1881-85	35	73	1911-15	23	48			
1882-86	33	69	1912-16	23	48			
1883-87	31	64	1913-17	23	48			
1884-88	31	64	1914-18	24	50			
1885-89	27	56	1915-19	25	52			
1886-90	26	54	1916-20	27	56			

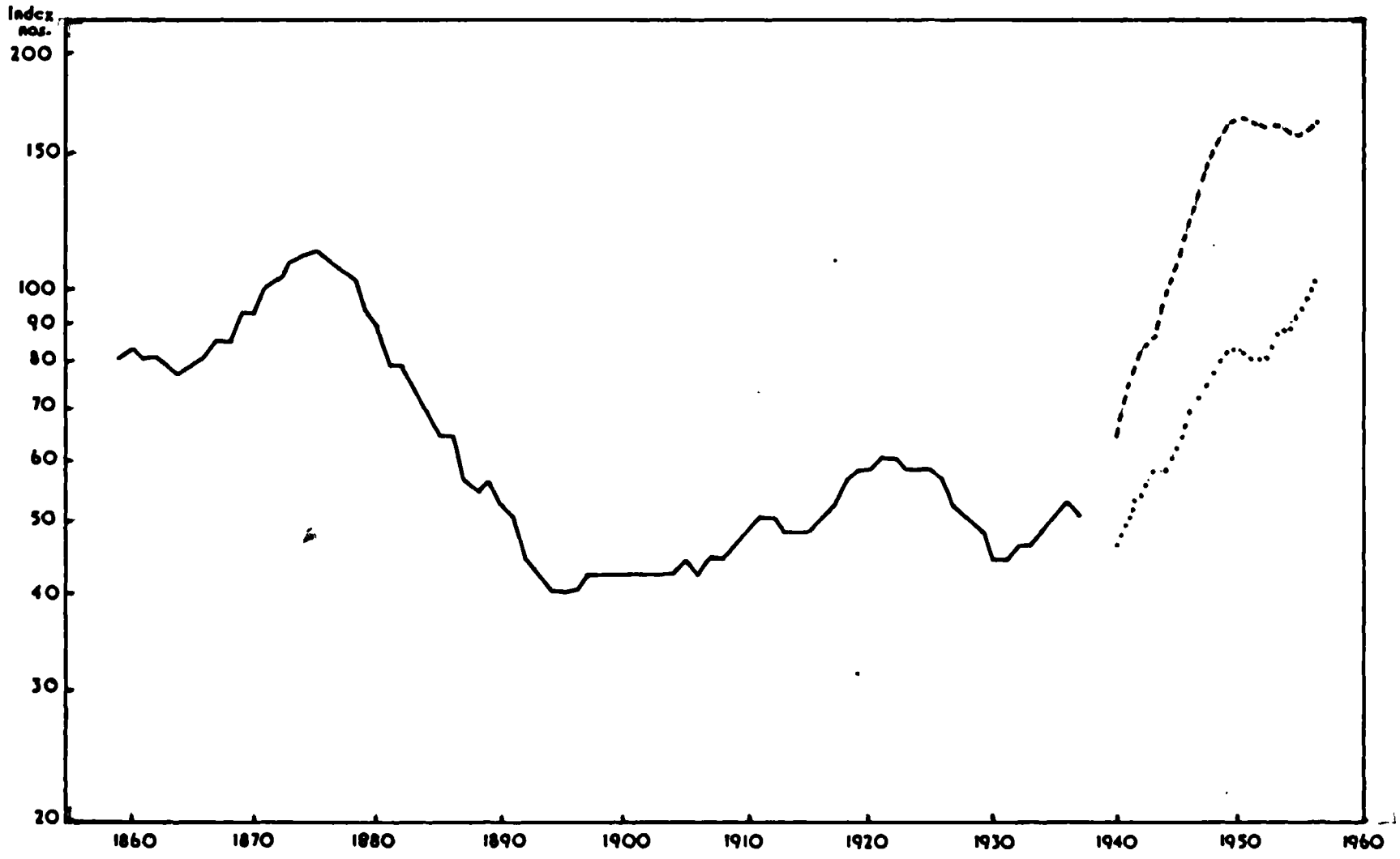
Index number 1867-76 = 100.

Table 12. Moving Averages and Index Numbers of Farm Sale Prices, England and Wales, 1938-1958.

Five year period	Vacant possession £'s per acre	Vacant possession Index no.	Without possession £'s per acre	Without possession Index no.
1938-42	31	64	22	46
1939-43	36	75	24	50
1940-44	40	83	26	54
1941-45	42	87	28	58
1942-46	47	98	28	58
1943-47	53	110	30	62
1944-48	60	125	33	69
1945-49	66	137	35	73
1946-50	73	152	38	79
1947-51	79	164	40	83
1948-52	80	166	40	83
1949-53	79	164	39	81
1950-54	78	162	39	81
1951-55	78	162	42	87
1952-56	76	158	43	89
1953-57	76	158	45	94
1954-58	79	164	49	102

Index numbers - 1867-76 = 100.

Chart 3. Five Year Moving Averages of Farm Sale Prices, England and Wales, 1857-1958.



Major trends in farm sale prices.

The sale values data given in these foregoing tables and illustrated in the diagrams reveal a number of well defined periods in which major trends in farm sale values may be discerned. These may be summarised as follows:

1857 - 1866 a period with no marked trend.

1867 - 1876 a period of gradual improvement in sale values with average prices reaching a peak of £57 an acre.

1877 - 1895 a period characterised by a long and severe fall in land prices with minor recoveries in the early and later eighties.

1896 - 1916 a long period of no marked trend with sale prices fluctuating around £20 an acre.

1917 - 1920 a short rapid boom with prices rising to £33 an acre.

1921 - 1927 following a break in 1921, prices remained around £27 an acre.

1928 - 1933 a further period of depression with prices falling back to £20 an acre.

1934 - 1939 a gradual recovery of prices to around £25 an acre.

1940 - 1951 a period of very rapid and extensive gains in farm sale values; prices rose to £88 an acre with vacant possession and £44 an acre without possession by 1951.

1952 - 1957 a break in prices in 1952 followed by greater stability.

1958 - a renewed rise in land values.

CHAPTER 4.

Farm Rents in England and Wales, 1857 to 1938.

It has already been pointed out in the introduction to this study that a considerable amount of research has been carried out into the movement of farm rents in England and Wales during the last century. As a result of this interest, far more information is available on farm rents than on capital values, so that whereas a time series of sale prices had to be constructed from original sources, it was possible to build up a similar series for rents largely from information already available in a variety of forms.

For much of the period this work of collation had already been partly achieved. Data from a number of major sources relating to farm rents in England and Wales were brought together in a report prepared by the Institute for Research in Agricultural Economics at Oxford and published by the Central Landowners' Association under the title "The Rent of Agricultural Land in England and Wales, 1870 to 1946."[1] The nature of these sources and the results obtained from them were summarised in the Report and are, therefore, not repeated here. Further comment upon them is limited to those surveys which were used in preparing the time series of rents presented in this Chapter.

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1. Central Landowners' Association, London, 1949.

Another study of the trend in rents over much the same period, 1870 to 1933,was carried out by J.J. MacGregor.[1] This was primarily concerned with establishing the level of rents on a number of estates in Cambridgeshire, but also contained an analysis of the major trends observed over the period. These were very similar in nature to those presented at the end of Chapter 5.

A comprehensive study, of a somewhat different nature, into the movements of rents in the United Kingdom over the same period was undertaken by Bellerby and others.[2] In building up the United Kingdom data a series of total gross rents was calculated for England and Wales. The annual figures were calculated by multiplying farm averages by the estimates of rents made by Rhee[3] and by Thompson.[4] A valuable part of the work was the comparison

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1. J.J. MacGregor, "History of Landownership since 1870". A thesis presented for the degree of B. Litt in the University of Oxford. I should like to express my thanks to Mr. MacGregor for the loan of this unpublished work.

2. J.R. Bellerby, "Distribution of Farm Income in the United Kingdom, 1867-1938", Journal of the Agricultural Economics Society, Vol.X, No 2, pp.127-138 and "Gross and Net Farm Rent in the United Kingdom, 1867-1938", Journal of the Agricultural Economics Society, Vol.X, No 4, pp.356-362.

3. Central Landowners' Association, ibid.

4. See page 72.

of the gross rental values arrived at on this basis with figures based on the Inland Revenue's Schedule A assessments of annual values. Bellerby considered that, after allowances had been made for certain differences in definition, the Schedule A series provided a valuable check on the results obtained from average rent per acre and total acreage and that the two series agreed well.

In addition to presenting data from thirteen different sources, the author of the Oxford report, Mr H.A. Rhee, calculated a general index of rent. This was based on an arithmetic average of the indices of ten of the independent series, weighted according to the acreage covered in each survey. The combination of the results of the various separate surveys to provide a general index in this way had the advantage that it provided a more representative cover of estates in different parts of the country than was given by any one survey alone. The comparability of the trends exhibited by the individual surveys lent support to the trends established on the basis of the general index of rents and on Mr R.J. Thompson's main survey. It should be borne in mind, however, that the system of weighting adopted, necessary where the size of samples varied so widely, meant that Thompson's data relating to surveys of 400,000 acres from 1872 to 1900, and to 290,000 acres from 1901 to 1933, had a dominating influence on the general index after 1892,

when the Royal Commission's data for 395,000 acres finished. In fact, in no year throughout the whole period from 1872 to 1933 did the general index differ by more than 3 points from Thompson's index and in many years they were identical.

Despite the dominant influence of Thompson's material, the inclusion of data from other sources, as and when they became available, led to some discrepancies in the main index in certain years. This was primarily the result of variations in the absolute levels of rent recorded in different surveys. Its effect was, however, emphasised by the method used by Rhee in calculating index numbers for the individual series. In order to bring all the results to a common base Rhee took as his base 28s.0d / 100 with the result that some indices, notably those based on the data collected by the Royal Commission and by Orr started well above 100, whereas those based on MacGregor's main survey and on Thompson's survey were both considerably lower.

The effect of this was particularly noticeable in the first few years of the series. For 1870 and 1871 the general index number, 95, was based solely on MacGregor's index for 5,000 acres in Cambridgeshire. In 1872, data from two other sources, Thompson's main survey and information presented to the Royal Commission on Agriculture of 1895, both of which covered approximately 400,000 acres,

were included. For that year the index numbers of these two series were 102 and 110 respectively. MacGregor's index had increased to 98 from 95 the previous year but, due to the higher values of the other series and to their heavier weighing, the general index rose to 105. Although rents were rising at this time there is no evidence to suggest that the increase was anything like so great as this rise of 10 points in the general index suggests. MacGregor's own series, and others available, suggest that the real rise was probably about one or two points and almost certainly no more than three. It seems clear that the apparently much greater rise shown by the general index was due to a fortuitous combination of the three independent series at this point.

For certain purposes of analysis, where continuity of data is of primary importance, Thompson's rent series has advantages over the general index of rents calculated by Rhee. It has the additional advantage that it makes easier an extension of the series to 1857 on the basis of further surveys carried out by Thompson which Rhee did not include in his general index. It was therefore decided to use Thompson's data as the main time series of rents in the present study. This decision was made easier by the very close agreement between the two series throughout the period.

R.J. Thompson's study of the trend of rents from 1872 - 1933.[1]

The rent data compiled by R.J. Thompson covering the period from 1872 to 1933 are the most comprehensive and reliable available from any one source. They were taken from estates widely distributed throughout England and Wales and related to rents actually received not agreed rents.[2] Thompson claimed that although there was no guarantee of the representative character of his figures they could be regarded as typical of the rise and fall in rents generally. This is borne out by comparisons with other series for the more limited periods for which they are available. This does not necessarily mean, however, that Thompson's data can be regarded as showing the absolute level of rent. This is, in fact, not likely to be the case because they were taken from large estates and, probably of greater importance, refer to farms larger than average for the country as a whole. In introducing

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1. R.J. Thompson, "An Enquiry into the Rent of Agricultural Land in England and Wales during the 19th Century", Jour. Roy. Stat. Soc., Vol. LXX, 1907, and Minutes of Evidence to the Royal Commission on Tithe Rentcharge, 1934. p. 44.

2. This is a most significant point in discussing the trend of rents, because during years of depression many landowners prefer to grant remissions of rent, or to allow arrears to accumulate, rather than reduce the contractual rent. An index based on rents actually received is therefore likely to give a much better indication of the reaction to changing conditions than one based on contract rents.

Rhee's report Professor A.W. Ashby stated "All the figures available for earlier years related to rents of holdings of more than the average size of 70 to 80 acres. It is probable that they represent rents of holdings averaging between 150 and 200 acres".[1]

It is a well established fact, that, other things being equal, rent per acre falls with increasing farm size, so that Thompson's figures probably underestimated the average level of rent in the country as a whole. There is not sufficient evidence to indicate whether this factor would also affect the trend in rents although the possibility of differential movements in the trends for different sizes of farms cannot be ignored. The probability is, however, that such differentials would be relatively small in relation to differences in absolute values.

From 1872 to 1892 Thompson's data related to the rents of some 400,000 acres throughout the country. There was a break in 1892 when the sample was changed but Thompson did not himself regard this as adversely affecting the continuity of the series. "Although the figures on which the above table is based cannot

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1. Central Landowners' Association, "The Rent of Agricultural Land in England and Wales, 1876-1946," p.32.

be given beyond 1892 as regards 300,000 acres, I have obtained another set of returns representative of a very similar area and equally distributed over England, the figures in regard to which approximate so closely to the first series that no great error is likely to arise, if the two tables are regarded as continuous."[1] A further break occurred in Thompson's figures in 1900, and from that year until 1933 the rent data were restricted to 290,000 acres of farm land on one very large estate. This had, however, formed a large proportion of the acreage covered by the earlier figures so that a large measure of continuity was secured and again there was no apparent break in the series. Thompson's data relating to 1872 - 1933 were, therefore, accepted as the most reliable continuous estimate of the trend in farm rents over this period and they were used as such in the rest of this study.

The trend of rent from 1857 to 1870.

In order to take the general index back to 1857 it was decided to use the results of two other studies of rents published by Thompson. One covered the rent of approximately 120,000 acres

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1. R.J. Thompson, ibid.

of farm land from 1816 to 1900[1] while the other related to 70,000 acres from 1800 to 1900.[2] In each case, Thompson considered that the area was too small and not sufficiently distributed to be really representative but the trends shown by the two series were consistent.

The average rents recorded over the periods 1857 to 1876 for the two series are shown in Table 13. Inspection of the respective index numbers in Cols.3 and 5 showed that the upward trends in rent exhibited by both series were very similar, although the absolute level of rent was consistently higher in the first series than in the second. In order to allow for this factor and to provide a more representative figure, the two series were combined by weighting the average rents recorded in each year by the relative acreages. The combined weighted average is shown in Col.6 of Table 14 and expressed as an index number in Col.7. In calculating these index numbers a base period of 1872 - 1876 was selected as this permitted comparison with Thompson's main series relating to 400,000 acres shown in Col.8.

A comparison of the index numbers for the main series with

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1. R.J. Thompson, ibid, Appendix B.

2. Ibid, Appendix A.

Table 13. The Trend of Farm Rents in England and Wales, 1857 to 1871

Year (Col.1)	120,000 acres (Col.2) Rent per acre s. d.	(Col.3) Index no.	70,000 acres (Col.4) Rent per acre s. d.	(Col.5) Index no.	Weighted average (Col.6) Rent per acre s. d.	(Col.7) Index no.	400,000 acs (Col. 8) Index no.
1857	22. 11	91	17. 6	88	20. 11	90	
1858	23. 3	92	17. 9	89	21. 3	91	
1859	23. 1	91	17. 9	89	21. 1	90	
1860	23. 0	91	18. 0	91	21. 2	91	
1861	23. 5	93	18. 2	91	21. 6	92	
1862	23. 4	92	18. 1	91	21. 5	92	
1863	23. 6	93	18. 2	91	21. 7	92	
1864	23. 4	92	18. 2	91	21. 5	92	
1865	23. 2	91	18. 5	93	21. 5	92	
1866	23. 4	92	18. 6	93	21. 7	92	
1867	23. 9	94	18. 7	94	21. 10	94	
1868	24. 7	97	18. 9	94	22. 5	96	
1869	24. 10	98	18. 11	95	22. 8	97	
1870	24. 0	95	18. 9	94	22. 1	95	
1871	24. 4	96	19. 2	96	22. 5	96	
1872	24. 10	98	19. 5	98	22. 10	98	98
1873	25. 3	100	19. 9	99	23. 3	100	100
1874	25. 6	101	20. 0	101	23. 6	101	100
1875	25. 6	101	20. 1	101	23. 6	101	101
1876	25. 5	101	20. 1	101	23. 5	101	101
1877	26. 1	101	20. 3	102	23. 11	102	103
1878	26. 5	101	20. 6	103	24. 3	104	102
1879	19. 9	78	20. 2	102	19. 11	85	92
1880	21. 4	85	18. 5	93	20. 3	87	91

All index numbers, 1872-1876 = 100

Source: R.J. Thompson, "An Enquiry into the Rent of Agricultural Land in England and Wales during the 19th Century", Jour.Roy.Stat.Soc., Vol. LXX, 1907.

those for the combined series showed almost identical movements, at least until the severe break in rents in 1879. The slight but steady trend of the two independent series from 1857 to 1871 suggested that there was no violent change in the average level of rents over this period and it seemed reasonable to make the assumption that the main series would have shown a similar trend. It was not possible to use the weighted index directly as an extension of the main series, however, because the absolute levels of rents were different over the years for which both were recorded. The weighted averages were therefore corrected to allow for this. The correction factor was calculated in the following way:

Year	Weighted series (120,000 acres 70,000 acres)	Main series (400,000 acres)
	s. d.	s. d.
1872	22. 10.	28. 6.
1873	23. 3.	28. 10.
1874	23. 6.	29. 0.
1875	23. 6.	29. 1.
1876	23. 5.	29. 3.
Average	23. 4.	28. 11.

Correction factor: $\frac{28.11}{23.\ 4} = 1.24$

The annual values of the weighted series were then multiplied by the correction factor of 1.24. The resultant values are shown in Table 19 as an extension of the main series.

The trend of rents from 1934 to 1938.

Unfortunately, Thompson's data ended in 1933 so that other sources had to be considered for extending the series. Rhee continued his general index, in a tentative form, for a further two years by using data provided by Carslaw and Graves'[1] survey of 22,000 acres on arable farms. The general level of rents in this survey was, however, considerably lower than that in Thompson's survey so that reliance upon the former for the general index in 1934 and 1935 resulted in an apparent sharp fall in rent.

No rental data were available for the three middle years of the 1930's but estimates of the average level of rents in 1936 and 1937 on some 500 estates, covering an area of 1,600,000 acres, were provided by a study carried out by the Ministry of Agriculture.[2] The survey was widely representative in England but somewhat under-represented in Wales. The average size of holding included

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1. R.McG. Carslaw and P.E. Graves, "The Changing Organisation of Arable Farms", Economic Journal, September, 1937, Vol.XCVII, pp.483-499.
2. Ministry of Agriculture and Fisheries, "Statistical Study of Rents: Statement of Results", H.M.S.O. 1939.

in the survey was 155 acres and for both 1936 and 1937 the average contract rent recorded was 21/- an acre.

The Farm Management Survey reports for 1937, 1938 and 1939[1] indicated that the average level of rent for the farms included in the scheme (with an average size of around 200 acres) was 21/7d in 1939 and had probably increased by a few pence over the previous years. This, together with the information obtained from the Ministry's surveys, led to the conclusion that an average rent of 21/- an acre could reasonably be included for the years 1934 to 1938.

By bringing together data from these sources it was possible to build up a time series showing the general movement of farm rents over the years 1857 to 1938. This is given in Table 14. At the end of the next chapter, rental values and index numbers are recorded for each year from 1857 to 1958 and a summary is given of the major trends in rents over the whole period.

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1. Oxford University, Agricultural Economics Research Institute, Farm Management Survey Scheme Reports No 1, 2 and 3. For further comment on the rental data in the F.M.S, see next chapter.

Table 14. Changes in Farm Rent, England and Wales, 1857-1933.

Year	Rent per acre s. d.	Year	Rent per acre s. d.	Year	Rent per acre s. d.
1857	25. 11	1887	22. 5	1917	21. 8
1858	26. 4	1888	23. 0	1918	22. 1
1859	26. 2	1889	23. 4	1919	22. 4
1860	26. 3	1890	23. 1	1920	23. 5
1861	26. 8	1891	23. 0	1921	26. 5
1862	26. 7	1892	22. 5	1922	25. 3
1863	26. 9	1893	22. 0	1923	25. 3
1864	26. 7	1894	21. 5	1924	25. 4
1865	26. 7	1895	21. 4	1925	25. 4
1866	26. 9	1896	20. 10	1926	25. 2
1867	27. 1	1897	20. 6	1927	25. 0
1868	27. 10	1898	20. 6	1928	24. 1
1869	28. 2	1899	20. 0	1929	24. 1
1870	27. 4	1900	20. 1	1930	23. 10
1871	27. 10	1901	20. 8	1931	23. 5
1872	28. 6	1902	20. 3	1932	22. 7
1873	28. 10	1903	20. 6	1933	21. 7
1874	29. 0	1904	19. 11	1934)	
1875	29. 1	1905	20. 5	1935)	21. 0
1876	29. 3	1906	20. 7	1936)	
1877	29. 9	1907	20. 7	1937)	21. 0
1878	29. 6	1908	20. 10	1938)	
1879	26. 8	1909	20. 9		
1880	26. 4	1910	20. 9		
1881	25. 11	1911	20. 10		
1882	27. 1	1912	21. 1		
1883	27. 4	1913	21. 4		
1884	26. 6	1914	21. 4		
1885	24. 1	1915	21. 6		
1886	24. 4	1916	21. 8		

Addendum to Chapter 4

Although a study of changing land values is primarily concerned with gross rents, a discussion of the trend in net rents is also of some interest. An attempt was therefore made to see if a series of net rents could be drawn up by using the series of gross rents given in this chapter and applying to it the ratios of net to gross rents calculated by Bellerby and others[1]. Bellerby defined net rent as "the amount left to the landowner from gross rent after deduction of 1) rents on dwellings; 2) land tax, rates paid by the owner tithe and other land charges; and 3) the cost of maintaining the farm buildings, roads, drains and fences in an unchanging satisfactory state of repair".[2]

Bellerby calculated the ratio of net to gross rent on the basis of data published in a variety of sources, foremost amongst them being evidence contained in the Royal Commission's Report on Agriculture in 1896, and surveys by R.J. Thompson, Dampier Whetham and the Central Landowners' Association. The net rent ratios he calculated for the period from 1867 to 1938, excluding the years 1915 to 1922, are shown in Table A. Applying these ratios to the gross rents given in Col. 2 gave the series of net rents which is shown in Col. 3 and illustrated in Chart A.

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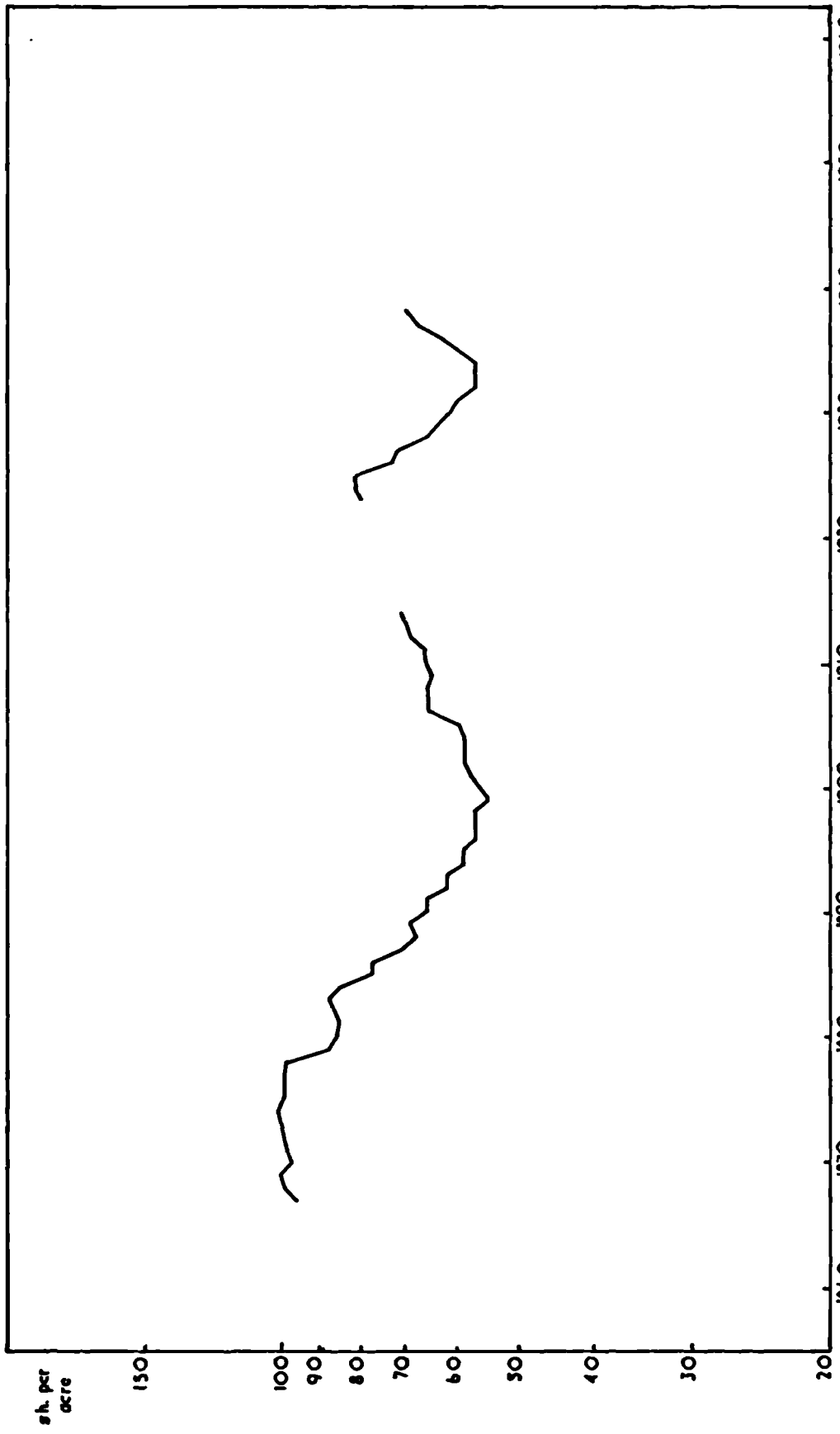
1. J.R. Bellerby, "Gross and Net Farm Rent in the United Kingdom, 1867-1938", Journal of the Agricultural Economics Society, Vol. X, No. 4, pp. 356-362.
2. J.R. Bellerby, ibid, p. 359. The difficulty in obtaining precise information on these items of costs means that the ratios of net to gross rents must be regarded with considerable reserve.

Table A. Trends in Net Rents, 1867-1938.

Year	Gross rent s	d	Net rent ratio per cent	Net rent s	d	Rent Index no.
1867	27.	1	55	14.	11	96
1868	27.	10	55	15.	3	98
1869	28.	2	55	15.	6	100
1870	27.	4	55	15.	0	97
1871	27.	10	55	15.	3	98
1872	28.	6	55	15.	8	101
1873	28.	10	55	15.	10	102
1874	29.	0	55	15.	11	103
1875	29.	1	54	15.	9	102
1876	29.	3	54	16.	0	103
1877	29.	9	53	15.	9	102
1878	29.	6	53	15.	7	101
1879	26.	8	52	13.	10	89
1880	26.	4	51	13.	5	86
1881	25.	11	51	13.	3	85
1882	27.	1	50	13.	10	89
1883	27.	4	49	13.	4	86
1884	26.	6	49	13.	0	84
1885	24.	1	48	11.	7	75
1886	24.	4	48	11.	8	75
1887	22.	5	47	10.	6	68
1888	23.	0	46	10.	7	68
1889	23.	4	46	10.	8	69
1890	23.	1	45	10.	5	67
1891	23.	0	45	10.	4	66
1892	22.	5	44	9.	10	63
1893	22.	0	44	9.	8	63
1894	21.	5	43	9.	3	60
1895	21.	4	43	9.	2	59
1896	20.	10	43	8.	11	57
1897	20.	6	43	8.	10	57
1898	20.	6	43	8.	10	57
1899	20.	0	43	8.	7	55
1900	20.	1	44	8.	10	57
1901	20.	8	44	9.	1	59
1902	20.	3	45	8.	11	57
1903	20.	6	45	9.	0	58
1904	19.	11	46	9.	2	59
1905	20.	5	46	9.	4	60
1906	20.	7	47	9.	6	61
1907	20.	7	47	9.	6	61
1908	20.	10	48	10.	0	65
1909	20.	9	49	10.	2	66
1910	20.	9	49	10.	2	66
1911	20.	10	50	10.	5	67
1912	21.	1	51	10.	9	69
1913	21.	4	51	10.	10	70
1914	21.	4	52	10.	10	70
1915	21.	6	-	-		-
1916	21.	8	-	-		-
1917	21.	8	-	-		-
1918	22.	1	-	-		-
1919	22.	4	-	-		-
1920	23.	5	-	-		-
1921	26.	5	-	-		-
1922	25.	3	-	-		-
1923	25.	3	48	12.	1	78
1924	25.	4	48	12.	2	78
1925	25.	4	48	12.	2	78
1926	25.	2	46	11.	7	75
1927	25.	0	45	11.	3	73
1928	24.	1	43	10.	4	66
1929	24.	1	42	10.	2	65
1930	23.	10	41	9.	9	63
1931	23.	5	40	9.	4	60
1932	22.	7	40	9.	0	58
1933	21.	7	41	8.	10	57
1934)			42	8.	10	57
1935)	21.	0	44	9.	3	60
1936)			46	9.	8	63
1937)			48	10.	1	65
1938)	21.	0	51	10.	9	69
~~1939~~)						

Index numbers 1867-76 = 100.

Chart A. Changes in Net Rents, 1867 - 1939.



CHAPTER 5.

The General Trend of Farm Rents in England and Wales, 1939-1958.

There are no comprehensive data relating to changes in farm rents in England and Wales since the outbreak of the Second World War, although a general indication of the overall changes over this period can be obtained from a comparison of results for earlier surveys with those for 1945, 1956 and 1957 obtained by the Department of Estate Management at Cambridge.[1] In order to cover the whole period, therefore, an attempt has been made to calculate the trend over the last two decades from a number of sources, and principally from the Farm Management Survey data which were, however, collected primarily for other purposes.

The Farm Management Survey.

The annual reports based on the Farm Management Survey provide information on rents for approximately 2,000 farms a year. Since 1944/5 these reports have been published annually by the Ministry of Agriculture as "Farm Incomes in England and Wales" and from 1937 to 1943 they were prepared by the Agricultural Economics Research Institute at Oxford. The survey, which covers a large number of

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1. D.R. Denman and V.F. Stewart, "Farm Rents", Allen and Unwin, London, 1959.

types of farming, is conducted by the University Departments of Agricultural Economics.

The rent data contained in these reports are subject to a number of disadvantages. In the first place, the samples of farms used for the survey are not selected on a random basis and cannot be regarded statistically as representative of all farms in the country. The samples do, however, include a number of farms in most types of farming groups and size groups. Further, there is some change in the sample annually as a number of farms drop out of the scheme each year and others are brought in to replace them. As a partial remedy to this particular disadvantage, the rents quoted from this source are those relating to identical samples for consecutive years. The identical samples include all farms for which records are available both for a current and for the immediately preceding year, provided there has been no substantial change in acreage or change of occupier. They therefore include rather less farms (usually about 10 per cent less) than the individual annual samples. The effect of using the identical sample is to introduce a system of chaining which minimises changes in the sample of farms included in the Survey.

Secondly, the average size of farm in the Survey is relatively large, varying between 170 and 210 acres, according to the year of

survey, compared with an average for England and Wales in 1950, excluding farms below 5 acres, of 93 acres. As there is a strong negative relationship between farm size and rent per acre the average rent recorded in the Survey is likely to be lower than the true average for the country as a whole. The discrepancy, however, is probably not very large. The average rent recorded in the National Farm Survey of 1941-43 was 27 shillings an acre for all farms above 5 acres and 25 shillings an acre for farms of 100-300 acres.[1] The average rent for the Farm Management Survey farms at this period was approximately 25 shillings an acre.

Thirdly, the figures quoted for rent in the reports include all farms, "whether rented, owned or part-owned part-rented so as to bring them to a comparable basis. In the case of owner-occupied farms the rent charged is equal to the usual rent for a farm of the same size and type to a tenant with equal length of occupation including appropriate allowances for improvements during the occupation. The charge for rent shown in the tables includes cash rents, rental values and interest on improvement whether carried out by owner or tenant.[2] The average rents recorded, therefore, contain some degree

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1. Ministry of Agriculture and Fisheries, "The National Farm Survey: A Summary Report," H.M.S.O., London, 1946, p.29.

2. Ministry of Agriculture and Fisheries, "Farm Incomes in England and Wales, 1954-55," H.M.S.O., 1957, p.5.

of estimation in so far as they include a number of owner-occupied farms.

Changes in the general level of rents recorded on farms included in the Farm Management Survey are given in Table 15. In view of the limitations of the Survey they must be regarded with reservation. It was therefore decided to attempt further calculations of the general trend from other sources of information to see whether comparable results were obtained.

The Cambridge Survey.

An important source for this purpose was the survey of farm rents carried out by the Department of Estate Management at Cambridge University from 1956 to 1958 and published in January 1960,[1] to which reference has already been made. This was the most extensive survey of farm rents in England and Wales to be carried out since that included in the National Farm Survey of 1941-43. The sample employed contained 12,661 holdings representing 10.5 per cent of the total number of wholly let holdings above 15 acres in England and Wales. It was based on farms but the information was obtained from estates and, as the distribution of land ownership in this

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1. D.R. Denman and V.F. Stewart, "Farm Rents", Allen and Unwin, London, 1959

Table 15. Farm Rents in England and Wales, 1939 to 1957,

(Based on the Farm Management Survey).

Year[x]	Number of farms	Average size (adjusted acres)	Rent shillings per adjusted acre	Index number
			s. d.	(1939=100)
1939	1515	203	21. 7	100
1940	1764	209	21. 5	99
1941	1735	207	21. 10	101
1942	1828	200	22. 2	103
1943	1875	190	23. 0	110
1944	2274	179	24. 7	114
1945	2609	173	25. 0	116
1946	2717	175	25. 10	120
1947	2806	177	25. 10	120
1948	2397	173	26. 7	123
1949	2518	174	27. 7	128
1950	2203	168	29. 3	136
1951	2140	171	30. 0	139
1952	2117	169	31. 6	146
1953	2130	173	32. 10	152
1954	2078	177	35. 2	163
1955	2089	186	37. 2	172
1956	2056	186	39. 0	181
1957	2048	186	41. 2	191

[x] Calendar years are shown in the Table although the Farm Incomes Reports refer to harvest years. The nature of the Farm Management Survey material and the procedure followed for collecting information indicate that rental figures given for harvest years relate generally to the earlier calendar year, e.g. income data for the harvest year 1957/8 contain rental data primarily for the calendar year 1957. This procedure has been followed in the present section of this study and in Table 15.

country is unknown it was not possible to select a random stratified sample. The sample of farms finally chosen from the preliminary estate returns was also biased by the decision to limit the number of holdings for which information was required from any one estate to a maximum of ten. As a consequence of these two limitations, farms on large estates owned by institutions and private landowners were under-represented in the sample as were those on the many small estates about which little is known, so that the sample cannot be regarded as fully representative of all tenanted farms in England and Wales. With this qualification, this survey remains the most important source of information on the structure of rents in this country in the late 1950's.

Much of "Farm Rents" was concerned with a static analysis, that is to say, a study of the effects of variation in a number of physical, economic and legal factors upon rent per acre in a given year,[1] but some sections dealt with changes in rent levels over the years 1945, 1956 and 1957, while estimates were also made of expected changes in rent for 1958.[2]

The latter figures were not based on data then available but on

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1. The factors selected were, size of farm and type of farming, geographical counties, standard of fixed equipment, tenancy conditions and size and legal ownership of estates.

2. The sample for the years 1956, 1957 and 1958 consisted of 12,661 identical holdings. Information for 1945 related to 10,413 of these holdings.

prospective rents some six to twelve months after the time of survey. "By 1958 there is prospect of a further increase (over 1957) of 3.2%"[1] This projected rate of increase was only half that recorded during the previous year and experience of market conditions suggests that the rate rose rather than fell during the closing years of the 1950's. This was supported by Denman who, in a later article, revised his estimate of the increase in rents in recent years.[2] If it is assumed that the rate of increase in 1958 was no more than in 1957 (i.e. 7 per cent), then the average level of rent in 1958 would have reached 39s.9d.

The Cambridge survey covered only the four years 1945, 1956, 1957 and 1958 but in order to extrapolate the trend the authors of the report compared their results for these years with those from two earlier surveys, the National Farm Survey[3] and the Ministry of Agriculture's survey of farm rents in 1936 and 1937.[4] Part of the National Farm Survey dealt with rental values and after some

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1. D.R. Denman and V.F. Stewart, ibid.
2. D.R. Denman, "What is Land Worth?", Farmer and Stock-Breeder, 5th January, 1960.
3. Ministry of Agriculture and Fisheries, "National Farm Survey", H.M.S.O., London, 1946, pp. 23-31.
4. Ministry of Agriculture and Fisheries, "Statistical Study of Rents: Statement of Results", H.M.S.O., London, 1939.

adjustments to allow for differences of the samples used, Denman and Stewart concluded that the average rent of a sample of farms representing all major types of farming and averaging 155 acres in size could be put at approximately 21s.0d per acre in 1942.

Average rental figures for the pre-war years, 1936 and 1937, were obtained from the Ministry of Agriculture's"Statistical Study of Rents". These averages were more directly comparable with the results of the later Cambridge survey as the Ministry's survey was conducted on an estate basis, the average size of holding in each case was 155 acres (unadjusted for rough grazing), and both covered a similar wide range of types of farming. The Ministry's survey gave an average contract rent of 21 shillings per acre for both years 1936 and 1937.

On the basis of these results it appeared that rents changed little during the early war years and it seemed reasonable to conclude that the general level of rents increased from approximately 21 shillings an acre in 1938 to 37s.2d in 1957, an increase of 77 per cent. On the basis of the original Cambridge estimate they might have increased further to 83 per cent above the pre-war level by 1958 while on the adjusted figure they were probably 90 per cent above that level. The approximate average level of rent in the years reviewed, and the probable change in the general level of rent

over the period, are summarised in Table 16.

Table 16. The Trend of Farm Rents in England and Wales, 1945 to 1958.

(Based on information in "Farm Rents".)

Year	Average rent sh. per acre.	Index number 1939 = 100
1939	21. 0	100
1945	22. 7	108
1956	34. 9	165
1957	37. 2	177
1958	38. 5	183
(1958)[x]	(39. 10)	(190)

[x] Revised figures.

The Country Landowners' Association's Surveys.

It was also possible to compare part of the trend derived from the Farm Management Survey data with one based on information contained in the series of reports published by the Country Landowners' Association under the title "An Enquiry into Agricultural Rents and the Expenses of Landowners in England and Wales". These reports covered the years 1938, 1946, 1947, 1949, 1950 and 1951. They related to a much larger sample of farms than was covered by the Farm Management Survey. The number of estates included in the

survey varied from 353, comprising 1,758,000 acres, in 1946/47 to 253, of 1,267,000 acres, in 1951, while the figures shown in the table below are based on an identical sample of 143 estates. Geographically, the sample was well distributed in England although rather under-represented in Wales. It cannot be regarded as representative of all tenanted farms in these countries, however, because of the predominance of large private estates and publically owned estates in the sample. It has been pointed out that the rents on these large estates tend to differ from those on smaller estates and the trend in rents may also be somewhat different.[1]

Table 17. Farm Rents in England and Wales, 1938 to 1951.
(Based on the Country Landowners' Association Survey).

Year	Acreage let	Rent per adjusted acre	Index number 1938 = 100
	acres	s. d	
1938	791,636	25. 7	100
1946	855,996	27. 4	107
1947	857,232	28. 2	110
1949	849,532	29. 7	116
1950	849,189	31. 5	123
1951	839,875	33. 6	131

1. D.R. Denman and V.F. Stewart, "Farm Rents", Allen and Unwin, 1959. Chapter X.

Average rents per acre for individual years, and index numbers showing the trend in rents, are given in Table 17. They show a steady increase in rents during the post-war years. A small part of this general increase was due to fairly substantial increases in the rents of a small number of holdings on a change of tenancy. For example, in 1950 changes of this nature on under 3 per cent of the total number of farms in the sample were recorded, resulting in an average increase in rent on these farms of 44 per cent. The number of holdings changing hands was proportionately so small, however, that, although they raised the general average slightly, the major cause of the upward trend could be attributed to increases in rents paid by sitting tenants.

"Annual Review" data.

A further broad measure of the proportionate change in rents over the period 1938 to 1958 can be made by the use of the official figures used to calculate agricultural net income. These are, however, subject to two major qualifications. Firstly, they relate to the United Kingdom and not to England and Wales, but it may be reasonably assumed that because of the large contribution of England and Wales to the United Kingdom statistics the proportionate change for the former would be very similar to that of the latter. Secondly, the

annual figure quoted is not a separate one for rent but a composite item covering rent (including rental values) of land and buildings, interest payment to landowners on improvements and also interest payments on short term loans from banks, merchants and other sources. The last item was relatively small before the war but became of much greater importance subsequently, due to the greater amount of working capital involved in a more intensive system of farming. It may therefore be assumed that it increased proportionately over this period. The official figures for rent and interest were £43 million in 1938/39[1] and £87½ million in 1957/58.[2] If it is accepted that the short term interest element increased in greater proportion than the rent element, then the latter is not likely to have increased by more than 100 per cent and the probability is that it increased by rather less. This, in general terms, indicates that an increase in rent of the order of 85-90 per cent, as suggested by the other sources of information, may be realistic.

By comparing the data obtained from the separate surveys it was possible to make a broad assessment of the general trend in farm rents over the whole period and comparative figures are set out in the

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1. K.A.H. Murray, "History of the Second World War. Agriculture," H.M.S.O. London, 1955, Appendix IX.

2. "Annual Review and Determination of Guarantees, 1959". Cmnd.696. Table C.

table below. The index number calculated from the Farm Management Survey data reached 191 by 1957. The Cambridge survey results, related to earlier surveys, suggested a rather slower rise to 177 in 1957 and 183 in 1959, (although later figures indicated that the latter figure might be raised to 190). The third index number, based on the Country Landowners' Association's data which covered only a few years in the middle of the period, also lagged slightly behind the Farm Management Survey index numbers. This might be partly explained by the predominance of large estates in both the Cambridge and the Country Landowners' Association surveys.

The general conclusion which was reached was that while none of the survey results could be regarded statistically as representative of the actual level of rents in England and Wales in any one year, collectively they gave a broad indication of the movement of rents over the whole period, which might be regarded as reasonably accurate. The trend in rents shown by the survey conformed well to the general consensus of professional opinion expressed in numerous articles and discussions in the professional journals.

In default of any more precise information the Farm Management Survey data were taken as broadly indicating the rate of increase in rents during different phases. They showed that rents increased little during the war years, although payments actually made increased

Table 18. The Trend of Rents in England and Wales, 1938 to 1958.

Year	F.M.S.[1]	"Farm Rents"[2]	C.L.A.[3]
	Index numbers 1938(9) =100		
1938(9)	100	100	100
1940	99		
1941	101		
1942	103		
1943	110		
1944	114		
1945	116	108	
1946	120		107
1947	120		110
1948	123		
1949	128		116
1950	136		123
1951	139		131
1952	146		
1953	152		
1954	163		
1955	172		
1956	181	165	
1957	191	177	
1958		183	

1. Farm Management Survey.
2. Cambridge Survey.
3. Country Landowners' Association Surveys.

as the pre-war practices of granting remissions and rebates ceased with the increase in prosperity. By 1948 a more definite upward movement had become apparent and rents continued to rise more rapidly throughout the 1950's. If, as reports indicated, the rate of increase gained pace during 1958 it was probable that the average level of rents, on farms similar in size to those in the Farm Management Survey, had increased to twice their pre-war value by the end of 1958.

By bringing together the data presented in this and in the previous chapter, it was possible to draw up a time series of the general level of rents covering the whole of the period 1857 to 1958. This is shown in the form of absolute values and of index numbers in Tables 19 and 20 and illustrated in Chart 4. It was then possible to summarise the major trends in farm rents over the years from 1857 to 1958. For illustrative purposes data from Thompson's surveys are quoted from 1857 until 1933 and data from the Farm Management Survey from 1938 onwards. In quoting average figures for rents from these surveys it must be borne in mind that they refer to a limited sample of relatively large farms and that, while the trend may be approximately correct, the absolute level is likely to be lower for the country as a whole. As has been seen, data from other sources corroborate the trends.

Table 19. Changes in Farm Rents in England and Wales, 1857 to 1957.

Year	Rent per acre s. d	Year	Rent per acre s. d	Year	Rent per acre s. d
1857	25. 11	1897	20. 6	1937)	21. 0
1858	26. 4	1898	20. 6	1938)	
1859	26. 2	1899	20. 0	1939	21. 7
1860	26. 3	1900	20. 1	1940	21. 5
1861	26. 8	1901	20. 8	1941	21. 10
1862	26. 7	1902	20. 3	1942	22. 2
1863	26. 9	1903	20. 6	1943	23. 0
1864	26. 7	1904	19. 11	1944	24. 7
1865	26. 7	1905	20. 5	1945	25. 0
1866	26. 9	1906	20. 7	1946	25. 10
1867	27. 1	1907	20. 7	1947	25. 10
1868	27. 10	1908	20. 10	1948	26. 7
1869	28. 2	1909	20. 9	1949	27. 7
1870	27. 4	1910	20. 9	1950	29. 3
1871	27. 10	1911	20. 10	1951	30. 0
1872	28. 6	1912	21. 1	1952	31. 6
1873	28. 10	1913	21. 4	1953	32. 10
1874	29. 0	1914	21. 4	1954	35. 2
1875	29. 1	1915	21. 6	1955	37. 2
1876	29. 3	1916	21. 8	1956	39. 0
1877	29. 9	1917	21. 8	1957	41. 2
1878	29. 6	1918	22. 1		
1879	26. 8	1919	22. 4		
1880	26. 4	1920	23. 5		
1881	25. 11	1921	26. 5		
1882	27. 1	1922	25. 3		
1883	27. 4	1923	25. 3		
1884	26. 6	1924	25. 4		
1885	24. 1	1925	25. 4		
1886	24. 4	1926	25. 2		
1887	22. 5	1927	25. 0		
1888	23. 0	1928	24. 1		
1889	23. 4	1929	24. 1		
1890	23. 1	1930	23. 10		
1891	23. 0	1931	23. 5		
1892	22. 5	1932	22. 7		
1893	22. 0	1933	21. 7		
1894	21. 5	1934)			
1895	21. 4	1935)	21. 0		
1896	20. 10	1936)			

Table 20. An Index of Farm Rents in England and Wales, 1857 to 1957.

Year	Index no.	Year	Index no.	Year	Index no.
1857	91	1897	72	1937	75
1858	93	1898	72	1938	75
1859	92	1899	70	1939	76
1860	92	1900	71	1940	75
1861	94	1901	73	1941	77
1862	94	1902	71	1942	78
1863	94	1903	72	1943	81
1864	94	1904	70	1944	87
1865	94	1905	72	1945	88
1866	95	1906	72	1946	91
1867	95	1907	72	1947	91
1868	98	1908	73	1948	94
1869	99	1909	73	1949	97
1870	96	1910	73	1950	103
1871	98	1911	73	1951	106
1872	100	1912	74	1952	111
1873	101	1913	75	1953	116
1874	102	1914	76	1954	124
1875	102	1915	76	1955	131
1876	103	1916	76	1956	138
1877	105	1917	76	1957	145
1878	104	1918	78		
1879	94	1919	79		
1880	93	1920	82		
1881	91	1921	92		
1882	95	1922	89		
1883	96	1923	89		
1884	93	1924	89		
1885	85	1925	89		
1886	86	1926	89		
1887	79	1927	88		
1888	81	1928	85		
1889	82	1929	85		
1890	81	1930	84		
1891	81	1931	82		
1892	79	1932	79		
1893	77	1933	76		
1894	75	1934	75		
1895	75	1935	75		
1896	73	1936	75		

Index numbers 1867-76 = 100

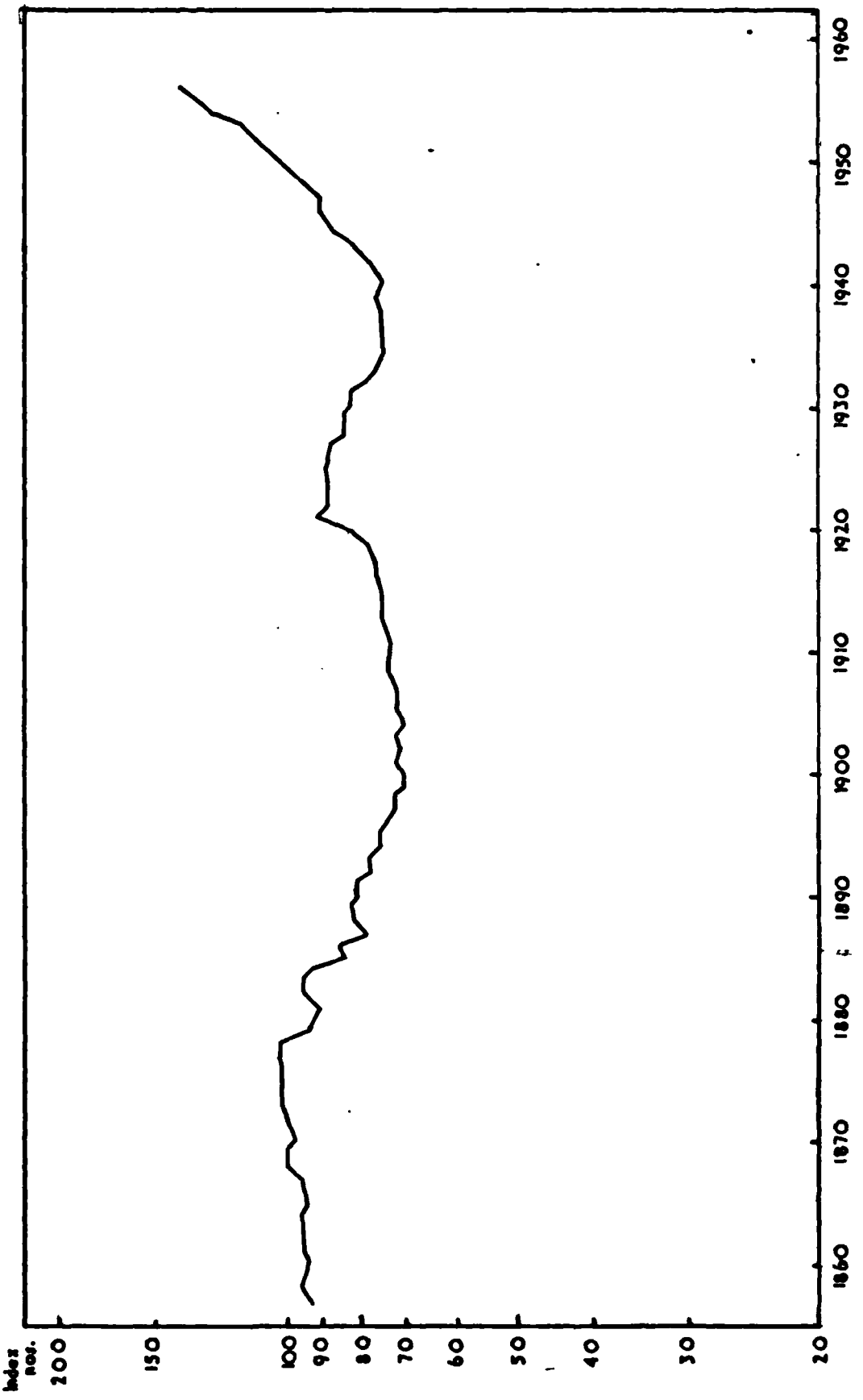


Chart 4. Trends in Farm Rents, England and Wales, 1857-1958.

Major trends in farm rents

1857 - 1865 a period of stability with rents around 26s.6d. an acre.

1866 - 1878 a slow but steady rise in rents reaching a peak of 29s.6d. an acre in 1878.

1879 - 1899 a long fall in rents to a low point of 20s.0d an acre in 1900.

1899 - 1904 rents stabilised around 20s.0d. an acre.

1905 - 1918 a further slow but steady rise to 22s.0d an acre.

1919 - 1921 a short period when rents were rising rapidly, reaching 26s.5d. an acre in 1921.

1922 - 1926 after a break in 1922 rents remained relatively stable around 25s.3d. an acre.

1927 - 1933 a fall in rents becoming more pronounced in the early thirties.

1934 - 1938 a period of stability with rents around 21s.0d. an acre.

1939 - 1945 a slow increase in rents.

1946 - 1958 a more rapid increase, gaining momentum in the late 1950's.

CHAPTER 6.

The Farm Real Estate Market from 1858 to 1958.

The most important and consistent sources of information on agricultural land values are the property market reports published in The Estates Gazette. Since 1889 these reports have taken the form of comments by practitioners in London and the Provinces on the state of the market during the preceding year. The first report, published in the issue of 5th January, 1889 covered only one page, but by 1958 the reports had become so extensive that they ran to several pages each week in five or more issues, at the end of December and throughout most of January. Reviews of the general tone of the market were made almost annually even before the practice of publishing professional reports was begun, and periodic comments on the rural estate market go back as far as 1858, the year in which the paper was founded. By the use of these reports it was possible to gather a consensus of expert opinion on the state of the market for agricultural property.[1]

A review of this material made four contributions to the present

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1. I am indebted to the Council and Librarian of the Royal Institution of Chartered Surveyors for permission to consult bound copies of The Estates Gazette, from 1885 onwards in their library at Westminster. Issues before that year were available in the Newspaper Library of the British Museum.

study. Firstly, it provided a unique historical record of the annual state of the property market. Secondly, it enabled us to see whether the statistical trends in rents and sale values already established conformed to the recorded experience of the property market. Thirdly, it made it possible to broaden the comment on these trends. Finally, a consideration of those factors which were thought, at the time, to influence values, provided pointers to causal relationships which could be tested by further analysis.

In order to avoid undue length and repetition the state of the market was not summarised in each year but in groups of years during which general trends could be discerned. Individual years received detailed attention, however, when a marked change in the market appeared to warrant it.

1858 - 1876.

In the late 1850's and 1860's The Estates Gazette was in its formative stage and reports were sparse. The first reference to the state of the market for agricultural land appeared in December, 1858 when it was noted that freehold property in the country was on the whole increasing in value. This, it was emphasized was in spite of "the Corn Laws, the Crimean War, the Indian Mutiny and the Italian Campaign."[1] With the exception of a more cautious

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1. The Estates Gazette, 15th December, 1858.

note in 1862 the general tone of comments remained the same until the mid 1870's. There were frequent references to the continued rise in the market value of land and sales details were quoted to illustrate the trend. Several comments in the late '60's and early '70's referred to the low rate of yield on investment in farm land which was stated to be between 2½ and 3 per cent.

1877 - 1883.

For the next twelve years the nature of market comment was very different from that of the preceding period. The first signs were recorded in 1876 when a leading article commented on the serious fall in the arable acreage, as shown in the agricultural returns, in the previous year. Although the tone of the market was said to be "not bad" it was thought that a high level of prosperity could not long be retained. The following years showed the truth of this prophecy. By 1877 there were several references to panic amongst farmers in the South and East of England though not in the North and West. It was no longer so easy to let farms and landowners were unable to find tenants for the larger arable holdings.

In August 1877 a leading article headed "The Fall in Rents" reported that rents secured on new lettings in the Midlands and East Anglia were down by 10 per cent. The major cause of the depression was thought to be the low price of wheat which was by then

dependent upon the level of imports. By December of the following year a big increase had been noted in the number of farms advertised to let. The difficulty experienced in letting them indicated that rents would have to come down further and this was supported by instances of low rents obtained on new lettings. Capital values of farms were said to have fallen by 3 to 5 years' purchase in the preceding two years. A run of bad harvests and an outbreak of cattle disease had added to the depression.

The next few years saw repeated references to the spread of the depression. Extraordinarily large numbers of farms were reported to be let and long lists of remissions of rent on numerous estates were published each year. A leading article in 1881 described rent remissions of 10-15 per cent as no good at all, and considered that remissions of 50 per cent were required. Capital values were falling as well as rents and by 1882 reports from several counties were quoted giving falls of 40 per cent or more over the preceding six years,

1884.

Reports for 1884 suggested a slightly better tone in the market which was attributed to a better harvest. A leading article maintained that although trade was depressed and agriculture was

paralysed there had been a partial recovery from the severe conditions of the last few years. "We no longer find a weary catalogue of bankrupt farmers in the Gazette, and farms let to go to weeds or ruin, or let for a few shillings an acre are comparatively few."[1] The note added that much would depend upon the transition of agriculture now that corn growing was no longer profitable.

1885 - 1887.

After this brief break the depression returned and during the next few years there were repeated reports of very large numbers of farms to let and of rebates and remissions of rent. In 1886 a report noted a tendency to break up farms on some of the larger estates in order to relet in smaller lots. By 1887 product prices were reported to have fallen to almost unprecedented levels and no sign of recovery could be seen.

1888 - 1891.

For a few years from 1888 a decidedly better tone was noticeable in the market. In 1888 a leading article in The Estates Gazette observed that after ten years of acute depression agriculture was

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1. The Estates Gazette, 3rd January, 1885.

improving, confidence in the future of the industry was returning and farm property commanded a readier sale than for years past. This more optimistic note was repeated in the following years. There was a noticeable improvement in demand, farms let well and in many parts of the country, including arable areas, landlords did not allow the rent abatements which had become almost customary during previous years. There was a better demand to purchase farms also and prices improved slightly.

1892.

In 1892, however, very different reports were made. The relative optimistic conditions of the last few years were abruptly replaced by those of acute distress. The immediate cause was a further severe fall in corn prices. A leading article described 1892 as "a year memorable even in a series of unfortunate ones, for disaster in every branch of commerce and trade and fatal to the interest of agriculture and real property."[1] The low price of corn (wheat had fallen to 21s. 6d. a quarter) was regarded as the main cause and a plea was entered for some measure of protection from imported supplies. As would be expected, the most adverse reports

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1. The Estates Gazette, 7th January, 1893.

were received from arable counties but the market was depressed even in the West.

1893 - 1894.

Farming remained impoverished during the next two yearsaand the market continued to be depressed. Small farms were easier to let and sell than large ones and reports from several counties especially Cambridgeshire, Lincolnshire and Norfolk, referred to larger farms being broken up into smaller units. In other counties,however, where the type of farming practiced required more extensive permanent equipment than in the arable counties, the costs of providing extra buildings were prohibitive.

1895.

The year 1895 appeared to be the turning point of the depression. Although little or no improvement in sale prices and rents was recorded a number of reports referred to an improvement of demand and to a growing opinion that it was a good time to buy.

1896 - 1900.

The hopes of 1895 were confirmed in subsequent years. In 1896 a distinct improvement was noted in the market. The improved price of wheat was an encouragement and the reduction of rates on agricultural land by one half,by the Agricultural Rates Act of that year led to a revival of investment demand. It became easier to sell or let farms and values began to improve slightly. The general

opinion was that a ready market had again been achieved by the turn of the century and that this would provide a basis for firmer prices and rents.

1901 - 1909.

In general this forecast was justified by the state of the market during the next decade. No major movements in values were recorded although there were minor changes in some years. For instance, 1903 was reported as a deplorable business year with an economic depression, stagnation on the Stock Exchange and a sharp fall in Consols. Agriculture itself was affected by a bad season but the price of land was reported to be holding up better than that of other investments. A better tone was recorded in the market the following year and this was followed by several years of 'marking time' during which prices moved little and agricultural land was regarded as a 'good lock up' at a fair rate of return. In the latter years of this period several factors were thought to disturb the market but with little effect upon values reported. One was the long drawn out public debate on the nationalisation of land which was a major political issue at the time and to which constant reference was made in these years. Others were the passing of the Agricultural Holdings Act of 1906 and the Small Holdings Act of the same year.

1910 - 1913.

By the end of the decade the Small Holdings Act was said to be one factor contributing to an increased demand for farms and to a hardening of prices. Farms were reported to be letting well and, on the whole, selling well. In the years just before the outbreak of the Great War the strengthening of the market continued. The large demand for farms led to a hardening of prices and the break-up of estates was reported to be more widespread. Tenants were still buying but having to pay rather higher prices. Rents were also tending to rise and this was attributed partly to the keener competition for farms and partly to the more economic outlook of the growing number of new owners, who were not restrained by other considerations from raising rents fixed during the depression.

1914 - 1916.

The outbreak of war in August 1914 severely disturbed all investment markets. A crisis on the Stock Market led to its being closed for several weeks. The property market was less affected but the difficulty of raising mortgage funds led to a lull in the purchase of farms by tenants. This proved to be temporary and by the end of 1915 tenants were again buying, although the shortage of labour and increases in wages restricted the demand for arable farms. By 1916 a growing demand for farms was reported and the market was

said to have fully recovered. Several reports, however, pointed out that the increase in product prices had not affected selling or letting values because of the increase in farming costs and the shortage of mortgage capital which could not be had for less than 6 per cent.

1917 - 1918.

There were many reports of a much stronger market in 1917. It was quite a good year for property in general, but the outstanding feature was the lively demand to buy and rent farms and the resultant increase in values. Rising prices gave landowners a more favourable opportunity to sell and many tenants bought their farms privately. The upward movement of the market gained strength during the following year, which was a very good one for the property market, and a considerable increase in farm sales was reported at higher prices. Competition to buy was said to be very keen, 30 to 40 applications were made for every vacant farm, and several reports instanced high rates of capitalisation, from 25 to 35 years' purchase. Sale prices were rising much more rapidly than rents and many agents forecast a relatively substantial but gradual increase in rents in the post war period.

1919.

The year 1919 was an exceptionally favourable one for the property

market. A leading article in The Estates Gazette described it as "the annus mirabelis of the property market."[1] A very large supply of property, particularly agricultural property, was put into the market and the amount changing hands was unprecedented. Prices appreciated but the increase was not spectacular and lagged a long way behind the increase in commodity prices. Several correspondents commented that land values were still a long way below those of fifty years earlier and thought that this fact, together with the lag behind other market prices, indicated a further marked rise in property values in the near future.

The strong market was attributed to the return of peace and the booming condition of the economy, while the supply of farms put on the market was swollen by the break up of many estates. The incidence of taxation, and the low level of rents over the preceding quarter of a century, had impoverished many landowners and the rising market gave them a good opportunity to sell.

It was also recorded that the demand was strengthened by the action of the County Councils who were buying land in order to set up smallholdings. Many practitioners criticised this policy on the

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1. The Estates Gazette, 3rd January, 1920.

grounds that the costs of purchase and of equipping the smallholdings would necessitate high rents and so put a heavy burden on the new occupiers.

1920.

The year 1920 must also be singled out for individual attention because it was in the autumn that a serious break in agricultural prices signalled the end of the post-war boom. The property market was very strong until September. Demand continued high, a large supply was forthcoming and prices appreciated further. Despite the check in the last few months and the reduction of demand on the fall in grain prices, sale values went back very little, so that on average they were even higher than in the previous year. Rents remained high as the demand for farms to rent was intensified towards the end of the year by the reluctance of potential buyers to risk their capital by purchasing freehold.

1921 - 1927.

From 1921 to 1927 was a period of relative stability in the farm property market. The break in the market towards the end of the previous year continued into 1921. Sales became less certain and prices fell. Many reports, however, commented that there had been no abrupt or disasterous fall in prices, that in view of the coal strike and widespread industrial depression the fall was relatively slight. This buoyancy of the market was even more notable

in view of the fact that farm product prices were reported to have fallen by 40 per cent in the preceding twelve months, while farm costs had fallen by far less. A number of reports attributed the relative stability of the market in the early and mid-twenties to the fact that land values had lagged a long way behind other prices in the post war boom and so did not suffer a comparable fall subsequently.

A tone of gratified surprise that the market was remaining firm, despite adverse agricultural and industrial conditions, continued to be voiced throughout the mid-twenties. County reports throughout these years, while agreeing that prices had eased from their post war peak, reported plenty of buyers at reasonable values. There was still a strong demand for tenancies and rents remained high. There was inevitably some local variation. Large farms in arable areas, especially those on either heavy or very light land, were affected by the fall in cereal prices and their values fell, while letting them became increasingly difficult. Nevertheless, even in these areas, there was still quite a good demand for the smaller farms up to 150 acres which could be worked with a modest amount of capital.

1928.

By 1928 the tone of the market changed and references were made

to stagnant conditions with farms letting and selling at reduced prices. Arable areas were badly affected by a wet harvest and by low corn prices and large arable farms were particularly difficult to sell or to re-let once they were vacant. Rents were generally lower on many types of farms on re-letting. Only the smaller farms continued to change hands fairly readily.

1929 - 1933.

Many reports for 1929 indicated that more farms were changing hands than in the previous year but at lower prices. One practitioner considered that a realisation of the low level of prices had been necessary before some people would sell. Throughout much of the country there were no ready purchases but plenty of applications to rent small and medium sized farms, especially those suitable for milk, sugar beet, sheep and pigs. Several reports in the late 20's indicated that sugar beet was having a stabilising effect on land values in some arable areas.

A further contraction of business and lower prices were reported in 1930. Like other forms of investment, real property was affected by the general depression of industry, but the fall in values was reported to be markedly less than that of paper securities. Despite this tempering of the effects of depression, county reports indicated low prices, especially in arable areas where many farms remained unsold.

There was still a demand for farms to let but at greatly reduced rents. It was easier to sell a farm with a good tenant for investment than a vacant one with possession, as there was little interest in buying for occupation. Rents also eased during these years, especially for the larger arable farms.

1934 - 1936.

In 1934 a better tone was reported in the market. The Stock Market was rising, there was a considerable increase in the number of transactions of real property and, although farms were still selling at low prices, demand was reported to be stronger. The introduction of the Wheat Quota and the subsidies for wheat and beet were reported to have strengthened the demand to buy and rent arable farms. In the next two years this improvement continued and prices hardened. There was a keener investment demand and a considerable amount of capital was reported to be seeking a good outlet in agricultural property. This was attributed partly to a more optimistic outlook for agriculture and partly to the relatively good return on this form of investment in relation to government stock.

1937 - 1938.

This improvement faltered in 1937, which was reported as a year in which the property market was marking time, while the acute

political crisis of the following year led to a further note of caution. The recovery in agriculture had not gone far enough to withstand this general pressure and prices eased once again.

1939 - 1943.

The property market was severely disturbed during 1939 by the international position and by the outbreak of war in September. Urban properties were adversely affected and the general level of all land values eased. Towards the end of the year, however, a revival of interest in farms and in agricultural land generally was reported from many parts of the country, being particularly strong for good arable farms and for smallholdings. As a result prices were said to be hardening. The demand strengthened in 1940 and it became increasingly difficult to find a good farm on the market, many owners holding on to their property in anticipation of a further rise in values. The steady demand and slow supply resulted in a considerable rise in sale values. "The outstanding feature, (of the market), the movement for investment in agricultural land, has gathered momentum and increased to such an extent that really sound agricultural estates with farms well let and in good condition are difficult to find. Prices for agricultural land have appreciated owing to the keen demand. (Much) land has been purchased for investment purposes."[1]

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1. Knight, Frank and Rutley, report in The Estates Gazette, 4th January, 1941.

The introduction of guaranteed prices and the increase in farm incomes led to a further strengthening of demand in the next three years. Very heavy sales of farms and estates were reported and many agents referred to 'a seller's market' with persistent enquiries for farms and strong competition at auction sales. Prices were reported to be rising strongly, although those for investment farms were said to have been checked abruptly in 1942* by the introduction of a large measure of security of tenure.

1944 - 1945.

During 1944 and 1945 there was a pause in the rise of farm values and prices became stabilised. Although assurances were given of a continuation of guaranteed prices and assured markets for one year after the end of the war, purchasers were cautious about the future of the industry under peace time conditions. Many correspondents referred to the memory of the Corn Production Repeal Act of 1921 throwing a shadow across the industry and there was a general feeling that the peak of the market had been reached.

1946 - 1948.

The hesitation in the market at the end of the war was soon dispelled and the years from 1946 to 1951 saw a further rapid increase in sale prices. During 1946 a large volume of business was transacted. Demand for farms and estates, both for investment

and occupation, was reported to be stronger than during the previous year and, with supply remaining tight, prices tended to rise sharply. An important factor was said to be the cheap money policy, introduced by the Labour government during its first year in office, which led to a general fall in interest rates and enhanced the attractiveness of agricultural land as a security against inflation. Larger investors and corporations in particular turned to the stability of landed property.

During the following year demand became incessant and, with a very limited supply, the prices of farms rose sharply. The main cause of the strong demand was confidence in the future prosperity of the industry, which was thought to be ensured by the passing of the Agriculture Act, 1947. The introduction of the Expansion Programme in the same year gave an additional impetus to the market and prices continued to rise further in 1948. The provision for security of tenure in Part II of the Agriculture Act enhanced the demand for occupation and the premium for possession increased further.

One other important piece of legislation, the Town and Country Planning Act, 1947, was frequently referred to in market reports at this time. It was said to exert a depressing effect on the real estate market; the 100 per cent development charge seemed likely

to retard, or prevent altogether, a lot of desirable development, and dealings in development property, especially building land, were almost at a standstill during the year. Agricultural land, as such, was not adversely affected however because its current appreciation in value was based on its existing use rather than its potential development use.

1949.

There was evidence of greater stability in the market in 1949. The demand for farms, both for occupation and investment, was more selective, being particularly keen for good farms which did not change hands so often, but easing slightly for less fertile or less well equipped ones. Demand was somewhat restricted by an increase in interest charges on mortgage loans during the year and by the curtailing of amounts available on loans; the Agricultural Mortgage Corporation raised its interest charge on loans advanced for the purchase of farms from 3½ per cent to 4 per cent during the year.

1950.

The Stock Market was disturbed during 1950 by the Korean War but the property market held up well and land prices were firm. Reports from a number of counties referred to a gain in prices over the previous year although the demand was again said to be more selective.

1951.

Two distinct phases could be discerned in the Property Market in 1951. For much of the year demand was strong, farms sold readily and prices improved, but towards the end of the year the market reacted to political factors (Korea, Abadan, Egypt and the General Election were all referred to) and prices began to ease. At the same time the demand from sitting tenants became less keen due to a shortage of credit and an increase in interest rates. The Agricultural Mortgage Corporation put its borrowing rate up to $4\frac{1}{2}$ per cent in May and to $4\frac{3}{4}$ per cent in November. These financial factors were stressed by many practitioners writing at the end of the year.

1952.

The decline in land values begun in the closing months of 1951 gained pace the following year. Sales gave rise to more uncertainty, sitting tenants were less eager to buy, due to the shortage of capital and high interest rates ($5\frac{1}{2}$ - 6 per cent), and prices eased appreciably in many parts of the country. The prices of larger farms fell more severely than those of the medium sized and smaller ones. Although rents were still increasing, investment prices were reported to have eased as well as those of vacant farms.

1953.

Reports for 1953 indicated that there had been a further easing of prices throughout the country although there were a number of references to the market hardening towards the end of the year. There was general recognition of the substantial change which had taken place in the market since 1951 and a consensus of opinion that farm prices had fallen by some 15 to 20 per cent over the two years.

1954.

The property market in general was more stable in 1954, reflecting the slight easing in interest rates and the substantial rise in gilt edge prices. Despite bad harvest conditions there was greater confidence in the farm property market and prices of farms bought for occupation were maintained, while investment prices hardened.

1955.

This improvement was maintained during the first half of 1955 and prices increased further, but the deterioration in the financial situation resulting in the Autumn budget led to a reaction in the later months. The fall in the Stock Market, the increase in Bank Rate, and the intensification of the credit squeeze depressed the property market, although little weakening of prices was reported.

1956.

This check in the recovery of the market developed into a renewed

fall the following year. Both investment and occupation prices were reported to be easing due not only to financial but also to agricultural factors. It was a difficult and costly year for farmers with costs rising while product prices fell and the milk surplus led to talk of a cut in production. The resultant lack of confidence in government policy led to a more cautious attitude towards purchase. Farms were again more difficult to sell and prices were down for nearly all types, and particularly for the larger farms. There was an increased demand to rent farms instead of buying them.

1957.

Some of the doubts about the future of agriculture were resolved the following year by the introduction of long term guarantees for agriculture and confidence in government policy was strengthened further by the Capital Improvements Scheme. The general tone of the market improved and demand was good, although restricted by the high interest rates. Bank rate went up to 7 per cent in September. Good farms were in short supply and prices hardened slightly.

1958.

The improvement in the market gathered strength the following year and substantial increases in prices were recorded. The most noticeable gains were in the prices secured for large farms but those

for all sizes and types showed some advance. The boom was largely due to the general improvement in financial conditions and, in particular, to the relaxation of control on credit and the reduction of interest rates. It was strengthened by the Agriculture Act which led to a marked change in attitudes towards farm rents and a further upward movement in the price of investment farms.

CHAPTER 7.

A Comparison of the Time Series of Farm Sale Prices and Rents with the State of the Property Market.

Having drawn up time series of farm sale prices and of farm rents and also summarised annual reports on the state of the property market, it was possible to compare these two different types of information to see to what extent they agreed with each other. Before doing so, however, it was necessary to ask whether there was anything in the nature of the two sources which might influence the results of such a comparison. For example, the comparison might be biased if the two different types of information were based predominantly upon the same sources and neither were representative of the position in the country as a whole.

Although there was some similarity of sources in the present studies they were far from identical. In the first place, the market reports were taken from The Estates Gazette, whereas until 1946 the sales data were obtained from the Estate Exchange Year Book or, in earlier years, manuscript reports. Some of the professional firms who supplied data to the Estate Exchange also submitted market reports to The Estates Gazette. This became increasingly true during the second quarter of this century when

the number of firms co-operating in these ways had grown considerably, but by then both sources were more widely representative of the country as a whole. From 1946 both reports and sales data were taken from The Estates Gazette but again the sources were not identical.

It was apparent that throughout the whole period the market reports were much more broadly based than were the statistics obtained from sales data. Firstly, only a proportion of auction sales were reported to the press and, secondly, many sales were by private treaty and these also were not available for statistical analysis. The consensus of opinion obtained from these reports may therefore reasonably be accepted as a separate and independent source of information, which could logically be used for comparison with the more limited, but more precise, data based on statistical calculations.

In making the comparison, attention was concentrated upon two main aspects:

1) the trends in land values, and

2) the turning points i.e. those years when a definite change was recorded in the market. In this way it was possible to determine to what extent the time series of sale prices and of rents gave a true picture of the movement of land values.

A generalised comparison of the changing picture of farm sales

prices and of rents as given by property market reports, with that exhibited by the calculated values, is given in Table 21. The sequence of years for which distinctive trends in sale prices were recorded in the property market reports is given in the first column while the nature of the movement is shown in the second. In the third column are shown the calculated sale prices of farms over the same years, taken from Chapter 3. Two figures are shown, the first referring to the opening year of the trend and the second to the last year. For example, in the first case the average sale price wqs £39 an acre in 1858 and £57 an acre in 1876. The fourth column shows the general movement of rents over the same years, as given in Chapters 4 and 5. A comparison of turning points showed that rents tended to lag behind sale prices and changes in the state of the market[1], so for the present purpose the entry under rents is confined to indications of the general movements of the rental time series.

The table shows the very high measure of agreement between the conditions of the market as reported by the professional agents and those indicated by the calculated sales data. Of the sixteen groups of years listed there was only one in which the reported condition of the market appeared contrary to the calculated movement in sale prices.

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1. See Chapter 9.

Table 21. Major Trends in Farm Sale Prices, Farm Rents and Property Market Conditions

Years	Property market conditions	Sale prices £ per acre	Rents
1858–1876	General rise in land values	£39 - £57	A slow steady rise
1877–1883	Heavy fall in values	£51 - £32	
1885–1887	A renewed fall in values	£30 - £24	A long severe fall
1888–1891	Improvement in the market	£26 - £25	
1892–1895	A further serious fall in market values	£21 - £17	
1896–1909	Improved market conditions greater stability in values	£20 - £26	
1910–1916	Market stronger and prices hardening	£25 - £22	A gradual improvement
1917–1920	Sharp boom in property market, large number of sales and improvement in prices	£25 - £33	
1921–1927	Break in market followed by relative stability	£26 - £27	Relatively stable
1928–1933	Severe depression	£25 - £21	A pronounced fall
1934–1939	Slow recovery in market followed by easing before outbreak of war	£26 - £23	Slight improvement
1940–1951	Boom conditions in the market, rapid increase in prices and in premium for possession	V.P.£31–£88 W.P.£19–£44	A slow rise during war
1952–1956	Break in market in late 1951 & 1952 followed by greater stability	V.P.£76–£78 W.P.£38–£46	followed by a more rapid increase
1957–1958	Beginning of a renewed rise in land values	V.P.£83–£90 W.P. - £54	Rapid increase

N.B. V.P. refers to the average price of farms sold with vacant possession.

W.P. refers to the average price of farms sold without possession

This was from 1912 and 1916 when market reports referred to a strengthening of demand and a hardening of prices whereas the calculated prices eased from £25 to £22 an acre. There appeared to be no logical explanation of this discrepancy and it therefore had to be assumed that it was due to some peculiarity of the sales data in certain of those years.

In two other periods there was some superficial divergence of opinion and sale prices but these were apparent rather than real. There was a slight movement of prices from £26 to £25 an acre over the year 1888 to 1891 when reports spoke of an improvement in market conditions. The improvement referred to, however, was a check to the heavy fall of prices which had occurred over the preceding years. They had fallen from £57 an acre in 1876 to £24 in 1887, then improved slightly to £26 - £25 an acre in 1888 to 1891, before falling heavily again to £17 in 1895.

In 1944 and 1945 reports referred to greater caution in the market and more selective buying. Investment prices remained steady at £29 an acre but prices of farms sold with possession rose from £45 to £53. This increase in values, however, represented a rise of only 13 per cent over the two years compared with one of 52 per cent in the preceding three years.

Having found a high measure of agreement between the calculated

trends of sale prices and rents with the reported condition of the property market, the comparison was taken a stage further by contrasting turning points. In the case of market reports these were noted as those years (or in certain cases, months) in which a distinct change in the condition of the market was reported. For the calculated time series they were those years in which a distinct change in the trend of values were recorded. For this purpose, the beginning of a period of stable values was regarded as an upturn if it followed a fall in values and a downturn if it followed a rise in values.

A comparison of the turning point also showed a high measure of agreement between the property market reports and the sales data. In nine out of the twelve points recorded, both exhibited the same movement in the same year. In the other three cases the sales data recorded a similar movement some months after the property market. Property market reports indicated that the market began to improve in the Autumn of 1939 and 'broke' in September 1920 and again in the Autumn of 1951. In each case the sales data showed a change in trend the following year.[1]

The rental data did not usually show the same turning points as

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1. When market conditions change towards the end of a year the majority of sales will have taken place under the previous conditions and so average prices for that year will not reflect the change. This is particularly so because the property market becomes slack towards the end of the year.

Table 22. Turning Points in Farm Sale Prices, Rents and Market Conditions.

Years in which major upturns were recorded.

Property market reports.	Sale prices	Rents
-	1867	1867
1896	1896	1900
1917	1917	1918
1934	1934	1934
1939 (Autumn)	1940	1941
1946	1946	
1957	1957	

Years in which major downturns were recorded.

Property market reports	Sale prices	Rents
1877	1877	1879
1920 (September)	1921	1922
1928	1928	1928
1944	1944	
1951 (Autumn)	1952	

the other two sources but lagged from 1 to 4 years behind sale prices. This lagging of rents is discussed further in Chapter 9.

Although the trends in sale prices conformed closely to those based on market conditions, there were a number of annual variations in prices which were not supported in this way. Inspection of the data presented in Table 1 and illustrated in Chart 1 showed that two periods stood out in this respect. These were from 1857 to 1876 and from 1901 to 1909. The former was characterised by an upward movement of prices in which reports and sales data concurred but, in addition, by a number of annual fluctuations which were not explainable in terms of market conditions and could only be attributed to random movements resulting from the small number of sales records available in those years. Similar fluctuations from year to year during the first decade of this century, a period when the general level of farm values was stable, could be accounted for in the same way.[1] These fluctuations were small in value, limited to few years and, of major importance, did not obscure the trends in values nor the turning points.

In two years during the period covered by this study, market

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1. The annual change over these years was never more than £2 an acre but the use of a semi-logarithmetic scale in Chart 2 emphasises the relative and not the absolute movement.

experience was expressed in quantitative as well as qualatative form. These were 1925 and 1931 when the Crop Reporters of the Ministry of Agriculture prepared estimates of the capital and rental values of farms in their districts.[1] Their estimates were not statistical in nature but based on experience of market conditions. They therefore provide a unique source of information which, to some extent, bridges the gap between the descriptive accounts of market conditions and the bare arithmetic of the time series.

Comparisons of the Crop Reporters' estimates with the average prices calculated from auction sales for each of the two years are given in the tables below. For this purpose the Reporters' estimates of values for farms below 5 acres were excluded from the weighted average for all farms. The weights used were as for the sales data.

A comparison of the data presented in the table showed that the average sale prices for all farms conformed closely to the Ministry's estimates for all farms and even closer to those for mixed farms. This encouraging measure of agreement indicated that, at least for these years, the sales data provided reliable estimates of the general level of farm sale prices and also of the trend in prices. The closer

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1. Ministry of Agriculture and Fisheries, "The Agricultural Output of England and Wales, 1925", Cmd.2815. H.M.S.O., London, 1927, and "The Agricultural Output of England and Wales, 1930-31", Cmd. 4605, H.M.S.O., London, 1933.

Table 23. A Comparison of Farm Sale Prices and Crop Reporters' Estimates for 1925.

Size group acres	Crop Reporters' estimates: Arable farms	Pasture farms	Mixed farms	All farms	Sales data
	£'s per acre				
5 and under 50	39	48	42.5	45.5	45
50 and under 100	30	37	33	34	32
100 and under 150	26	33	30	30	28
150 and under 300	23	29	26	26	25
300 and over	18.5	24	20.5	20.5	15
All farms	24	35	29	30	28

Table 24. A Comparison of Farm Prices and Crop Reporters' Estimates for 1931.

Size group acres	Crop Reporters' estimates: Arable farms	Pasture farms	Mixed farms	All farms	Sales data
	£'s per acre				
5 and under 50	33.5	42	36.5	40	36
50 and under 100	24	32	27	29	27
100 and under 150	20	28	23	25	22
150 and under 300	16	24	19	20	16
300 and over	11.5	17.5	13	14	10
All farms	18	29	22	24	21

agreement between the calculated sale prices and the Ministry's estimates for mixed farms can be explained in terms of the sales records and of the method of calculation.[1]

Within size groups there was a similar comparability between the sale prices and the estimated values for mixed farms. In both years the only major discrepancy was for farms over 300 acres for which the sales data gave relatively low values. This may have been partly accidental in that the sale prices for these large farms fluctuated from year to year and were low in each of these two years. Part of the difference, however, might have been because the Ministry's data, unlike the sales data, excluded rough grazing, which might have represented a significant part of the whole farm on some types of large farms. The system of averaging adopted for calculating the average prices for all farms tended to minimise discrepancies of this nature so that they did not unduly disturb the 'all farms' figures.

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1. See Chapter 2.

PART II

ANALYTICAL

CHAPTER 8.

The Methods of Analysis Used.

The first part of the present study has been concerned with calculating time series of farm sale prices and of farm rents which have then been used to determine trends in land values in England and Wales over the years 1857 to 1958. In the second part an attempt is made to analyse the major factors underlying these trends.

It is an axiom of research that the method of analysis used should be appropriate to the problem under consideration and also to the data available. In economic studies involving inter-relationships between two or more variables, regression or correlation analysis is sometimes used. This form of analysis has the advantage that it makes possible the expression of relationships between variables in quantitative terms and therefore permits a more rigorous and precise testing of hypotheses. It is, however, only reliable if the data used are representative and consistent and if the theoretical basis of analysis is adequate to indicate the correct causal relationships.

The application of correlation analysis to time series, such as those presented in this study, is subject to a number

of special difficulties.[1] These may be summarised as follows:

(1) There may be a qualitative change in the nature of the data used.

(2) There may be a change in the (economic) relationship between variables over time. This is especially probable during periods of technical and economic change.

(3) Each of the above problems are less likely to arise over a short as distinct from a long period of time. On the other hand, the significance of the relationships will depend, in part, upon the number of observations available for correlation and therefore, in general, upon the period of time which can be included in the analysis.

(4) An apparently high degree of correlation between two or more variables may in fact be attributable to a further variable. In correlating economic variables the influence of changes in the value of money may be particularly significant and during periods of inflation or deflation may result in spurious coefficients of correlation between variables.

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1. It is revealing that in the standard textbooks on statistical method the sections devoted to the analysis of time series are almost invariably restricted to the measurement of movements over time e.g. trends and seasonal or cyclical fluctuations and that inter-relationships between variables over time are not discussed. Some of the more advanced texts and papers do however discuss the problems involved.

(5) Some of the methods normally used for correlation analysis of time series i.e. "absolute values" and "deviations from trends" are subject to the incidence of serial correlation which may also lead to spurious results. Serial correlation arises because large changes in a given time series are less numerous than small changes so that a high value for any year in relation to the mean for the whole period is likely to be followed by years that are also above the mean. For example, if land values and farm prices are both high in one year there is a strong likelihood that they will both be above the mean of the whole period for several years following. As a result the apparent correlation shown between prices of products and land values over estimates the true correlation. This fault may be largely overcome if "first differences" are correlated instead of "absolute values" or "deviations from the trend". The use of "first differences" may, however, be precluded by random annual variations in the data.

It is now necessary to consider how far these difficulties apply to studies of relationships between land values and other variables in general and to those presented in the present study in particular. The following comments may be made:

(1) Farm sales data are not homogenous because sales records

refer to different groups of farms each year. Where estimates of value are used instead of actual sale prices, as in the American studies by Thomsen and Bean,[1] the farms superficially may remain the same but in fact their valuation is based on those farms which do come on to the market and these again form a different group each year.

(2) Within a developing economy, agriculture is subject to technical and economic changes and the relationships between variables are therefore likely to change over time.

(3) Land sale prices, rents and other values are subject to fluctuations brought about by changes in the value of money. It has been seen that much of the correlation between the relevant variables reported by Bean, Thomsen, Chambers and Low could be attributed to this factor.[2] Pronounced changes in the value of money took place in England and Wales during certain of the years under review in this study.

(4) It has also been shown that to avoid the incidence of serial correlation, an analysis of "first differences" is the most suitable method to employ. In the present study, however, this is precluded by the fact that some of the differences between

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1. See Chapter 1.

2 " " 1.

annual values especially in the years before 1870, must be attributable to "erratic" variations due to the small number of sale records available.

The earlier studies of farm sale prices which were reviewed in Chapter 1 could be divided into two groups which for simplicity may be classified as the statistical and the non-statistical. The studies made by Bean, Thomsen, Chambers and Low fell into the former group and those by Ashby and Pryse Howell, Britton, Ward and Sturmey into the latter. Although each of the statistical studies provided quantitative estimates of the relationships between farm sale prices and certain other variables, these findings were subject to criticism on the grounds either of the statistical methods used or of the underlying economic assumptions. The studies did, however, like those in the second group, indicate some of the relationships involved, although for the reasons given above, it was not found possible to accept their measurement in definite and precise terms.

These considerations of the nature of the study, of the data available and of the results of earlier studies, led to the conclusion that correlation analysis was inappropriate to the present study. It was therefore decided to limit the use of statistical method primarily to diagrammatic analysis of

inter-relationships.[1] In the majority of cases this has taken the form of a tabular and graphical comparison of time series in which emphasis has been placed on (a) trends and (b) turning points rather than absolute values. In addition, in certain cases where it appeared appropriate, scatter diagrams have been used to test theoretical relationships. The use of such diagrams made it possible to judge the general nature of the relationship, if any, between variables and also to see whether there was any change in the relationship over the period of time considered. This latter point is of considerable importance in the analysis of time series and, indeed, the establishment of changes of this nature may be regarded as an important aspect of this study.

Throughout this work the use of tabular and diagrammatic comparisons has been regarded as complementary to that descriptive analysis which is an essential feature of historical study.

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1. I am indebted to members of the Department of Statistics of the London School of Economics, particularly Mr.H.S. Booker and Mr.M.H. Quenouille, for their advice on the statistical methods appropriate to this study, and especially for their comments on graphical methods of analysis.

Chapter 9.

Farm Sale Prices, Rents and Agricultural Prosperity

Having drawn up time series of farm sale prices and of rents, and reviewed the recorded condition of the real estate market, over the years 1857 to 1958, it was possible to discuss changes in farm values in relation to the underlying economic conditions. The property market reports, and the conclusions drawn from earlier studies, indicated that the fundamental factor to consider was the prosperity of agriculture.

The nature of the relationship between the prosperity of the industry and the state of the property market may be briefly outlined as a guide to further analysis. The supply of farms, in a developed country, is fixed within relatively narrow limits, as geographical factors place limitations upon the amount of land and the number of farms is largely dependent upon historical and institutional factors. Moreover, leaving aside urban development, which is a special case affecting only a small proportion of agricultural land, farms generally have no alternative use other than for agricultural production. In other words, the supply of farms is inelastic. It follows that the general level of farm rents and of sale prices is mainly dependent upon the demand for farms.

The demand for farms is derived primarily, although by no means exclusively,[1] from the incomes that can be secured from them.

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1. Non economic considerations are important in relation to the ownership as well as the occupation of agricultural land. In a primarily commercial agriculture, such as that in Britain, however, they are, in general, less significant than economic factors.

These, in turn, depend upon the prosperity of the agricultural industry. When agriculture is booming, profits rise and competition to secure farms, by lease or purchase, leads to a rise in rents and sale prices. When agriculture is depressed, on the other hand, profits fall and rents and capital values fall also.

This dependence of the property market upon the general prosperity of agriculture is summarised in Table 25 . It was evident that trends in both rents and sale prices were closely correlated with the state of the industry. The periods of prosperity; the twenty years before 1875, the periods of expansion associated with the Second World War and the crisis years of the late 1940's, and, to a lesser extent, with the First World War, were all characterised by a strong market for farm property, with rapid increases in sale prices and slower but substantial rises in rents. Similarly, the long periods of depression during the last quarter of the 19th Century and the inter-war years of the 20th Century were accompanied by severe falls in land values.

The summary also showed that the changing phases of prosperity, which were reflected by land values, were not unique to agriculture but affected the whole economy. It is true that agriculture was subject to certain peculiar problems, due to variations in the flow of imported foodstuffs into the country, but the general alternation of prosperity and depression could be primarily related to general economic trends

Period	Economic conditions	Agricultural conditions	Farm Sale prices	Farm rents
1857-1875	Railway age. Rapid industrialisation. Gold discoveries in California and Australia.	"Golden Age" of British Farming technically and economically. Steady increase in prices and incomes.	Rising slowly until 1863 then more rapidly.	Little movement until 1867 then rising.
1875-1895	Depression. Increasing imports of food from abroad.	Depression. Markets undercut. Series of bad harvests.	Falling rapidly	Falling
1896-1914	Gradual recovery. Gold discoveries in South Africa.	Slow recovery. Reorientation of outlook.	Stable.	Stable.
1914-1920	War time inflation.	Prosperous. Forced return to grain production. High food prices.	Rising slowly until 1917 then rapidly.	Rising slowly.
1921-1928	Collapse of postwar boom, then more stable.	Prices halved in first two years, then more stable.	Sharp break, then relatively stable.	Slight fall then relativel stable.
1929-1933	Great depression.	Depression.	Sharp fall.	Falling.
1934-1939	Slow recovery. Housing boom.	Slow recovery of farm prices and incomes.	Slow rise.	Stable.
1940-1945	War time inflation.	Prosperous. Price control, state policy maximum food production.	Rapid rise.	Slow rise.
1946-1951	World Food shortage. Full employment. Balance of Trade problems.	Prosperous. Guaranteed prices and assured markets. Policy of expansion.	Rapid rise.	Rising more quickly.
1952-1958	"Credit squeeze". Containing inflation.	Policy turning towards greater efficiency. Farm incomes relatively stable.	Fall in 1952, then greater stability.	Continuous rise.

which characterised not only this country but all Western economies during the last one hundred and fifty years.[1]

Due to the complexity of the relationships involved, and to the limited nature of material available, it was not possible to carry out more than a limited number of specific analyses, which are presented in subsequent chapters. It was decided that the most satisfactory way of reviewing more general relationships would be to make a descriptive analysis of each of the major periods into which the years from 1857 to 1958 could be divided. It was, however, neither possible, nor thought desirable, to attempt a major review of the history of the agricultural industry. All that could be attempted was to pick out the salient historical features and relate them to the trends in farm property values established in this study.

1857-1874

The third quarter of the 19th Century has gone down to history as the 'Golden Age' of British agriculture. It marked the peak of the English landlord tenant system and also of high farming, which was epitomised by the Norfolk four course rotation: it was a period of unprecedented technical development and economic prosperity. In

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1. The dependence of agricultural prosperity upon changes in general economic conditions, which in turn were attributed primarily to monetary factors, was stressed by the 'Report of the Committee on Stabilisation of Agricultural Prices", Ministry of Agriculture and Fisheries, Economic Series, Report No. 2, 1925. Theoretical analyses of these interrelationships are given in G. Harberler, "Prosperity and Depression", United Nations, 1946, pp. 151-167 and in J.H. Kirk, "Agriculture and the Trade Cycle."

the words of Lord Ernle, these years "formed an era of advancing prosperity and progress, of rising rents and profits, of the rapid mutliplication of fertilizer agencies, of an expanding area of corn production, of more numerous, better bred and better fed, better housed stock, of varied improvements in every kind of implement and machinery, of growing expenditure on the making of the land by drainage, the construction of roads, the erection of farm buildings, and the division into fields of convenient size."[1]

The prosperity of the industry was reflected in the steady upward trend of land values. Farm rents were rising throughout the period, and the index given in Chapter 4 suggests that they increased by some 15 to 20 per cent from 1857 to 1877. During the same years, the capital values of farms rose by a greater amount, probably about 40 per cent. The calculated sale prices, although based on very small numbers in these years, suggest an increase in the general level of values from below £40 an acre in the late '50's to around £55 an acre in the mid '70's. Property market reports also referred to a steady increase in sale prices and in the latter years indicated that capital values represented 30 to 40 years' purchase of rental values. Evidence submitted to the

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1. Ernle, "English Farming Past and Present", 5th Edition, 1936, Longmans, p. 349.

Royal Commission on Agriculture[1] in 1894 also referred to the exceptional prices obtained for farms at this time. The strength of the market was due to the prosperity of the industry and to confidence in the future generated by its continuance over two decades, and also to the demand for agricultural property for social, as well as economic, reasons.

The upward trend of the property market, and the underlying prosperity of the industry, were due to a number of causes. Foremost amongst them was the improvement of commodity prices throughout the 1850's and '60's. Sauerbeck's index number showed an average rise of 25 per cent over these years. Oats, barley and bacon showed a similar rise, wheat, pork and potatoes, rather less, while most livestock products, including mutton, butter, beef and wool, rose more than the average. The major cause of this sustained increase in the general level of prices was the discovery of gold in California and Australia and the subsequent rise in the amount of money in circulation in Britain and in other developed countries.

The increase in the amount of gold was great enough to offset the remarkable increase in industrial production which

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1. "Final Report of the Royal Commission on Agriculture," H.M.S.O. 1897. C.8540.

occurred during these years. The 'railway age' of the 1840's and '50's, and the accompanying developments in iron and steel, in textiles and in other industries, in commerce, finance and trade, established Britain as the major industrial and trading nation of the world.

The increasing wealth of the country, combined with a rise of 6 million in the population, created a growing and buoyant market for foodstuffs. Labour was moving from the land to the growing industrial towns and agriculture was completing its transition to a major industry providing food for a commercial market. This market was, as yet, little affected by imports, despite the Repeal of the Corn Laws in 1846. There was a steady increase in food imports during the period but the growing demand was sufficient to absorb them, as well as the increased production from the British farms which still dominated the market. During this time a series of wars, in Europe and North America, not only interfered with supplies which might otherwise have entered the British market, but also increased the general inflationary pressure of the time.

British agriculture seemed sound, secure and prosperous. In the words of another historian, "these years witnessed the culmination of more than a century of sustained effort towards the betterment of land use in this country. Never at any other

time in its history has the land been better equipped by the landowner, better cultivated by the farmer, nor has food production from it been more intensive."[1]

1875 - 1896

In marked contrast to this prosperity the next twenty years from 1876 to 1895 was a period of almost unrelieved depression, and farm product prices fell sharply. The depression was ushered in by a sequence of appalling seasons resulting in bad harvests and a great deal of disease amongst farm stock.

The depression was of extreme severity, especially in arable areas, from 1876 to 1883. There was then a period of relative recovery, due to a break in the fall in prices and a series of better harvests. After a further recession in the mid '80's there was a further slight recovery at the end of the '80's. In 1892, however, the depression set in with renewed severity and the depths of the depression was reached in the years 1892 to 1895. The Report of the Royal Commission, set up to enquire into the depression, was published in 1897 and gave ample evidence of the dereliction of farm land and buildings and the general despair of landlord, tenant and workers.[2] The same

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1. C.S. Orwin, "A History of English Farming", Nelson, 1949, p. 73.

2. "Final Report of the Royal Commission on Agriculture", H.M.S.O., 1897. C. 8540.

report drew attention to the fact that in the early years of the depression landowners, not appreciating its severity or long term nature, attempted to maintain rents at their former levels, with the result that many tenants went bankrupt. The landowners realised their error belatedly when they found they could not get new tenants to accept farms at the old rents, or, in some cases, at any rent at all. This slow adjustment of rents to the changed economic conditions added to the severity of the depression amongst tenant farmers.

The long period of prosperity and rising property values during the 'Golden Age' of the '50's and '60's had led to strong competition to buy land, with the result that capital values had been forced up to high levels in relation to rents. The reaction was accordingly greater when the market broke in the late 1870's. During this period the calculated annual value of farm sale prices fell from £57 to £17[1] an acre while, allowing for a time lag, the rent series fell from approximately 30 shillings to 20 shillings an acre.

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1. The heavy absolute and relative fall in sale prices may have been exaggerated by the comparison of annual figures calculated from small numbers of farms. The smoothed series, based on five year moving averages, showed a slightly lower fall, from £55 to £19 an acre. This, however, still represented a decline of 65 per cent. It has already been pointed out, however, in Chapter 2 that the inclusion of a relatively large number of farms from Eastern England and the Midlands, areas in which land values were particularly badly affected by the depression of cereal prices, might have exaggerated the downward movement of the index.

The fall in sale prices and in rents, and the acute depression of agriculture throughout the period, were primarily due to a fall in prices of agricultural products. This, in turn, could be attributed to a general economic depression, and also to the effect of an increasing supply of imported foodstuffs entering the British market. A further factor contributing to the first phase of the depression was the series of bad harvests and disease amongst stock in the late 1870's.

The economic depression was one of great severity which affected not only this country but all major western countries as well. Underlying the shorter oscillations of the trade cycle was a long term downward movement of the general price level which lasted from 1874 to 1896, with only temporary breaks in 1880 and 1889-91. During this period, the general level of wholesale prices of all commodities in Britain fell by some 40 per cent. This was a much more rapid and severe decline than had occurred even in the first half of the century.

This general fall in prices was accompanied by, and regarded as the primary cause of, widespread depression in industry, commerce and agriculture. Many reaons were put forward to explain it, but it was widely accepted that the basic factor was a monetary one in that "the gradual expansion of industry throughout the gold

countries increased the demand for currency, which the practically stationary production of gold was unable to supply. Consequently, gold appreciated and the price of commodities in terms of gold fell.[1]

The general index number of agricultural products fell by 39 per cent, almost exactly the same amount as that of all commodities included in the general index number of wholesale prices.[2] There were, however, considerable differences in the price movement of individual products. The price of meat livestock products fell by less than the average amount, whereas barley, oats and potatoes, fell by almost 40 per cent and wheat and wool by 50 per cent.

The very heavy fall in the price of wheat was of crucial significance for agriculture in the Eastern half of the country as it was the pivotal crop in the systemsof arable and mixed farming which had been developed in the preceeding decades and were widespread in much of lowland Britain. Farmers on the heavy land in Essex, for example, began to break when wheat fell from 55 shillings to 45 shillings a quarter in the mid '70's. This exceptional fall in the prices of wheat was due to the rapid increase in wheat imports at this time. Three inventions "the railways, the binder and the steamship - discharged a flood of cheap wheat upon Europe,"[3] and

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1. Ministry of Agriculture and Fisheries, "Report of the Committee on Stablisation of Agricultural Prices", See also W.T. Layton, "An Introduction to the Study of Prices", Macmillan 1922, Chapter VII.
2. Sauerbeck's index number.
3. Sir Daniel Hall, "Reconstruction and the Land", Macmillan 1941, p.8.

American corn from the newly settled lands of the Middle West was landed at British ports at prices with which the high cost home producer could not compete.

In subsequent years, developments in refrigeration led to increases in the import of meat and other livestock products also. As the major industrial exporting country in the world, Britain was committed to a free trade policy and her farmers were therefore faced with declining prices and a diminishing share of the home market. In 1840 Britain, with a population of 20 million was largely self sufficient, but by the turn of the century her population of 40 million was dependent upon overseas supplies for more than half its foodstuffs.

The unequal fall in product prices meant that the depression was felt most severely in Eastern England, and in the Midlands, where crop production was more important. The position was aggravated by the fact that the arable and mixed farms of these areas were generally larger, and relied more upon hired labour, than the pasture farms of the West. Wages did not fall with product prices and, in fact, appreciated slightly during the depression. Profits were depressed further, or eliminated althgether, by the tardy reduction of rents on some estates. Although rents actually paid decreased, largely through remissions rather than reductions, they lagged behind the fall in product prices and in the case of some

tenant farmers were the final burden leading to bankruptcy.

Pasture farmers on the smaller holdings in the West benefitted, not only from the relatively smaller fall in the prices of livestock products, but also from the reduction in price of feedingstuffs, and from the fact that labour was not a cash outgoing on the family farm.

The varying incidence of the depression in different parts of the country led to regional differences in the fall in land values. The Report of the Royal Commission concluded that rents in the most depressed parts of the country had fallen by 50 per cent, in the less depressed parts from 20 to 30 per cent, and in some dairying and grazing districts by not more than 15 per cent. In Wales remissions and abatements amounted to 10 to 20 per cent in general, although they were larger on arable land in North Wales.[1] MacGregor's rent index for farms in Cambridgeshire likewise showed a proportionately greater fall than Thompson's index covering farms more widely distributed throughout the country, which showed a fall of 33 per cent from approximately 30 shillings an acre in 1877 to 20 shillings in 1900.[2]

Unfortunately it is not possible to quote similar broad figures for capital values in different parts of the country but evidence to the Royal Commission, and property market reports during these years, stressed the very large fall in values of arable farms, especially on heavy land. Individual cases were quoted in market reports of

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1. "Final Report of the Royal Commission on Agriculture", H.M.S.O. C.8540 pp. 23/24.
2. Chapter 4.

farms selling for a fraction of their value twenty years earlier,[1] while in some areas it was impossible to find a market for the larger arable farms at all. The fall in capital values was, however, much less severe in the West, and especially in Wales.

1896 - 1913

The next period, also of almost twenty years, was one of slow recovery both in agriculture and in the property market. The calculated sale prices fluctuated around £20 an acre for the first ten years and then began to rise slightly up to the outbreak of war in 1914. Rents also showed an upward movement, although rather less pronounced, after a low point at the turn of the century. This improvement in land values was closely correlated with a general improvement in the conditions of agriculture and a rise in prices of agricultural products. The latter was, once again, associated with an improvement in the general level of prices and with the underlying monetary factors. "The association of the (steady upward movement) with the upward bound of gold production....requires little emphasis in words or figures."[2]

The general index of agricultural prices improved by nearly 30 per cent but there were differential rises in individual products.

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1. One of the sale records for 1894 was of a farm of 310 acres in Essex which was sold for less than £1 per acre.

2. W.T. Layton, "An Introduction to the Study of Prices". 2nd edition Macmillan, 1922, p. 83.

The price of wheat rose by 22 per cent, barley 13 per cent, oats 19 per cent and potatoes 10 per cent, while the price of pork, beef, bacon and mutton rose between 20 and 29 per cent.[1] In relative terms, therefore, prices of farm crops fell even farther behind those of livestock products. These relative price changes, augmented by changes in the structure of costs which also worked against arable farming, led to a reorientation of the agricultural industry, which in itself played a considerable part in the return of a modest degree of prosperity. This reorientation from arable to livestock farming, and especially to dairying, is well known and is illustrated by the changes in the area under crops and grass, and by changes in livestock numbers, shown in Table 26. As farmers increased their output of these products for which the relative price fell least during the depression and rose most during the recovery, they improved the profitability of the industry.[2]

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1. Sauerbeck's index numbers.

2. The extent to which farmers varied the nature of their production in response to relative price changes was reflected in movements of the index of agricultural prices. This index, calculated by the Ministry of Agriculture, was redesigned in 1938 to allow for changes in the composition of agricultural output. These were introduced by a system of weighting based on the relative output of the items included in the index, (See, C.T. Houghton, "A New Index of Agricultural Prices", Jour. Roy. Stat. Soc. Vol. Cl. Part II, 1938). Houghton showed that the general rise in product prices between 1911 - 13 and 1935 - 36, when measured by the earlier Ministry index with 1908 weights, was 22 per cent, whereas when the 1935 - 36 weights were used the rise amounted to 36 per cent. C.T. Houghton, ibid, p. 279.

Table 26. Change in Crop Acreages and Livestock Numbers in Great Britain, 1857-1957.

millions

	1875	1914	1918	1939	1944	1947	1957
Wheat	3.34	1.87	2.64	1.76	3.22	2.16	2.11
Barley	2.51	1.70	1.65	1.01	1.96	2.05	2.61
Oats	2.66	2.85	4.02	2.14	3.22	2.93	2.11
Potatoes	0.52	0.61	0.80	0.59	1.22	1.15	0.71
Sugar beet	-	-	-	0.34	0.43	0.39	0.43
Turnips etc. +	2.50	1.91	1.71	0.92	1.10	0.98	0.67
Fallow	0.56	0.35	0.41	0.37	0.23	0.50	0.31
Other crops	1.67	1.14	1.17	1.52	2.76	2.48	1.83
TOTAL	13.76	10.43	12.40	8.31	13.71	12.25	10.78
Temporary grass	4.35	3.86	3.45	3.56	4.23	5.03	5.82
TOTAL ARABLE	18.11	14.29	15.85	11.87	17.94	17.28	16.60
Permanent grass	13.31	17.61	15.89	17.33	10.81	11.38	12.27
Crops and Grass +	31.42	31.90	31.75	29.20	28.75	28.74	28.88
Rough Grazing	NA	12.86	13.39	16.01	16.33	16.47	16.06
TOTAL AGRICULTURAL AREA	NA	44.76	45.14	45.21	45.08	45.21	44.94
Cows and heifers in milk or calf	2.25	2.94	3.03	3.62	4.04	4.01	4.73
Other cattle	3.76	4.15	4.38	4.50	4.58	4.62	6.15
Sheep	29.17	24.29	23.35	25.99	19.44	16.19	24.80
Pigs	2.23	2.63	1.82	3.77	1.63	1.29	5.94
Poultry	-	-	-	64.14	38.48	48.98	94.87

Footnotes: All figures for June of each year

\+ Includes Swedes, Mangolds and Fodderbeet

Source: Agricultural Statistics, U.K.

The upward trend of product prices and the changes in the structure of the industry, resulted in a period of relative stability and prosperity. Sir Daniel Hall looked back in 1941 to the years from 1904 - 1914, as a 'minor golden age'[1] while Lord Ernle, after a series of tours round the country in 1910 - 1912, recorded "In the first place we must recognise that the industry is at present sound and prosperous".[2]

In relation to this definite improvement in the general state of the industry the increase in rents and in sale prices was modest in nature. The slow movement in rents was due to a combination of economic, social and political factors.[3] During the long years of depression many landowners ceased to regard their estates as economic propositions, and retained them mainly for sport or reasons of social prestige. This attitude, primarily brought about by falling rents, and rising estate costs, was strengthened by legislation which steadily removed the once powerful control of the landowner over his tenant. The disinclination to increase rents once

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1. Sir Daniel Hall, "Reconstruction and the Land", Macmillan, 1941, p.8.
2. Ernle, "English Farming Past and Present", 5th edition, Longmans 1935, p. 392.
3. See Chapter 12.

economic conditions improved was also conditioned by the growing social and political pressure against landownership which was at a peak during the first decade of this century. This pressure was manifest in proposals to nationalise the land, or to impose heavy taxes upon the 'unearned increment' which was thought to acrue to the landowner. A threat of such taxation was seen in the land valuation clause in the Finance Act of 1910. The slow movement of sale prices could be partly attributed to the same influences, and partly to the increase in the supply of farms put onto the market once the tone improved sufficiently for sales to be readily made. This increase in supply was largely due to a gradual increase in the break-up of large estates.

1914 - 1920

This steady improvement in prosperity was interrupted by the outbreak of war in 1914. The change incconditions, however, was not sudden or dramatic. In the first year of war the possibility of interference with the country's overseas food supplies was not seriously contemplated and no steps were taken to increase home production. The rise of losses of shipping in 1915, however, lead to the setting up of the Milner Committee, in June of that year, to report on increasing food production, but it was not until eighteen months later that a major campaign for increasing food production was begun. By the end of the war the arable acreage had been increased by three million acres, much of it for wheat and other cereals and potatoes. Powers to enforce ploughing, and

to guarantee farmers a minimum price for wheat and oats, were taken under the Corn Production Act of 1917.

Prices of farm products rose rapidly from 1915 and continued to rise for several years afterwards, being three hundred per cent above the pre-war level by 1920. Profits also rose, although the increase in wages, then controlled by a statutory wages board, and the shortage of labour, limited output and profits on the larger arable farms.

The increasing prosperity of the industry did not, at first, lead to improvement in property values. Investment markets were adversely affected by the shock to public confidence caused by the outbreak of war. All property values fell sharply while the disturbance to the Stock Market was so great that a moratorium was declared for several months. Confidence did not return until 1916 when the property market assumed a more normal condition, and the attraction of increasing profits led to a keener demand for farms and rising sale prices. This improvement in the market gathered pace in the last two years of the war and reached boom conditions in 1919 and 1920.

Property market reports referred to increasing values during these years and the calculated sale prices rose from £23 an acre in 1915 to £33 an acre in 1920, an increase of more than 40 per cent.

Over the same years, rents rose much more slowly, the increase in the time series being little more than 20 per cent, of which three quarters was recorded in the last year.

These recorded increases in property values were very much less than those of product prices and market reports make it clear that they were a reasonably accurate indication of the general trend of the times. In the case of rents this was partly due to the pressure of social and political, as well as economic, factors which had become evident before the war, but now they were strengthened by ~~the~~ a statutory limitation to increasing rents in response to guaranteed prices, which was contained in Part III of the Corn Production Act.

The relatively slow response of sale prices can partly be explained by the same factor, but a more immediate cause was the unprecedented supply of farms placed on the market. Unlike the more usual situation, in which a rising market leads to an intensification of demand amongst investors and owner-occupiers, the improvement in the market from 1917 encouraged landowners to realise their capital. This was the best opportunity of selling on a ready market that had arisen for forty years. It was a particularly opportune movement because the slow increase in rent, coupled with the increase in landowners' outgoings, meant that net returns were very low. Their real value was further reduced by the sharp rise in taxation which occurred during the war. By

selling at the improved prices, landowners were able to secure better capital values than had been possible for many years and to reinvest them to obtain much higher incomes.

A great number of sales took the form of private treaty transfers between landlord and tenant but by no means all tenants were able, or prepared to buy their farms, and very large numbers came onto the open market. Some indication of this is given by the property market reports which referred to an unprecedented amount of business during 1919, and to a very high level of sales in the following year also. Although the sales data are not fully representative, the fact that sales records increased to over 1,000 a year at the end of the war, compared with an average of below 200 a year in the previous decade, was an indication of the state of the market.

A further measure of the remarkable supply of farms offered during these years was provided by the increase in owner occupation at this time. The official statistics suggested that between 1914 and 1927 over a quarter of the farms in England and Wales were transferred from landonwer to tenant. Some qualification of this figure has since been made and it would appear to have been too high. Sturmey has shown that there had been a steady increase in owner-occupation during the first decade of the century and that the change after 1914 was neither so abrupt nor so great as was originally thought.[1]

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1. S.G. Sturmey, "Owner Farming in England and Wales, 1900-1950". Manchester Sch. of Econ. and Soc. Studies, Vol. 23, pp. 245-268.

Nevertheless, there remains no doubt that a very substantial number of farms changed hands during this period and it would seem reasonable to conclude that the large supply put onto the market was a major factor in restricting a rise in prices.

1921- 1939

The inter war period was, in general, one of depression in agriculture and in the property market. Several phases may be discerned in which the land values responded to the fortunes of the industry, and to other influences.

The first phase was the collapse of the post war boom and the resultant severe fall in the general level of prices. The fall was primarily caused by a policy of monetary deflation designed to put the country back onto the Gold Standard and to secure a return to the 'normalcy' of prewar days. Agricultural prices suffered along with those of other industries and in eighteen months from May 1920 they fell by almost 50 per cent. The price guarantees for wheat and oats, first granted under the Corn Production Act of 1917 and subsequently written into the Agriculture Act of 1920, had been designed to protect the British farmer against such an emergency. Now that the need for subsidies had arisen the financial cost to the Exchequer was thought to be too great and provision for them was withdrawn under the Corn Production (Repeal) Act.

The property market reacted to this fall in product prices and profitability and the calculated sale prices fell back from £33 an acre in 1920 to £27 an acre the following year. They, then, however, made a slight recovery, hardening over the next three years. Property market reports did not confirm this apparent improvement but agreed that prices had held up well and that there were plenty of buyers at reasonable prices. Indeed the buoyancy of agricultural values was a notable feature of the property market throughout the mid '20's. Rents remained even more firm than sale prices; after easing from 26s 5d in 1921 to 25s 3d the following year they remained above 25 s until 1928. This was largely due to the fact that they had risen little during the war time and post war boom and had lagged a long way behind product prices. Despite the slow downward drift in product prices in the mid twenties, the demand for tenancies, especially on the smaller and medium sized farms, remained strong.

In 1928 the relatively buoyant state of the market was disturbed by a wet harvest which badly affected the arable areas and, with a slack demand for farms, capital values and rents began to fall. In the following years they were depressed further by the onset of the Great Depression which witnessed a severe fall in product prices as well as much industrial unemployment and social unrest. Falling industrial incomes led to a reduction in demand for farm products, but agricultural output remained high, thus aggravating the fall in prices. In Britain, the position of many home farmers

was made worse by the fact that, unlike those of many Continental countries, British ports were kept open and a large volume of the world's surplus foodstuffs were directed to them. This was not entirely adverse for farmers, however, as there had been a further expansion of livestock production, especially of milk, poultry and pigs, based on cheap imported feedingstuffs, during the preceeding decade.

In the depths of the depression in the early 'thirties' the calculated values of farm sale prices, £20 an acre, and of rents, 21 shillings an acre, were almost as low as they had been in the earlier depression thirty five years before, while in terms of their purchasing power they were very much lower.[1] The Great Depression of the early 1930's, like the one immediately after the end of the First World War and the more extended one at the end of the previous century, was attributed primarily to monetary causes. Once Britain, and other Continental countries, had left the Gold Standard, there was the beginning of an economic revival and the mid 1930's saw a gradual recovery in industry and agriculture throughout the Western world. This was accompanied by a slow but steady improvement in the general level of prices.

The rise in the agricultural price index number was not, however, entirely due to an improvement in the general level of prices but was partly due to a number of features peculiar to agriculture. As a result of the depression, agricultural prices were no longer left

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1. See Chapter 11.

entirely to the operation of free market forces, and a number of measures were taken by the government with the deliberate aim of improving the prosperity of the industry. These measures included the imposition of tariffs, for the first time for almost a century, under the Import Duties Act, of 1932, subsidies for wheat, and later for barley, oats, and fat cattle (there had been a sugar beet subsidy from 1924), while just before the outbreak of the Second World War a number of specific production grants were introduced. In addition, the establishment of Agricultural Marketing Boards under the Acts of 1931 and 1933 permitted producers a considerable measure of control of marketing and of supplies, and these powers were also used to secure increases in product prices.[1]

The improvement in the condition of the agricultural industry led to a better tone in the market. Farms were easier to let and to sell, and although rents rose very little, sale prices hardened. The calculated values rose from £20 an acre in 1932 to £25 an acre in 1936 and 1937. Two other factors which probably influenced the improvement of capital values at thistime were low interest rates and extensive housing developments which increased the demand for building land.

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1. P.T. Bauer points out in "A Review of the Agricultural Marketing Schemes", Economica, Vol. XV, No. 58, pp. 132-150, that the prices of products covered by marketing shemes rose more than those of all farm products during this period.

1939 - 1951

The period from 1939 to 1951 witnessed an unprecedented increase in the sale price of farm property. The calculated value of farms sold with vacant possession rose more than threefold over these years, from £27 an acre in 1939 to £88 an acre in 1951. Due primarily to the lag of rents, and to the isolation of the occupation from the investment market by the creation of a large measure of security of tenure in 1941, prices of farms sold without possession increased less, being doubled over the same period.

Two main factors underlay this rise in land values. The first were the general inflation of prices which occurred throughout these years and resulted in a fall in the purchasing power of money to approximately one third of its former level. The second was the priority given to a national policy of agricultural expansion which led to a larger increase in farm incomes than in the national income as a whole.

The outbreak of war in 1939 found Britain once again dependent upon imports for nearly 60 per cent of her food supplies. The lessons of the First World War had been learnt, however. The fundamental importance of agriculture in the national economy received full recognition and priority was given to the need for a substantial increase in home food production. The arable area of Great Britain was increased by over 6 million acres in the first four years of the war and in 1944 had almost reached 18 million acres, barely 200,000 acres less than it had been at the

peak of arable farming in 1876. This remarkable expansion achieved a considerable saving of shipping requirements for food and feedingstuffs. With the exception of dairy cows, the numbers of livestock dependent upon imported feedingstuffs were reduced drastically, and a strict system of consumer rationing ensured an adequate, though monotonous, diet for the civilian population.

In order to ensure the success of the extensive ploughing up campaign, compulsory powers of enforcement were granted to the Country War Agricultural Executive Committees. At the same time, guaranteed prices and assured markets were introduced for all the major agricultural products and prices were fixed high enough to ensure a substantial and rapid increase in the working capital available to farmers. As a result, the general level of farm incomes rose rapidly, the demand for farms became very keen, and sale prices rose accordingly.

The outbreak of war had disturbed the property market, but the demand for farms recovered rapidly and soon became the dominant feature of the market. By 1941, the farm property market had assumed the typical features of a sellers' market with the demand for vacant farms far outreaching supply. By the end of the war their prices had doubled, while those of investment farms had risen by fifty per cent. Rents increased by no more than 20 per cent.

Towards the end of the war there was evidence of greater caution in the market, and the rate of increase in land prices slowed down. The Coalition Government had announced that the system of guaranteed prices would be continued for at least one year after the end of the war, and assurances were given by all political parties that agriculture would not be allowed to fall back into its pre-war state, but a feeling of uncertainty about the future of the industry persisted. Members of the agricultural community remembered that similar guarantees, incorporated in the Agriculture Act of 1920, were swept overboard by the Corn Production (Repeal) Act when world food prices collapsed.

These fears were largely set at rest soon after the end of the war when it appeared that the change which had taken place in Britain's role in the world economy was of a longer-term nature. It seemed that the chronic balance of payments problem would prevent the import of cheap food for many years ahead, so that a high level of agricultural production would have to be maintained. In the light of this situation the Government continued the wartime system of guaranteed prices and assured markets until 1947, when a similar system was introduced as a long-term feature of policy under Part I of the Agriculture Act, 1947. The initiation of the expansion programme in August of the same year gave further emphasis to the need for increased supplies of home-grown food.

Although the balance of payments position was the immediate cause of the post war expansion of agriculture, the serious deterioration in the international situation meant that strategic considerations were also of some importance, while the social benefits of a prosperous agricultural industry could not be ignored. The prospects of continuing prosperity and security led to renewed confidence in agriculture and increased activity in the property market, with further sharp rises in sale prices. During the second phase of increaseing prices, those of farms sold with vacant possession rose from £57 an acre in 1946 to £88 an acre in 1951, a rise of 55 per cent. Investment prices again rose more slowly, from £31 to £44 an acre over the same period, an increase of 40 per cent. Rents were beginning to rise more rapidly than during the early war years, and rose nearly 20 per cent over the period.

The increase in farm property values was in part caused by, and in part led to, a heavy flow of capital into agriculture from sources outside the industry. Large land owning bodies and investment trusts which were traditionally interested in agricultural land, showed increasing confidence in it throughout the period. In addition, other sources such as financial and industrial interests and private businessmen, who had previously held aloof from this class of security, also invested large amounts of capital, mainly because farm real estate was regarded as a tangible security to be held agains the threat of inflation. This was strikingly evident in 1947 when the introduction of the cheap-money policy, which resulted in a fall in yields on 'gilt-edged' and 'equities' and the fear of further

serious inflation, led to renewed investment in agriculture on a heavy scale. This was in spite of the fact that the average net yield on landed property bought at prevailing prices was proving lower than the 2.8 per cent yielded by Consols.

1951 - 1958

The increase in farm sale prices, which had lasted almost continuously for twelve years, came to an end in 1951 and, from then until 1957 there was no marked trend in land values but a series of fluctuations. The ending of the strong market for farm property was due to changes in the underlying factors which had formerly sustained it.

In the first place, there was a change in the agricultural situation. The substantial measure of success in expanding domestic output over the previous five years, and the recovery from the world shortage, had greatly eased the food situation, and from this time policy was directed less to 'output at any cost' and more towards 'greater efficiency'. A free market in agricultural products combined with a system of deficiency payments was introduced in 1953. Costs of production continued to rise, and, failing full recoupment at the annual price reviews, net farm incomes began to fall.

A factor of which was probably at least of equal importance, was the effect of monetary policy. The increase in interest rates and the restriction of credit which were initiated towards the close of 1951, in an attempt to curb inflation, had a pronounced effect

upon the property market. All property values fell and by 1953 those of vacant farms were some fifteen to twenty per cent below their peak level. Investment prices fell by a similar amount despite the fact that rents continued to rise. In 1954 a slackening of the credit squeeze led to an improvement in values, especially of investment farms, but this was checked again later in 1955 by a further rise in interest rates and restrictions of credit. This check developed into a renewed fall in 1956, due not only to the deflationary pressure but also to the fact that it had been a difficult and costly year for farmers and that confidence in the future of the industry was waning.

In the following year agricultural and monetary matters continued to dominate the market. The introduction of the long term price guarantees for agriculture in the Agriculture Act, 1957 restored confidence in the industry, while the farm improvements grants, introduced by the same Act, gave further incentive and encouragement to long term investment. Demand for vacant farms was, however, largely held in check by a shortage of credit but prices hardened for investment farms. With the easing of credit restrictions in 1948 the more favourable agricultural

situation was expressed in a strong demand for farms and sale prices appreciatied once more. In the case of investment farms this improvement was strengthened by the provision of the Agriculture Act, 1958 relating to the determination of 'open market rents'. This movement towards more competitive conditions led to a remarkable change in the tone of the market and rents began to rise much more rapidly than formerly, while investment prices improved as a consequence.

Although this study was originally limited to the year 1958 it is of interest to record that the improvement in the market in 1958 became more marked in the following year, and that very substantial gains in sale prices were recorded. The average value of farms sold without possession probably reach £100 an acre by the end of 1959, while that of investment farms, although still lower, showed an even greater rise. A stronger agricultural position was probably a contributory factor, but the major cause was undoubtedly the relaxation of credit restrictions and the consequent expansion of the economy, accompanied by a remarkable boom on the Stock Exchange which carried the Financial Times index of ordinary shares up by 100 points, or nearly 50 per cent, during the year. The resultant fall in the yield on equities, coupled with the rising level of rents, made agricultural land, together with other forms of real property, appear an attractive investment.

A great deal of capital flowed into the property market and prices appreciated accordingly. There were, however, several indications that the rise in agricultural values, substantial though it was, was dwarfed by the remarkable increase in development values.[1] The effect of urban development, and of planning permission, upon land values became matters of growing public interest in the closing years of the 1950's.

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1. Of two farms in the same area, each of approximately 160 acres, sold on the same day, one realised just over £16,000 for agricultural purposes while the other, sold subject to planning permission, fetched £260,000.

Chapter 10

Land Values, Product Prices, Costs and Profits

It was evident from the historical analysis of the last chapter that the major factor influencing the general level of farm sale prices and rents was the prosperity of agriculture. It was also clear that the most important single factor affecting that prosperity was the level of product prices. The reasons for this are well known[1] and need be only briefly summarised here.

The prices of farm products tend to respond quickly to changes in economic conditions but the costs that the farmer incurs for many of his inputs, i.e. rent, interest charges and wages, lag behind product prices so that windfall gains or losses are made when the general level of prices alters. These are enhanced by the fact that, due to the long period of production in agriculture, farm costs are incurred at one level of costs and output realised at another. Secondly, the prices of most farm products, which are basically raw materials sold mainly at wholesale prices, tend to fluctuate more than those of farm requisites, such as feedingstuffs, fertilizers, and machinery, which are manufactured products sold at retail prices.[2] As a result, farmers, like other

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1. See Edgar Thomas, "An Introduction to Agricultural Economics", Nelson, 1949, pp. 190/197.

2. In general, prices of raw materials fluctuate more widely than those of manufactured goods, and wholesale prices fluctuate more widely than retail prices.

business men dependent upon profits, make good incomes when prices are rising but poor incomes, or losses when they are falling. Since the demand to lease or to buy farms depends primarily upon the level of profits, it follows that rents and sale prices are also likely to vary directly with product prices. This theoretical framework provided the basis for analysing the relationships between product prices and rents and farm sale prices which are discussed in the following pages.

Index numbers of farm product prices for each year from 1867 to 1957 are shown in Tables, 27 and 28 and illustrated in Chart 5. For 1906 to 1957 these were taken from the General Index of Agricultural Prices, published annually by the Ministry of Agriculture, Fisheries and Food in the Agricultural Statistics for England and Wales,[1] and converted to a 1867-76 base. For the years 1867 to 1905, they were derived by J.R. Bellerby and others, from material used for a study of the net farm income of the United Kingdom for 1867 - 1914[2]. The method of calculation used by Bellerby was similar to that used in the calculation of the Ministry's index number.

The index of agricultural product prices is compared with those

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1. This index number is a weighted arithmetic average of price relatives of all products. For method of calculation and system of weighting see C.T. Houghton, "A New Index of Agricultural Prices", Journal of the Royal Statistical Society, Vol. C, Part II, 1938, pp. 275-316.

2. I am grateful to Mr. Bellerby for providing me with this unpublished material.

Table 27. Index Numbers of Product Prices, Rents and Farm Sale Prices, 1867-1939.

Year	Product prices	Rent	Sale price	Year	Product prices	Rent	Sale price
1867	97	95	85	1907	83	72	44
1868	94	98	85	1908	79	73	44
1869	93	99	92	1909	80	73	46
1870	95	96	92	1910	84	73	48
1871	100	98	100	1911	84	73	50
1872	103	100	102	1912	90	74	50
1873	108	101	108	1913	91	75	48
1874	100	102	110	1914	89	76	48
1875	104	102	112	1915	112	76	48
1876	103	103	108	1916	141	76	50
1877	100	105	106	1917	177	76	52
1878	94	104	102	1918	204	78	56
1879	89	94	94	1919	227	79	58
1880	92	93	89	1920	257	82	58
1881	91	91	79	1921	193	92	60
1882	92	95	79	1922	149	89	60
1883	89	96	73	1923	138	89	58
1884	84	93	69	1924	142	89	58
1885	79	85	64	1925	140	89	58
1886	77	86	64	1926	133	89	56
1887	74	79	56	1927	127	88	52
1888	75	81	54	1928	130	85	50
1889	76	82	56	1929	127	85	48
1890	76	81	52	1930	116	84	44
1891	76	81	50	1931	106	82	44
1892	76	79	44	1932	103	79	46
1893	77	77	42	1933	99	76	46
1894	73	75	40	1934	100	75	48
1895	71	75	40	1935	103	75	50
1896	69	73	40	1936	106	76	52
1897	74	72	42	1937	115	75	52
1898	71	72	42	1938	114	75	
1899	72	70	42	1939	115	76	
1900	77	71	42				
1901	77	73	42				
1902	78	71	42				
1903	77	72	42				
1904	75	70	42				
1905	78	72	44				
1906	81	72	42				

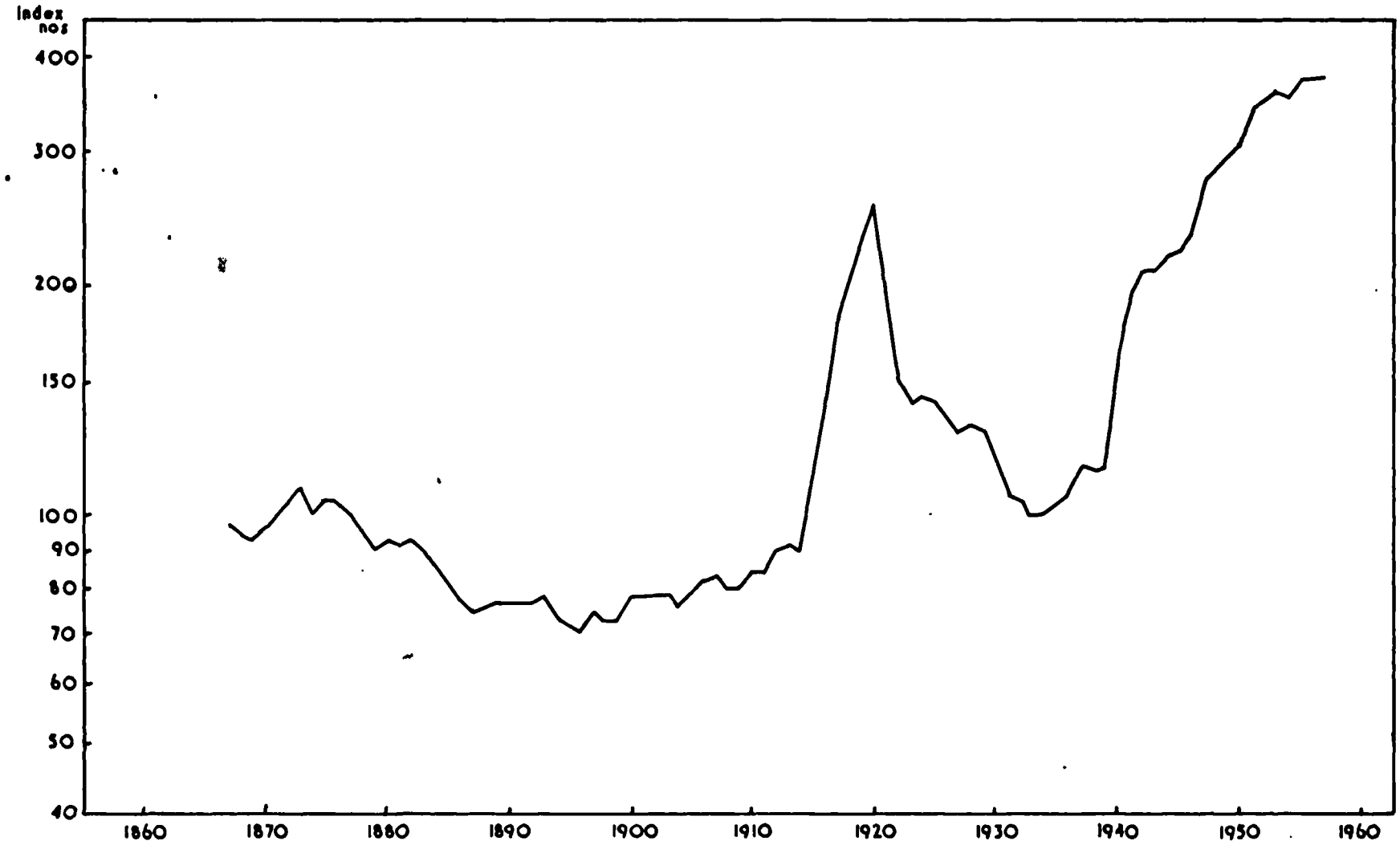
All index numbers, 1867-76= 100.

Table 28. Index Numbers of Product Prices, Rents and Farm Sale Prices, 1939-1957.

Year	Product prices	Rent	Sale price	
			Vacant possession	Without possession
1939	115	76		
1940	159	75	64	46
1941	192	77	75	50
1942	206	78	83	54
1943	209	81	87	58
1944	216	87	98	58
1945	221	88	110	62
1946	233	91	125	69
1947	271	91	137	73
1948	280	94	152	79
1949	292	97	164	83
1950	303	103	166	83
1951	333	106	164	81
1952	344	111	162	81
1953	351	116	162	87
1954	348	124	158	89
1955	368	131	158	94
1956	369	138	164	102
1957	358	145		

All index numbers, 1867-76 = 100.

Chart 5. Farm Product Prices, 1857 - 1957.

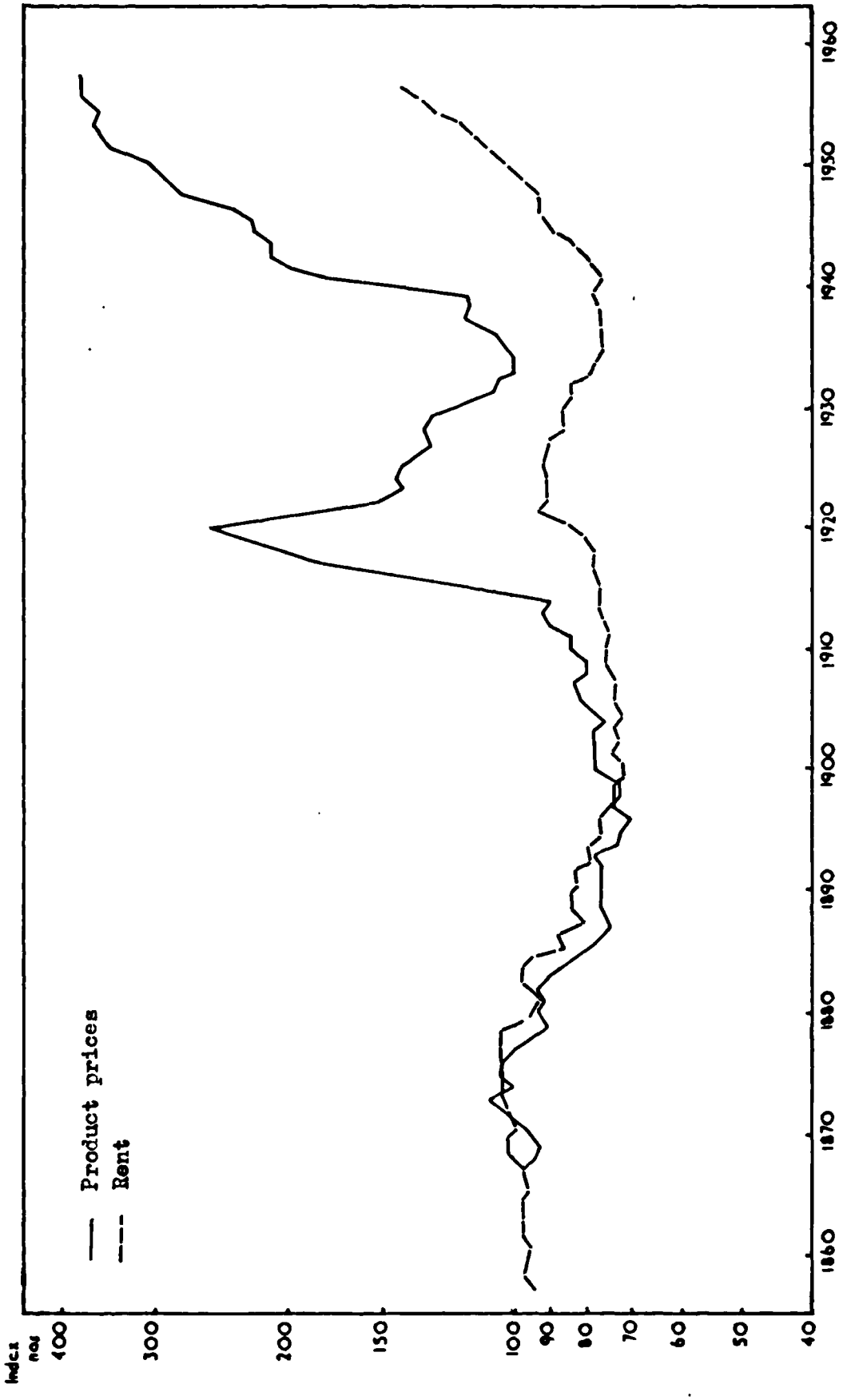


of farm rents and of sale prices in the tables and the comparison is illustrated graphically in Charts 6 and 7. A summary of the comparative movements of the indexes is given in Table 29. A close relationship between the movements of the three variables was observed. After allowing for a slight lag of land values behind product prices, it was evident that rents and sale prices rose whenever product prices rose and fell whenever they fell. This relationship was most obvious during periods of rapid changes, such as the depression of 1875 to 1895, or the inflationary period from 1939 to 1951, but it was also evident when the movement of prices was less dramatic, as in the mid 1920's and mid 1930's, or during the early 1880's when a slight recovery in product prices had a noticeable effect upon the tone of the property market. This close similarity between the trends of product prices and of farm rents and sale prices, confirmed the relationships that would be expected between them on theoretical grounds, and led to the conclusion that, throughout the period under review, product prices were a basic causal factor determining property values.

The lag of land values behind product prices.

Another point which was brought out by the comparison of the time series was the tendency of both rent and sale prices to lag behind movement in product prices. In order to determine the extent of these lags, a comparison was made of the major turning points in the three series. The results of this comparison are set out in Table 30.

Chart 6. Farm Rents and Product Prices, 1857 - 1957.



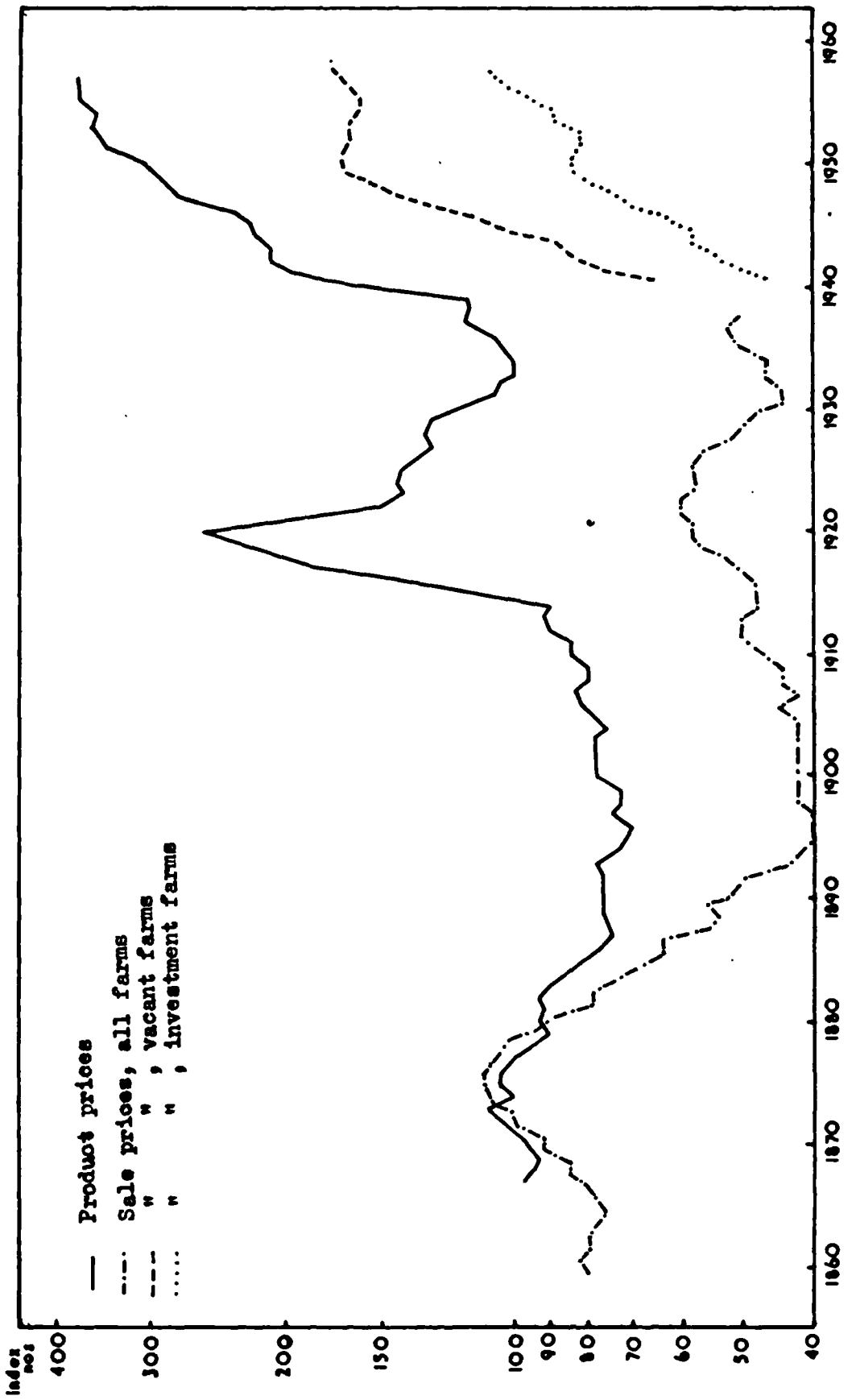


Chart 7. Farm Sale Prices and Product Prices, 1857 - 1957.

Table 29. Comparative Trends in Product Prices, Rents and Farm Sale Prices.

	Product prices		Rents		Farm sale prices
1867-73	rising slowly	1867-78	rising slowly	1867-76	rising
1874-96	falling rapidly, slight recovery in early 80's	1879-99	falling rapidly, slight recovery in early 80's	1877-95	falling rapidly, slight recovery in early 80's
1897-1914	rising slowly	1900-1917	stable, then slow rise	1896-1916	no marked trend, then slight improvement
1915-20	rising rapidly	1918-21	sharp rise	1917-20	rising rapidly
1921-23	a severe fall	1922-27	break, then stable	1921-28	break, then more stable before easing
1924-28	a more gradual fall				
1929-33	a further severe fall	1928-33	falling	1929-33	falling rapidly
1934-39	gradual recovery	1934-40	stable	1934-39	slow recovery
1940-53	rising steeply, two phases, wartime and 1947-53	1941-56	steady but slow increase	1940-51	rising steeply, with pause at end of war
1953-58	more stable	1957-	a more rapid rise	1952-57	no marked trend
				1958	a renewed rise

Discussing rents first, out of the seven occasions in which distinct changes in trend in product prices and rents were recorded:

rents lagged three years, on three occasions,

rents lagged one year, on two occasions,

there was no lag on one occasion,

and rents preceeded product prices on one occasion.

A study of the years in which these lags occurred showed that before the First World War rents lagged some three years behind product prices, whereas afterwards they appeared to move within a year of a change in prices. The longer lag before the turn of the century was probably partly due to the greater use of long leases, while during the First World War it could be explained by the legal restrictions imposed upon increases in rent and the changed social attitude to landownership.[1]

Table 30. Turning Points in the Time Series of Product Prices, Rents and Farm Sale Prices.

Product prices	Rents	Lag in years	Sale prices	Lag in years
Major up turns				
1897	1900	3	1896	- 1
1915	1918	3	1917	2
1934	1934	-	1934	-
1940	1941	1	1940	-
1947			1947	
			1958	
Major down turns				
1874 (6) [2]	1879	3	1877	1
1921	1922	1	1921	-
1929	1928	- 1	1929	-

1. See Chapter 12.
2. Product prices fell in 1874 but revived in the following year before breaking in 1876 at the beginning of a long period of falling prices.

The summary also showed that out of the eight occasions in which comparable trends in sale prices and product prices were initiated;

both series moved in the same year, on four occasions,

product prices led sale prices, on two occasions,

product prices followed sale prices, on one occasion.

Once again, these differences can be partly explained by considering the periods during which they occurred. Before the 1920's, product prices tended to lead sale prices; the former broke three years earlier in the 1870's and they rose soon after the outbreak of the Second World War, whereas sale prices fell during the early years of the war and did not begin to go ahead again until 1917. On the other hand, sale prices began to improve in 1896, a year before product prices.

Following the break in prices after the First World War, sale prices tended to move in the same years as product prices. This may be partly attributed to the effect of government intervention into what had formerly been a free market. With the development of state assistance to agriculture, initially in the form of subsidies and subsequently of guaranteed prices and assured markets, the tone of the market became increasingly sensitive to government policy. It would seem that changes in prices following policy decisions made an impact upon the property market earlier than those which had formerly resulted from the operation of free market forces.

In order to analyse the relationship between product prices and land values in more detail, values of the variables were plotted on scatter diagrams. The relationship between product prices and rents is shown in Charts 8 and 9, and that between product prices and farm sale prices in Charts 10 and 11. Convenience of scale made it necessary to use two diagrams, covering the periods 1867 to 1949 and 1940 to 1957 in each case. The overlap of the 1940's ensured a measure of continuity between the diagrams.

The striking feature of the diagrams was the clear indication that the relationships between produce prices and rents, and between product prices and farm sale prices, were not constant, but underwent a series of changes during the years under review. The grouping of the years in the scatter diagrams suggested that these relationships were well defined, and fairly constant, during the major trend periods, i.e. 1867-96, 1897-1914, 1915-21, 1922-32, 1933-39, 1940-51, 1952-57, but that the major changes in trend which occurred between these periods also resulted in changes in the underlying relationships.

This conclusion has an important bearing on the method of analysis used in this study. It was pointed out in Chapter 1 that Low[1] made a correlation analysis of farm sale prices and produce prices in

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1. H.B. Low, "Land Prices and Land Valuation in New Zealand". Unpublished Ph.D. thesis, University of London, 1951.

Chart 8. Farm Product Prices and Rents, 1867 - 1949

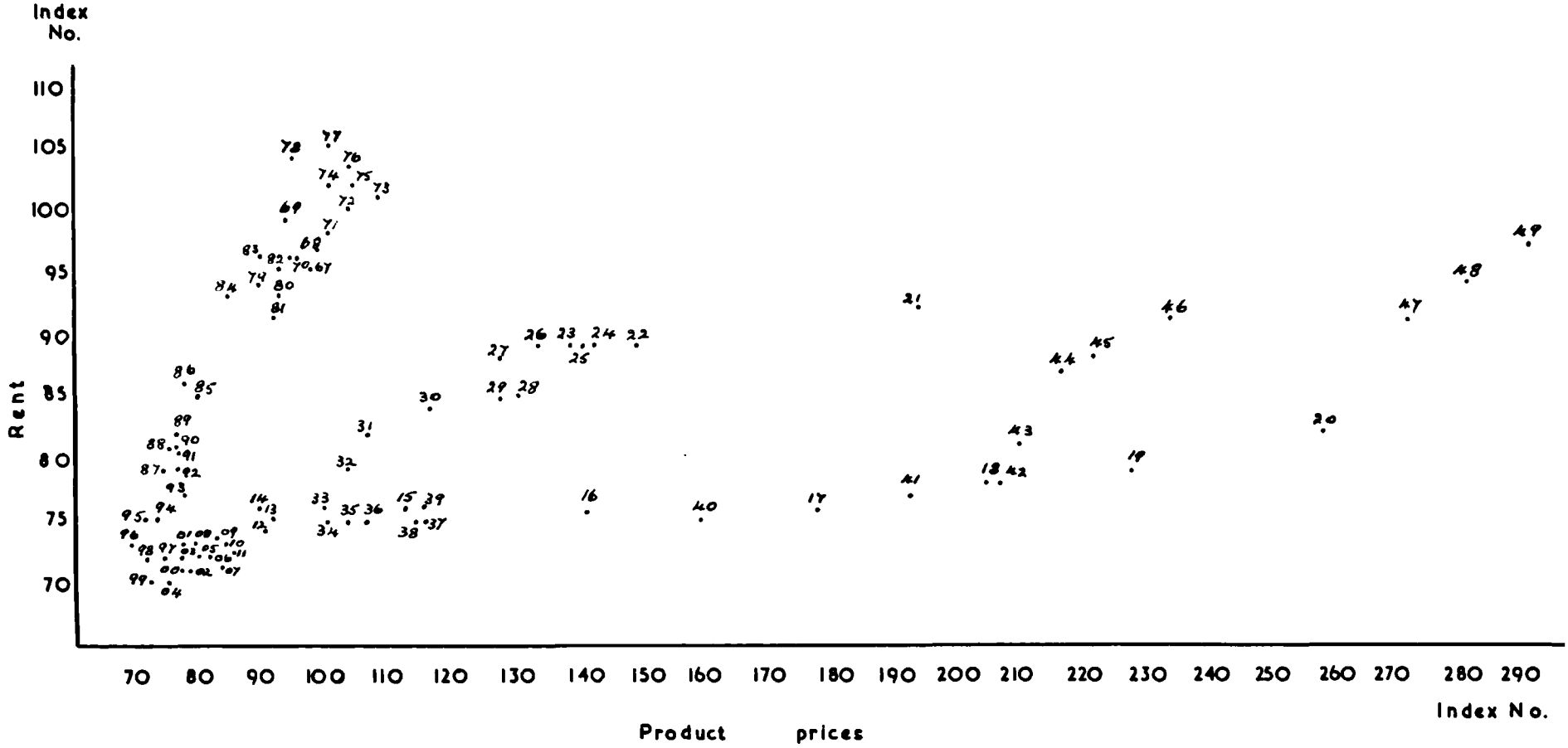


Chart 9. Farm Product Prices and Rents, 1939 - 1957.

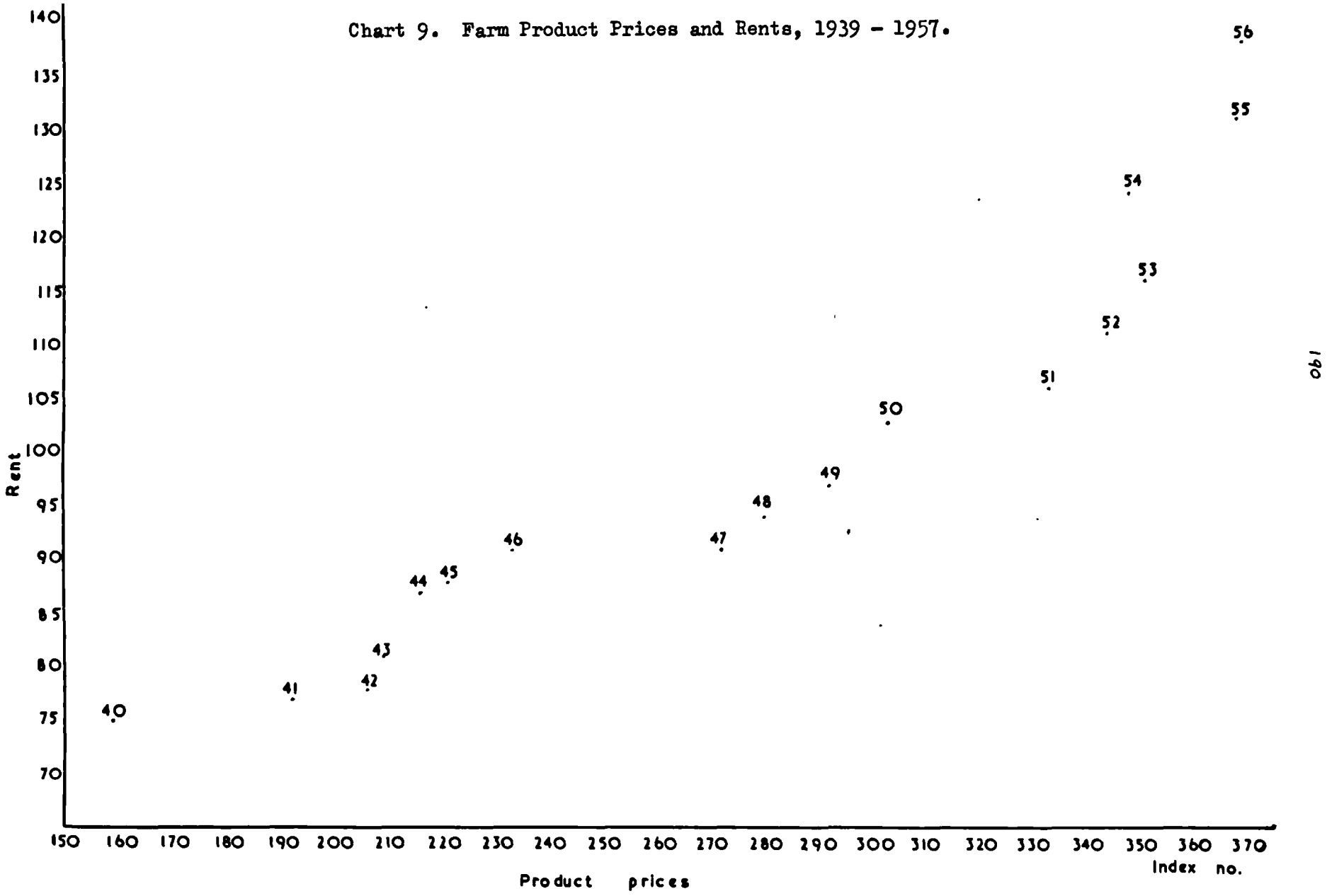
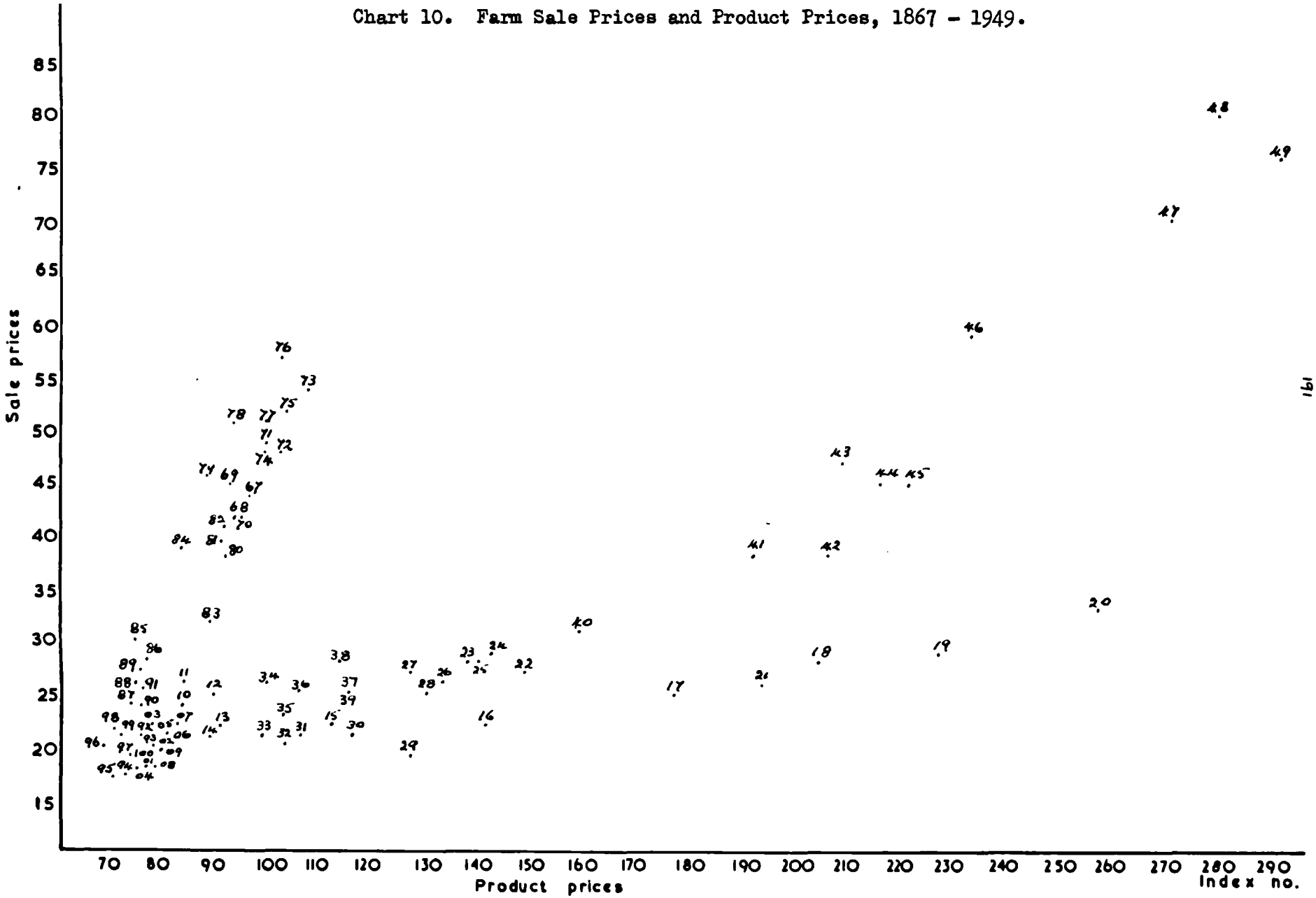
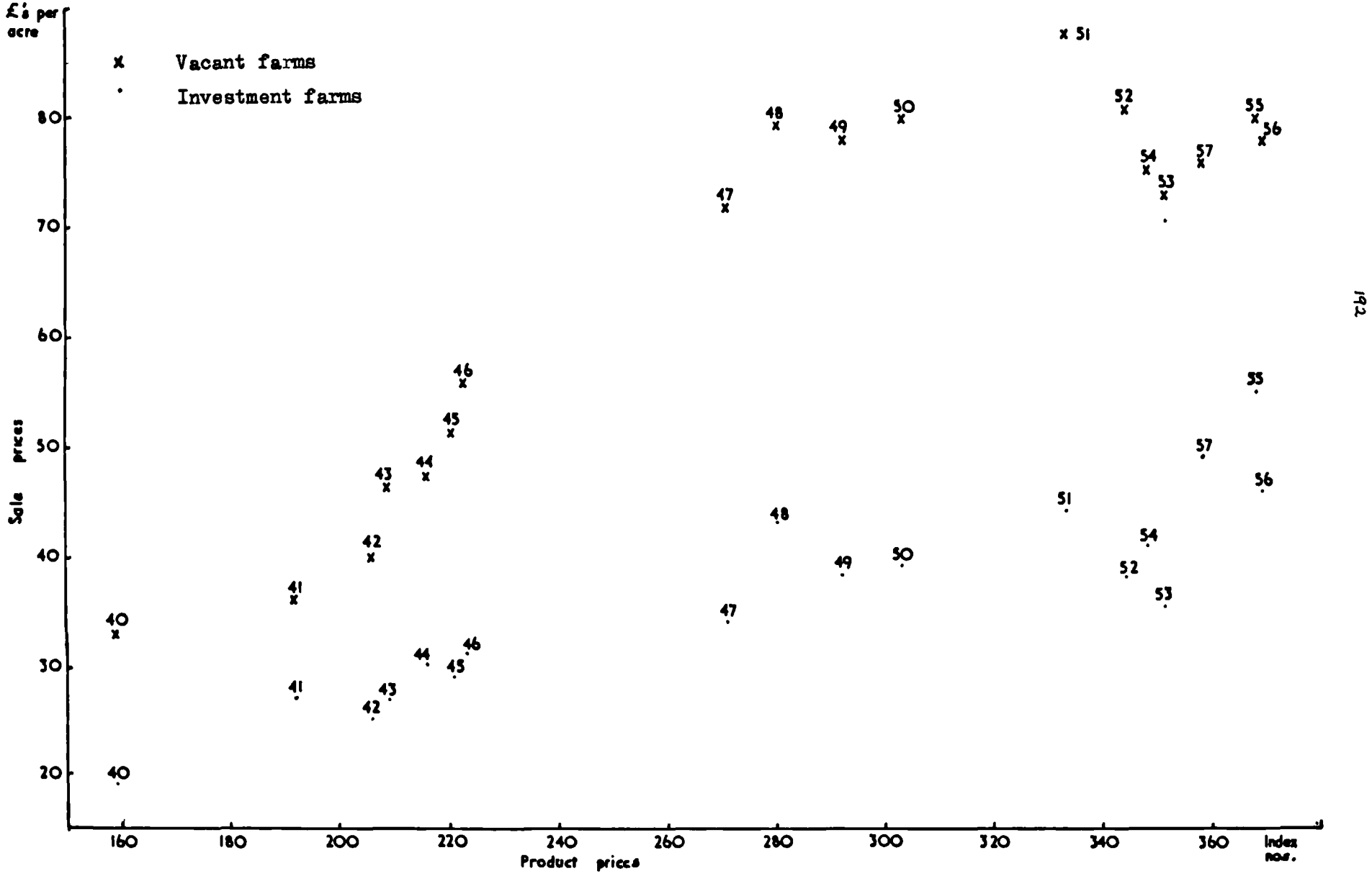


Chart 10. Farm Sale Prices and Product Prices, 1867 - 1949.




£'s per acre
Vacant farms
Investment farms
Sale prices
Product prices
Index nos.
1912
20
30
40
50
60
70
80
160
180
200
220
240
260
280
300
320
340
360

England and Wales for the inter war years and found that prices received during the current year and the previous year accounted for only 29 per cent of the variation in land prices. Low considered that the extension of this analysis over a longer period, such as is now available, would probably result in a higher coefficient of correlation. The nature of the scatter diagrams, however, show that this would not be the case, and that the changes inthe relationship would invalidate any such analysis over the whole period.[1]

The changes in the relationships from one period to another could be analysed in terms of the differing responses of rents and of sale prices to changes in product prices in each of the periods. Such an analysis required some consideration of relative magnitude of change as well as directions of change. In view of the nature of the material upon which the series of land values were based the conclusions must therefore be regarded with some reserve.

The movements of rents and of sale prices in relation to those of product prices are shown in Charts 12, 13, 14 and 15. In order to bring out the relationships more clearly different base periods were used in each chart.

Rents lagged behind the fall in product prices in the depression which extended over the last quarter of the 19th Century (Chart 12A),

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1. It was pointed out in Chapter 8 that changes in basic relationships present a major obstacle to the correlation of time series.

and then rose more slowly during the recovery up to the outbreak of the First World War (Chart 12B). During the war time inflation of prices they lagged behind product prices (Chart 13A) and this divergence was only partly narrowed again during the inter war years, when rents held up well in face of the severe fall in product prices. During the Second World War, rents once again lagged behind product prices (Chart 13B)[1].

The trend in capital values followed a different course. Sale prices fell heavily during the depression of the 1870's and 1880's and by the turn of the century were probably some 60 per cent below their level in 1875. This compared with a fall in product prices of approximately 30 per cent (Chart 14A). In the following years, sale prices appeared to improve along with the gradual recovery of product prices (Chart 14B) but they fell behind again during the war time and post war inflation (Chart 15A). From 1922 onwards there appeared to be a close correlation between the movement of farm sale prices and product prices (Chart 15B). This extended throughout the interwar period and, in the case of farms sold with vacant possession, continued after 1939. The value of investment farms, however, fell behind during the Second World War, and there was still a notable disparity in the late 1950's.

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1. The reasons for these lags are discussed in Chapter 12.

Chart 12. Farm Product Prices and Rents, A) 1875-95, B) 1900-14.

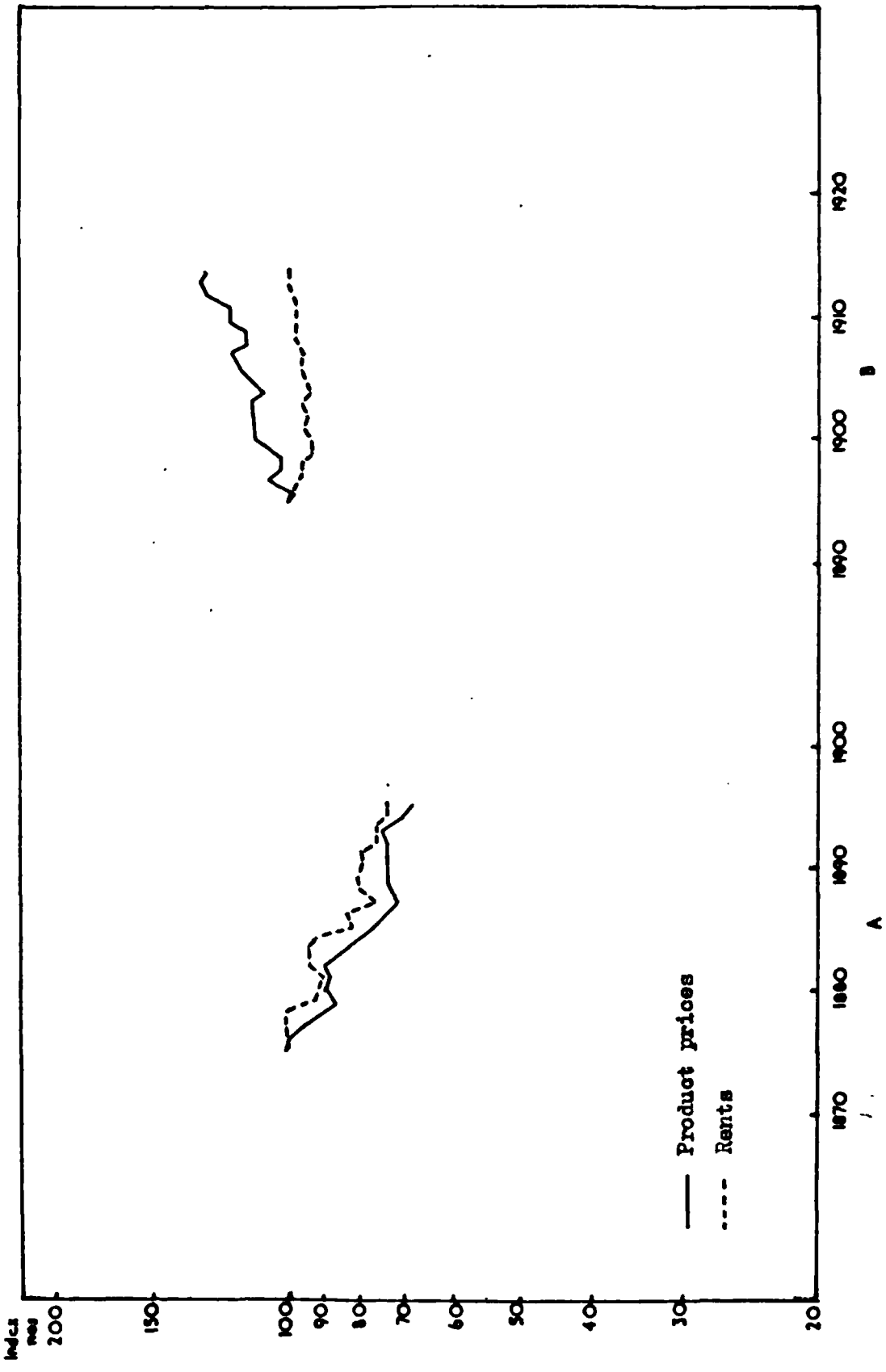


Chart 13. Farm Product Prices and Rents, A) 1915-21, B) 1922-38.

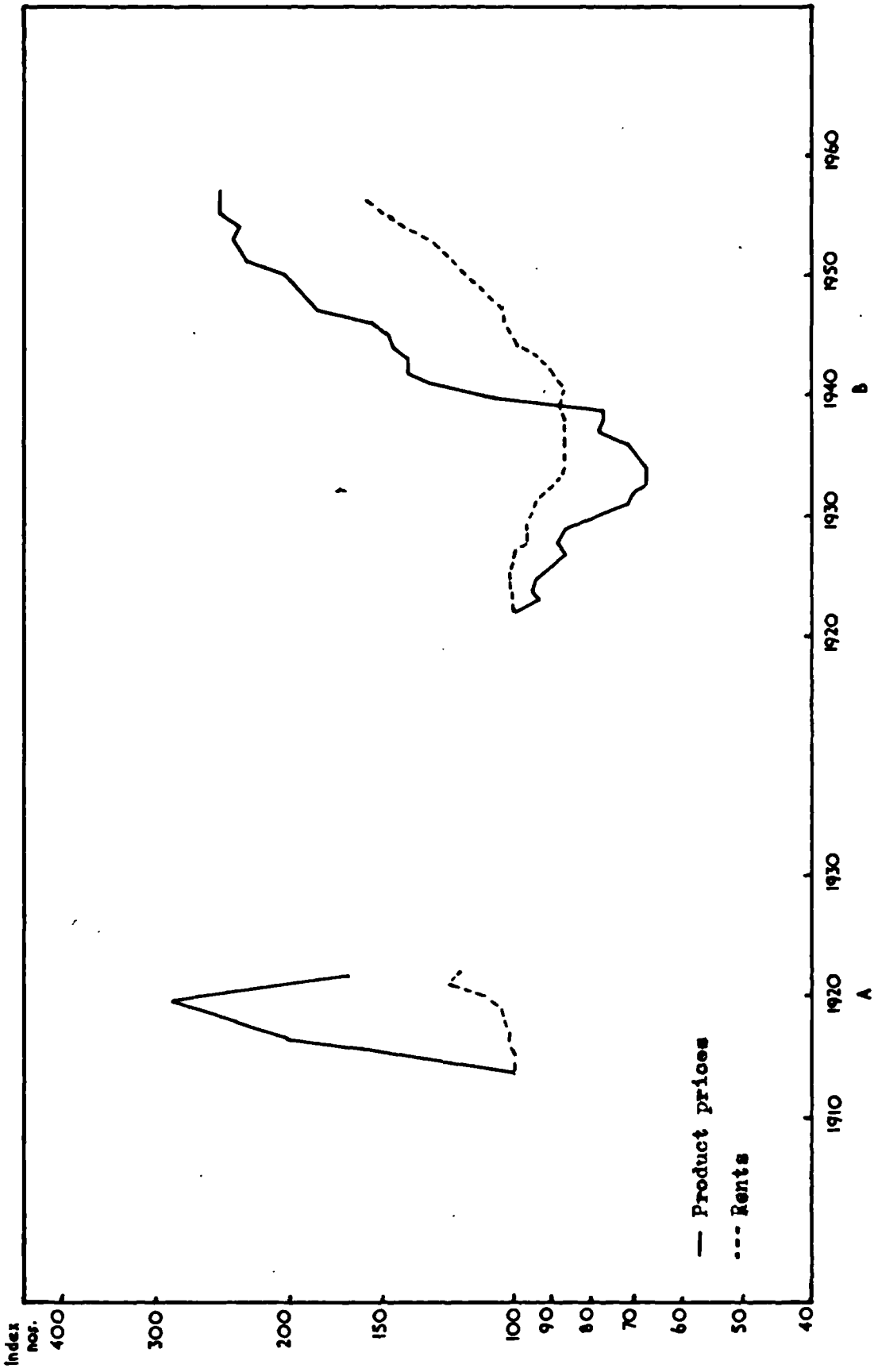


Chart 14. Farm Sale Prices and Product Prices, A) 1875-95, B)1900-14.

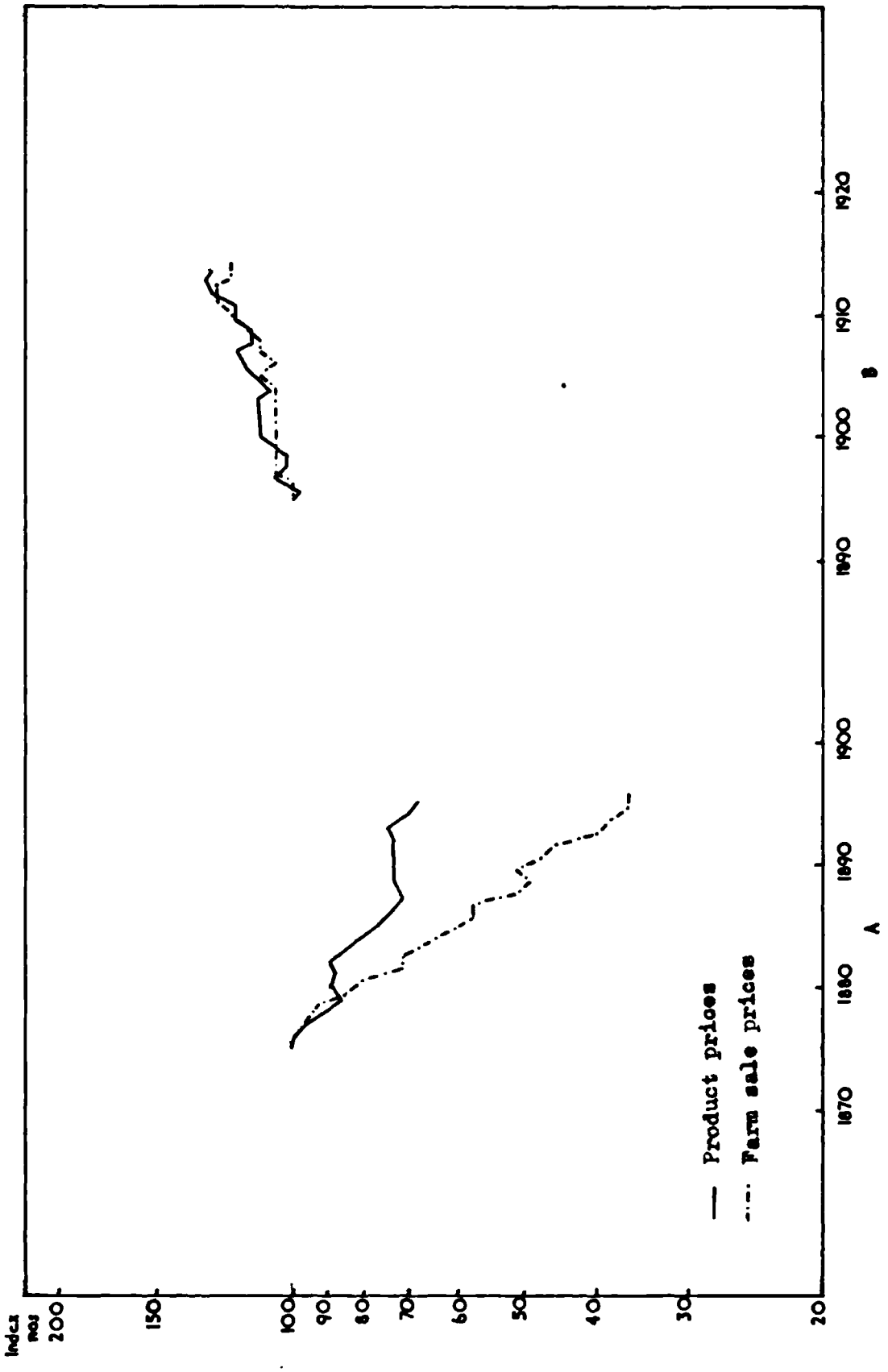
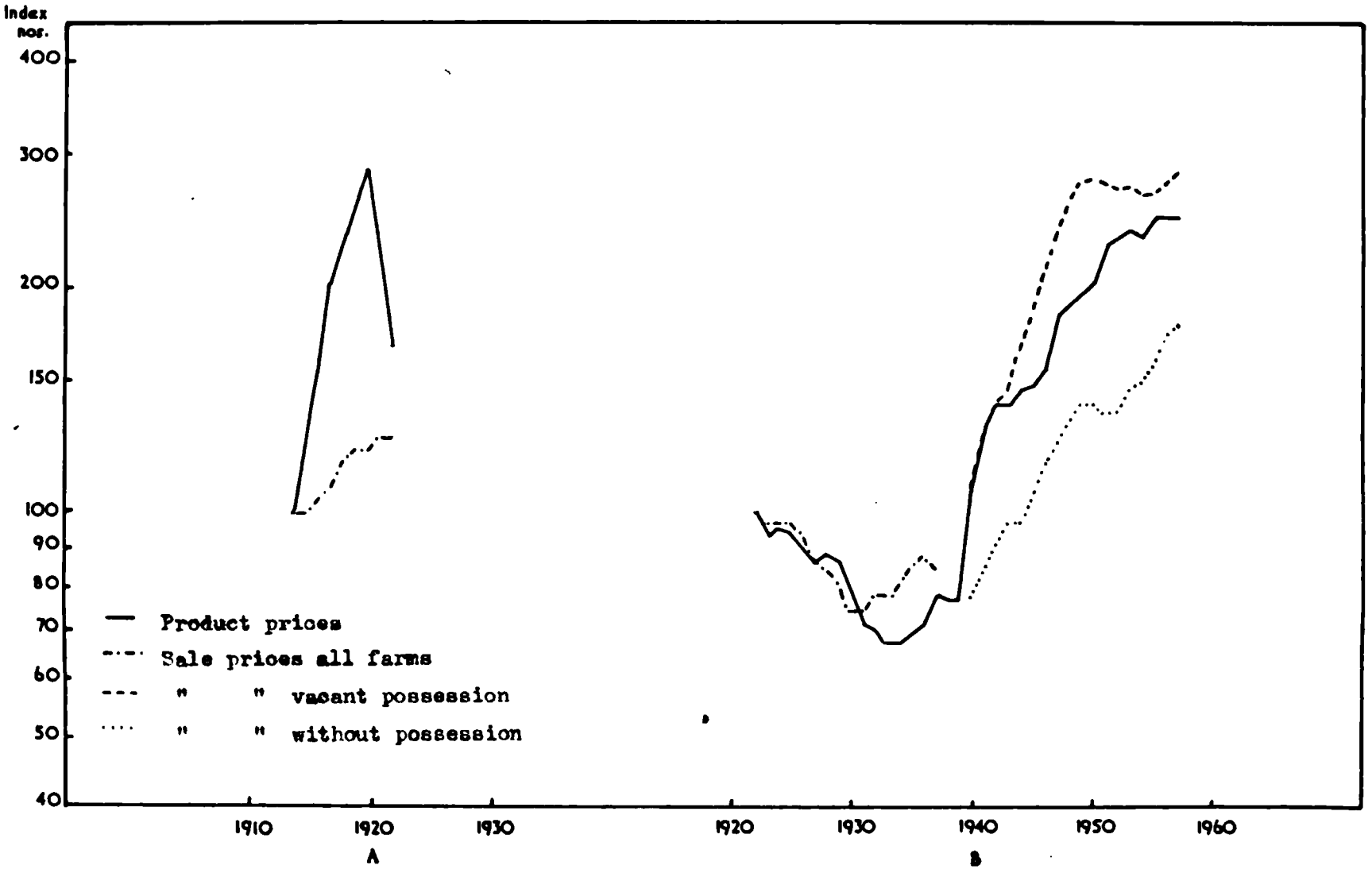


Chart 15. Farm Sale Prices and Product Prices, A) 1915-21, B) 1922-58.



The causes of the changes in relationship between product prices and rents, and between product prices and capital values, might be attributed partly to changes in farm costs and partly to the influence of other factors, including social and political, as well as economic ones. The relationships between land values and the major farm costs are analysed in the rest of this chapter, while the effects of other factors are discussed in the following chapters.

Land values and farm costs

Part of the disparity between the magnitude of movement of product prices and of farm sale price, and also of the change in relationship between these variables over time, may be attributed to changes in the costs of inputs. It is evident that farm profits, and therefore the demand for farms, will depend not only upon the prices at which output is sold, but also upon the costs incurred in production. It was therefore decided to see whether any relationship could be discovered between sale prices and rents, and the major farm costs. Information was available on changes in the price of three major items, labour, feedingstuffs and fertilizers.

Wages

A continuous series of the average weekly wage for an adult farm worker in England and Wales was available from 1919 onwards.[1] It was

1. Source, Ministry of Labour, quoted periodically by The Farm Economist in Notes and Statistics.

easier to obtain data on wages for this period because from 1917 to 1921, and from 1924 onwards, wages were determined by the Agricultural Wages Board. Before 1917 they were the result of the free operation of supply and demand in the labour market and information on them is less complete. It was, however, possible to obtain figures of the average weekly wage rate for a number of years going back to 1860 from a variety of sources, and, by combining these with the later series, to show the general movement of agricultural wages over the period 1860-1958, and also to calculate index numbers based on 1867-71 = 100. The weekly wages and index numbers are given in Table 31 and illustrated in Chart 16.

These data illustrate the substantial rise that occurred in agricultural wages over these years. By 1958 they were more than twelve times as high as in the base period. The increase was relatively slow up to the outbreak of the First World War, but wages then rose rapidly until 1921, only to fall back considerably with the break in product prices and the return to a free labour market in 1922 and 1923. With the re-introduction of the Agricultural Wages Board in 1924, however, they become more stablised and even rose slightly during the remaining inter war years. Further substantial gains were made from the beginning of the Second World War, and wages continued to rise throughout the post war period.

Table 31. The Average Weekly Wage of an Agricultural Worker in England and Wales, 1860-1958.

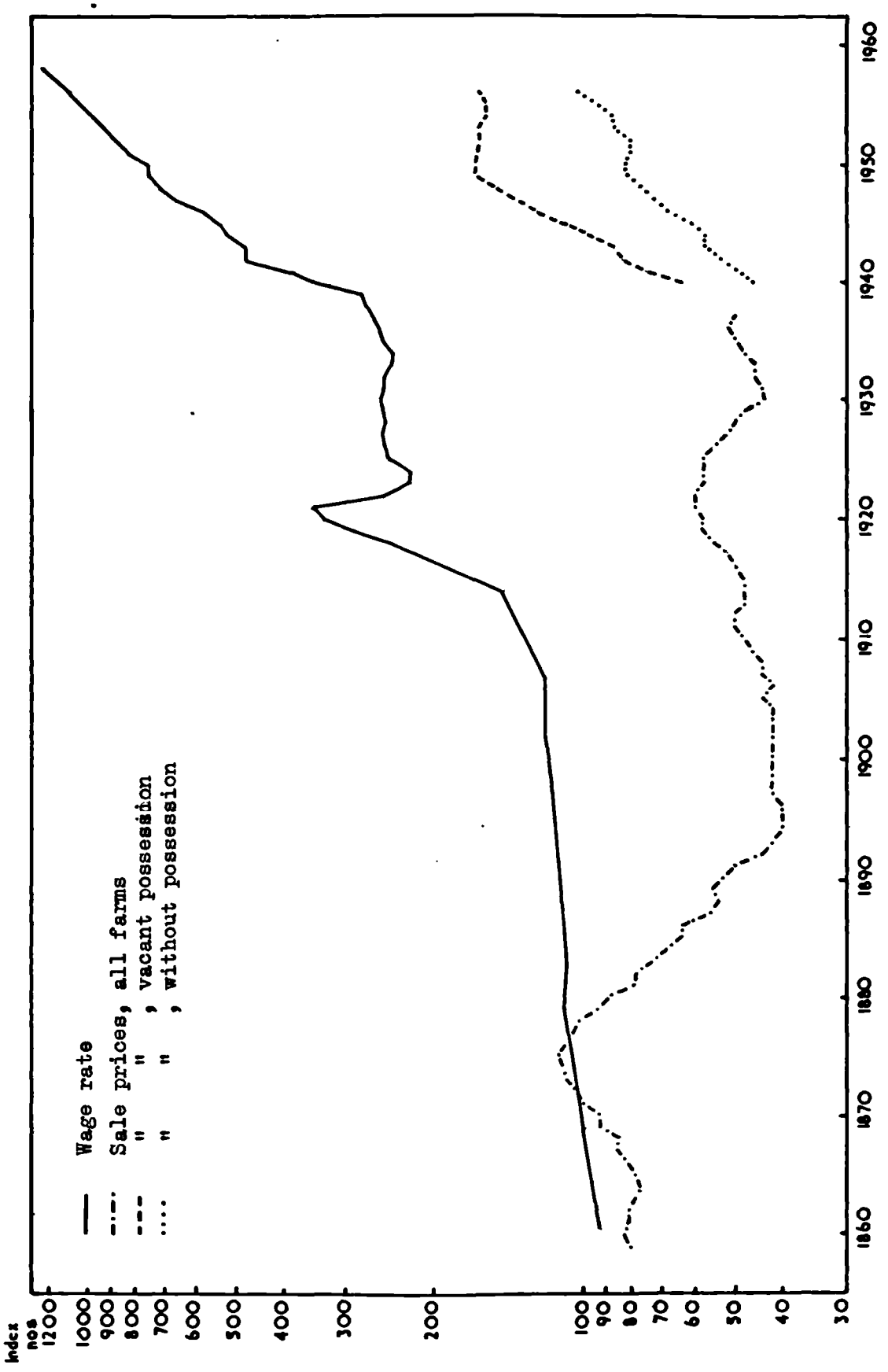
Years	Weekly Wage s	d	Index nos.	Years	Weekly Wage s	d	Index nos.	Years	Weekly Wage s	d	Index nos.
1860-61	11	7	93	1919	36	6	294	1939	34	11	281
				1920	41	11	338	1940	43	0	347
1867-71	12	5	100	1921	43	9	353	1941	49	4	397
				1922	31	4	252	1942	59	11	483
1879	13	9	108	1923	27	11	225	1943	60	6	488
				1924	27	11	225	1944	65	0	524
1892-93	13	4	107	1925	30	11	249	1945	69	1	558
				1926	31	4	252	1946	74	4	596
1898	14	5	116	1927	31	6	254	1947	83	4	671
				1928	31	4	252	1948	90	0	725
1902	14	8	118								
				1929	31	8	256	1949	93	2	751
1907	14	11	120	1930	31	11	257	1950	94	10	764
				1931	31	8	256	1951	101	6	818
1914	18	0	145	1932	31	4	252	1952	109	10	885
				1933	30	9	248	1953	115	6	931
1918	30	6	246	1934	30	7	247	1954	120	0	967
				1935	31	8	256	1955	126	8	1021
				1936	32	2	260	1956	136	1	1097
				1937	33	4	268	1957	142	6	1149
				1938	34	7	279	1958	151	6	1216

Index numbers, 1867-71 = 100.

Sources

1860-61 and 1869	"Returns of Agricultural Wages 1860-61 and 1869" Hasbach, English Agricultural Labourer
1869	Ibid.
1879-81	Little, Royal Commission on Labour. "The Agricultural Labourer," Vol. 5, Pt. 1, 1894.
1898	Wilson Fox, "First Report on Wages, Earnings and Conditions of the Agricultural Labourer, 1898."
1902, 1907, 1914 and 1918	C.S. Orwin and B.I. Felton, "A Century of Wages and Earnings in Agriculture", Jour. Royal Agricultural Society of England, Vol. 92, 1931.
1919 onwards	For collation of this material see Orwin and Felton, ibid. The Farm Economist.

Chart 16. Farm Sale Prices and the Agricultural Wage Rate, 1857-1958.



A comparison of the trend in wages with that of sale prices (Chart 16) showed that while the former increased more rapidly when land values were rising, as from 1939 to 1951, they maintained their gains, and even continued to rise, when rents and sale prices were falling. The only exceptions to this were in 1922 and 1923, when wages suffered from the sharp break in product prices and, to a lesser extent, in 1933 and 1934 when they eased slightly during the general depression.

It may be concluded from this general comparison that the substantial, and almost continuous, increase in wage rates over the last hundred years exerted a negative effect upon land values. That is to say, it probably prevented rents and sale prices rising more rapidly during periods of prosperity and depressed them further in adverisity.[1] This factor is likely to have been of greater significance for the larger farms, especially arable ones, employing hired labour, than for the family farms on which wages are not a cash outgoing.[2]

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1. Property market reports referred to the increase in wages during the First World War as restraining the demand for farms, while the reduction in wages in the early twenties was said to be one factor accounting for the relative resilience of rents and sale prices to the heavy fall in product prices.

2. The increase in wage rates has not been synonomous with that in the wages bill because of the decline in the number of agricultural workers over this period. For changes in the wages bill, see J.R. Bellerby "Distribution of Farm Income in the United Kingdom, 1867-1938" Journal of Agricultural Economics Society, Vol. X, No. 2, pp. 127-144.

In general, however, the secular increase in wage rates has probably been one element contributing to the relative decline in land values over the last century.[1]

Feedingstuffs and Fertilizers

It was found possible to compile index numbers showing changes in the prices of two major farm requisites, feedingstuffs and fertilizers, over the period 1911/13 to 1958 but comparative information was not available prior to 1911. From 1911/13 to 1939 official indices were published by the Ministry of Agriculture, in Agricultural Statistics, showing changes in the prices of the component items in each of these groups and also a general index for both feedingstuffs and fertilizers. The original series were broken in 1939. From that year onwards only the component indices were published, although a general index for fertilizers, but not for feedingstuffs, was reintroduced in 1950. The series were also re-based for this latter period; the fertilizer indices being based on 1937-38, and the feedingstuffs indices on 1938.

In the absence of official general index numbers from 1939 onwards, it was decided to compile group indices for fertilizers and for feedingstuffs. These were calculated as unweighed arithmetic averages of the price relatives of the component items in each group.[2] (A comparison

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1. See Chapter 11.

2. The price relatives used were for the following items; for fertilizers, nitrate of soda, basic slag, super phosphate, sulphate of ammonia; for feedingstuffs, bran (British), wheatings (middlings coarse), barley meal, maize meal, linseed oilcake, cottonseed (Egyptian). The annual price relatives for each of these items were provided by courtesy of the Economics Section, and the Wholesale Prices Indices Section of the Ministry of Agriculture, Fisheries and Food.

Table 32. Changes in the Prices of Feedingstuffs, Fertilizers, Agricultural Products and Land Values, 1911/13 - 1939.

Year	Feeding stuffs	Fertilizers	Product prices	Sale prices	Rents
	Index no.	Index no.	Index no.	Index no.	Index no.
1911-13	100	100	100	100	100
1914	100	98	101	88	103
1915	137	115	127	96	103
1916	187	156	160	92	103
1917	274	196	201	104	103
1918	287	211	232	118	105
1919	268	215	258	122	106
1920	273	259	292	138	111
1921	181	220	219	108	124
1922	146	147	169	112	120
1923	138	130	157	118	120
1924	154	119	161	122	120
1925	152	114	159	116	120
1926	125	113	151	108	120
1927	139	110	144	112	119
1928	154	98	148	104	115
1929	139	100	144	80	115
1930	96	101	132	88	114
1931	83	96	120	88	111
1932	95	90	117	84	107
1933	85	90	113	88	103
1934	91	89	114	108	101
1935	87	87	117	96	101
1936	93	88	120	104	103
1937	120	92	131	104	101
1938	113	92	130	104	101
1939	98	94	131	96	103

All index numbers, 1911-13 = 100.

Table 33. Changes in the Prices of Feedingstuffs, Fertilizers, Agricultural Products and Land Values, 1939-1958.

Year	Feedingstuffs	Fertilizers	Product prices	Sale prices		Rents
				Vacant	Investment	
	Index no.	Index no.	Index no.	Index no.	Index no.	Index no.
1939	98	95	131	104	80	103
1940	145	119	180	138	80	101
1941	162	124	217	154	112	104
1942	162	125	233	163	104	105
1943	164	125	236	200	112	109
1944	164	125	244	188	126	117
1945	164	125	250	220	122	119
1946	164	126	263	238	130	123
1947	167	128	306	308	142	123
1948	173	129	316	328	180	127
1949	267	129	330	316	178	131
1950	359	163	342	332	164	139
1951	426	230	376	366	184	143
1952	441	266	389	316	158	150
1953	444	250	397	304	146	157
1954	429	250	393	312	172	167
1955	479	265	416	332	216	177
1956	476	287	417	324	192	186
1957	421	291	405	316	204	196
1958	406	291		356	212	

of the calculated indices for fertilizers, with the official group indices for 1950 to 1958, showed them to be almost identical.) The resultant general indices were then linked to the original series with base period 1911/13 = 100. The general index numbers for fertilizers and feedingstuffs are shown in comparison with those of product prices, rents, and farm sale prices in Tables 32and 33. They are illustrated in relation to product prices in Chart 17, and to farm sale prices in Chart 18.

Study of the relative movements of these variables suggested a number of interesting relationships. During the First World War prices of feedingstuffs rose more quickly than those of farm products, although ultimately to about the same level, while those of fertilizers rose at the same time as, and slightly less than, product prices. These large increases in the prices of requisites, together with the increase in wages, must have offset, to a considerable extent, the rise in product prices, so that profits increased less than might otherwise have been expected. This appears to be at least a partial explanation of the lag of rents and of farm sale prices behind product prices during the years 1915 to 1921.

During the 1920's, prices of fertilizers, and, to a lesser extent, of feedingstuffs, fell more rapidly than product prices. (Wages also fell sharply before the re-introduction of the Agricultural Wages Board in 1924). Once again, this may partly explain why the property market

Chart 17. Farm Product Prices and the Prices of Fertilizers and Feedingstuffs, 1911/13 - 1957.

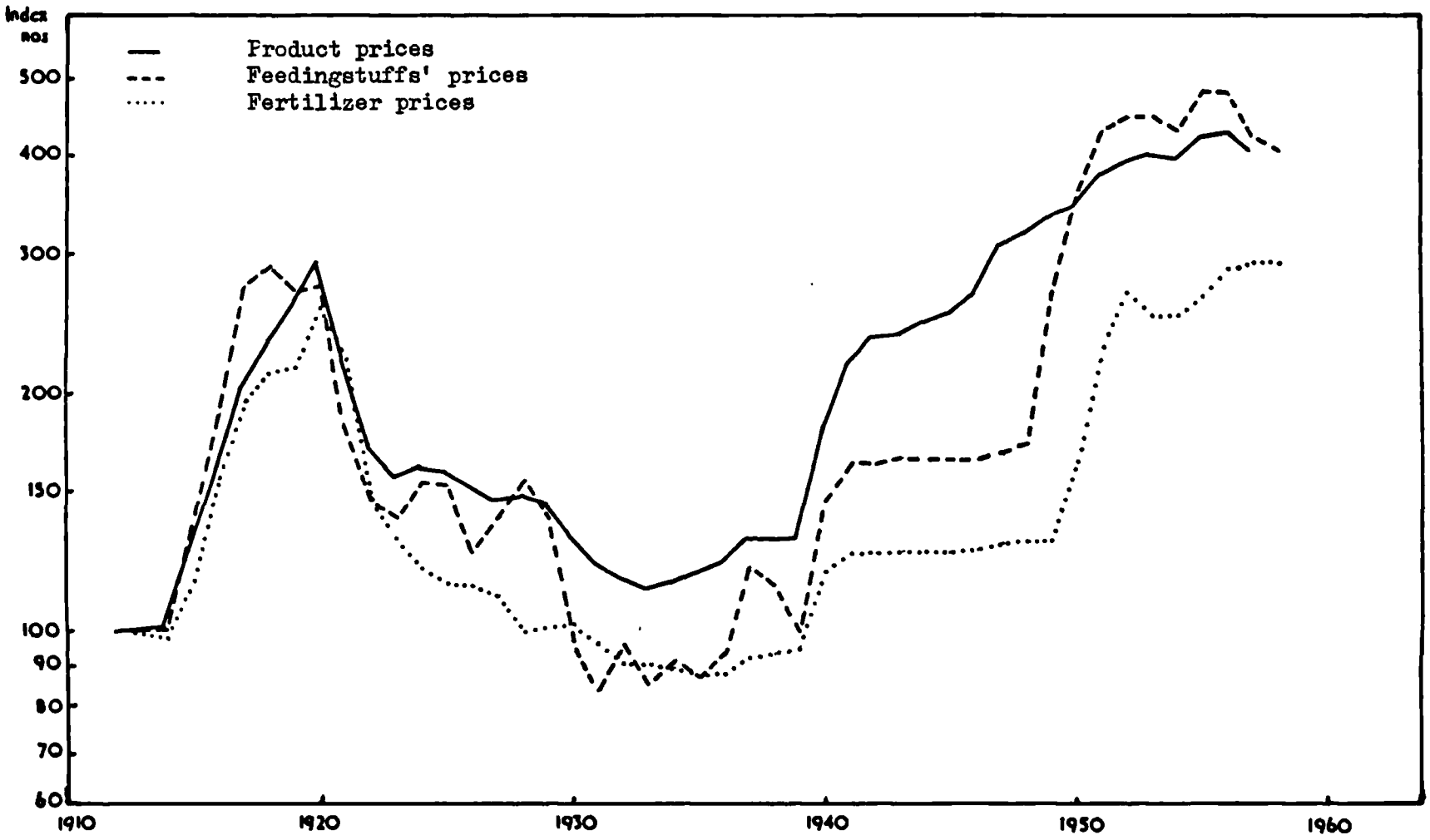
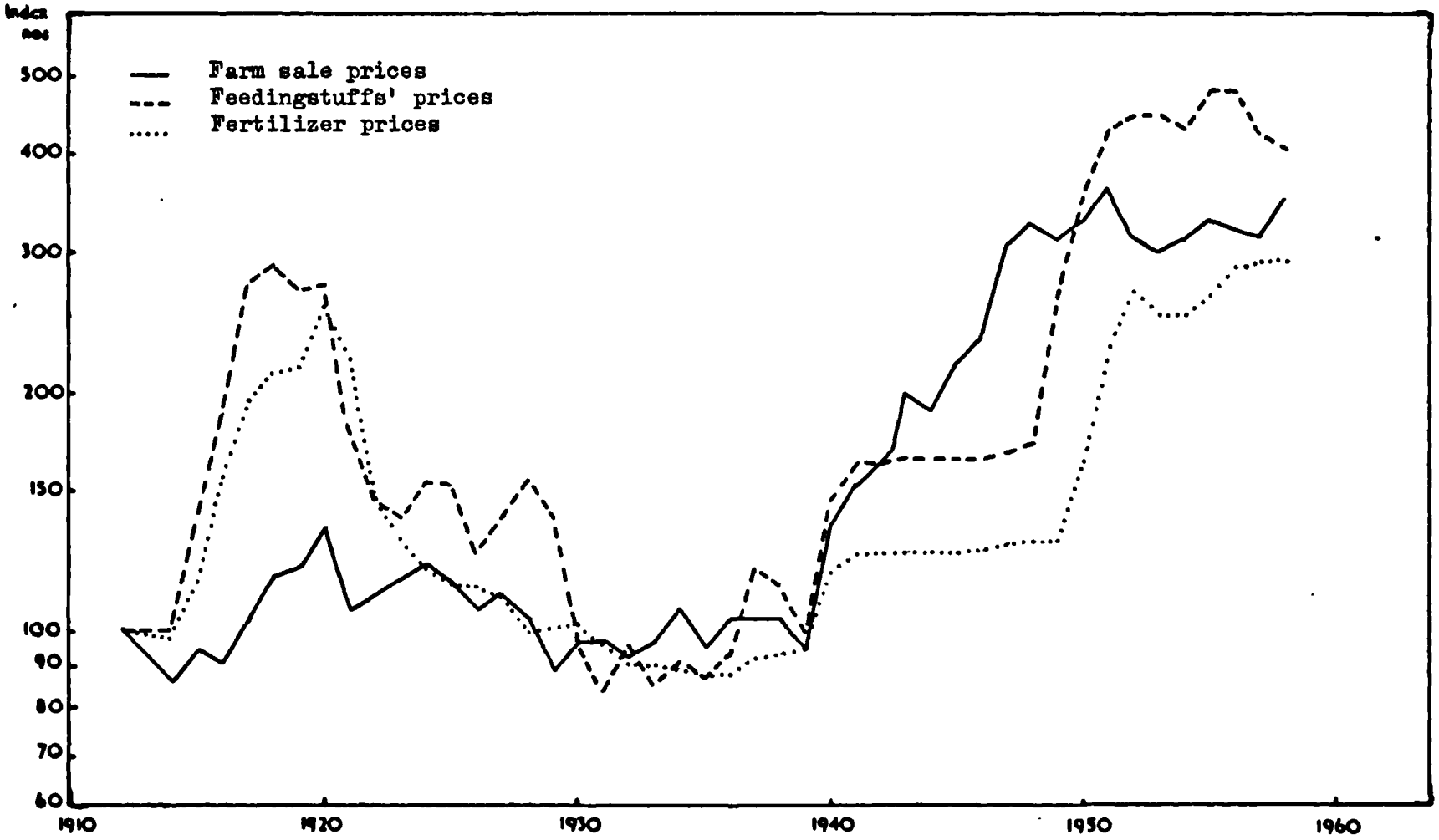


Chart 18. Farm Sale Prices and the Prices of Fertilizers and Feedingstuffs 1911/13 - 1957.



was relatively buoyant in the mid 1920's despite the downard drift of product prices.

During the first year of the Second World War prices of fertilizers and of feedingstuffs rose sharply but in the autumn of 1940 the government announced that they would be stabilised at their existing level irrespective of costs. As product prices were also controlled, but were raised very substantially, the trend of the prices the farmer received from his output diverged sharply from those of some of this major requirements. The resulting increase in profits was part of a deliberate policy designed to give a greater incentive to increase output and, at the same time, to provide the working capital necessary for that expansion.[1] Increased profits led to a strong demand for farms and, as Chart 18 shows, sale prices rose more rapidly than those of requisites. Rents did not increase at the same rate, but this could be attributed largely to other factors which are discussed in Chapter 12.

A similar relationship occurred during the early years of the post war expansion programme. Product prices were raised as an encouragement to further production and fertilizer and feedingstuffs prices were still controlled. Profits increased and sale prices rose rapidly once again. The price control on requisites was relaxed in

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1. Because of the large demand for fertilizers and feedingstuffs, at the controlled prices, was far in excess of the restricted supply, physical rationing of both requisites had to be introduced.

1949, and the price of feedingstuffs rose rapidly during that year and the two following years. Fertilizer prices followed a year later. It is significant that farm sale prices eased in 1949, although they recovered subsequently. Of more lasting importance, the continued increase in fertilizer and feedingstuffs prices, and also in wages, in the mid 1950's, led at first to a slackening of the rise in farm incomes, and then to a slight fall.

This analysis led to the conclusion that changes in farm costs, as exemplified by the prices of fertilizers and feedingstuffs, were an important contributory factor affecting farm sale prices. When such changes occurred at the same time, and to the same extent, as changes in product prices, they tended to offset the effect of the latter and so modified changes in land values. Conversely, when changes in costs lagged behind product prices, land values were more strongly affected.

During the war time and early post war years, the property market was strengthened by the introduction of the annual price reviews at which increases in farming costs were taken into account in determining product prices for subsequent years. Provision was also made for special reviews if there were substantial increases in costs within a year. The practice of granting full recoupment of costs during the earlier years meant that farming profits, and the property market

were largely isolated from the negative effect of rising costs throughout much of the 1940's. This was clearer in retrospect when the rise in costs in the 1950's was one factor leading to a fall in farm sale prices.

Land values and profits

Consideration of the influence of product prices and of costs upon property values emphasised the fact that the level of farm incomes, or profits, was the major factor determining the demand to purchase or lease farms. Unfortunately, it was not possible to analyse the relationship between profits and land values directly over the whole period under review because of the lack of information. Some data of this nature were, however, available from 1939 onwards. This information, which was obtained from the official estimates made by the Ministry of Agriculture, Fisheries and Food[1], related to the United Kingdom and no separate estimates were available for England and Wales. As a large proportion of the total agricultural output, and of farm incomes, of the United Kingdom is derived from England and Wales, it was assumed that the trend in farm incomes would be broadly similar for each of them. It is shown in comparison with the movement of farm product prices and of farm sale prices in Table 34 and

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1. Sources, Annual Reviews and Determination of Guarantees, K.A.H. Murray, "History of the Second World War - Agriculture", Appendix IX, and private communication from the Economics Section, Ministry of Agriculture, Fisheries and Food.

Chart 19.

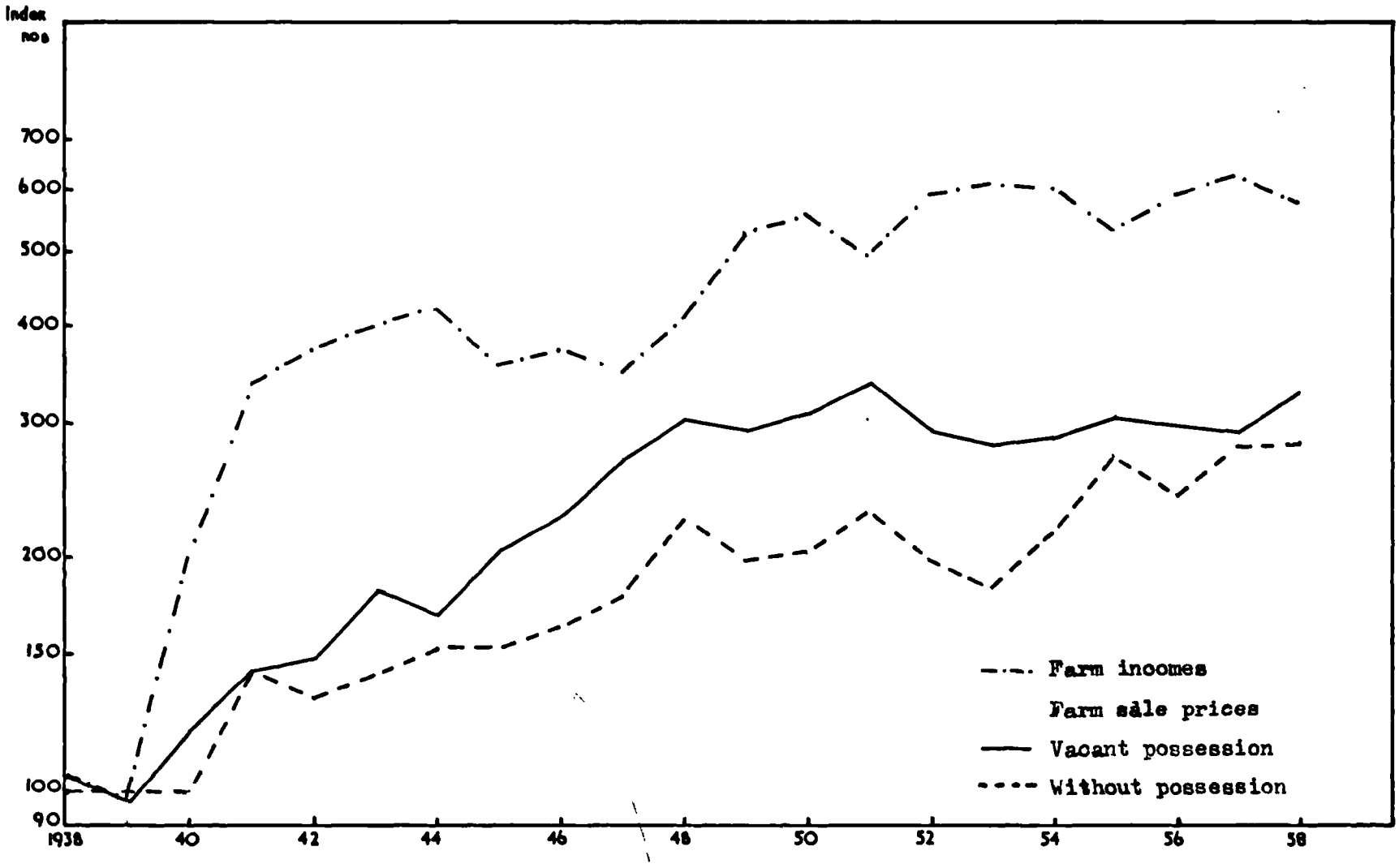
It was apparent that the general inflation which occurred from the outbreak of the Second World War resulted in a greater rise in farm incomes than in product prices. As has been seen, this was the result of government policy in the early war years, and again in the early post war years, which was designed to inject capital into the industry to facilitate the expansion of production required. A comparison of the trend of farm incomes with that of the capital value of farms sold without possession, indicated that incomes were, in fact, a major factor affecting property values. The sharp rise in incomes in the first year of the war resulted in a very strong demand for farms and a substantial though not proportionate, increase in sale prices. Both incomes and sale prices continued to rise throughout the war years. The check to incomes at the end of the war was accompanied by a similar check in the property market. The latter, however, rose rapidly again in 1947, whereas farm incomes showed no improvement, but this could be primarily attributed to the appalling weather conditions of that year which resulted in a great loss of output. The property market was apparently responding not to the prevailing level of incomes but to that anticipated under the expansion programme announced that year. This confidence was justified by the subsequent improvement of farm incomes up to 1950. Farm sale prices also improved, although there was a check in 1949.

Table 34. Changes in Farm Sale Prices, Product Prices and Farm Incomes, England and Wales, 1938-1956.

Year	Farm sale prices		Farm product prices	Net farm incomes
	Vacant possession Index no.	Without possession Index no.	Index no.	Index no.
1938	104	100	100	103
1939	96	100	100	97
1940	119	100	139	201
1941	142	142	167	338
1942	146	132	179	373
1943	181	142	182	401
1944	173	158	189	421
1945	204	153	192	356
1946	227	163	203	375
1947	270	179	236	350
1948	304	226	244	411
1949	293	200	254	533
1950	308	205	264	559
1951	339	231	290	495
1952	293	200	300	599
1953	281	184	306	617
1954	289	216	303	607
1955	308	274	320	539
1956	300	242	321	596
1957	292	258	309	
1958	331	268		

Index numbers, Net farm incomes, 1937/8 - 1938/9 = 100. All others, 1938/9 = 100.

Chart 19. Farm Sale Prices and Farm Incomes, 1938 - 1958.



After 1950 there was little further upward movement in farm profits, and from then until 1958 the aggregate income fluctuated around £600 million. Product prices increased slightly, but less than costs. In pursuance of a policy of "greater efficiency" rather than "output at any cost" the government gave less than full recoupment for increased costs, at a series of price reviews, and the difference was 'absorbed' by the increased efficiency of the industry. Farm sale prices reflected this stabilisation of incomes; there was no pronounced upward or downward trend in the market after the break in 1951, though there were a number of fluctuations which were primarily caused by monetary factors.

The trend of farms sold without possession was partly influenced by these factors and partly by the movement of rents, which having lagged considerably behind product prices for several years, continued to rise throughout the 1950's, despite the "levelling off" of farm incomes.

Land values and the incidence of bankruptcy

Another indication of the state of prosperity of agriculture is the annual number of bankruptcies and deeds of arrangement among farms. Statistics of this nature are published by the Board of Trade[1] and are available for England and Wales back to 1893. These figures

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1. Board of Trade, Annual Reports on Bankruptcy, H.M.S.O.

are shown for each year from 1893 to 1958 in Table 35.[2]

There was a strong negative relationship between the number of bankruptcies and the level of land values. The former reached a peak of 564 in 1895 when sale prices were at their lowest point, then recovered steadily to about half that level at the turn of the century. With some fluctuation around the middle of the first decade of the new century, they remained about that level until the outbreak of the First World War, while sale prices and rents improved slightly. The increased prosperity bought about by the war was reflected in the abrupt fall in bankruptcies to a low point of only 130 in 1918, and of 44 in 1920 when sale prices were at the peak of the post war boom.

The abrupt change in the fortunes of the industry following the collapse of product prices, was indicated by the sharp rise in bankruptcies to 285 in 1921 and to 472 two years later. Sale values also fell sharply in 1921 but then made a slight recovery. Bankruptcies continued at a high level throughout the '20's and then rose even further during the depression of the early '30's, rising to 497 in 1931 and to 600 in 1932, the highest figure recorded in any year throughout the whole period. Farm sale prices were at their lowest point of the inter war years, in the same year.

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1. From 1893 to 1948 these figures were classified under "Farmers and Graziers" and excluded two other groups, "Gardeners, Florists and Nurserymen", and "Smallholders, Poultry Farmers and Market Gardeners". In 1949 slightly different classifications were used. The figures quoted refer to "Farmers (not fruit) and Stock Rearers", and exclude "Market Gardeners, Fruit, Flowers and Seed Growers". The effect of the change would appear to be the inclusion of smallholders and poultry farmers in the main group. Judging by the comparative data before 1949 this would not significantly affect the results.

Table 35. Bankruptcies and Deeds of Arrangement Among Farmers in England and Wales, 1893-1958.

Year	Bankruptcies and D. of A. Number	Rent Index No.	Sale price Index No.	Year	Bankruptcies and D. of A. Number	Rent Index no.	Sale prices Index
1893	523	77	42	1920	44	82	69
1894	518	75	36	1921	285	92	54
1895	564	75	36	1922	403	89	56
1896	466	73	42	1923	472	89	59
1897	447	72	40	1924	360	89	61
1898	308	72	46	1925	368	89	58
1899	237	70	44	1926	342	89	54
				1927	478	88	56
1900	282	71	42	1928	462	85	52
1901	308	73	38	1929	345	85	40
1902	318	71	42				
1903	307	72	46	1930	350	84	44
1904	368	70	38	1931	497	82	44
1905	389	72	46	1932	600	79	42
1906	318	72	44	1933	428	76	44
1907	279	72	46	1934	288	75	54
1908	298	73	38	1935	224	75	48
1909	310	73	42	1936	215	75	52
				1937	258	75	52
1910	245	73	50	1938	252	75	52
1911	305	73	54	1939	201	76	48
1912	336	74	52				
1913	326	75	46				
1914	189	76	44				
1915	132	76	48				
1916	78	76	46				
1917	65	76	52				
1918	30	78	59				
1919	33	79	61				

Index Numbers, 1867-76 = 100

Source, Board of Trade, Annual Report.

Table 35. (continued). Bankruptcies and Deeds of Arrangement Among Farmers in England and Wales, 1893 - 1958.

Year	Bankruptcies and D. of A.	Rent	Sale prices	
			Vacant possession	Without possession
		Index no.	Index no.	Index no.
1939	201	76	52	40
1940	99	75	69	40
1941	42	77	77	56
1942	15	78	83	52
1943	17	81	100	56
1944	16	87	94	63
1945	27	88	110	61
1946	23	91	119	65
1947	31	91	154	71
1948	42	94	164	90
1949	48	97	158	79
1950	80	103	166	82
1951	117	106	183	92
1952	148	111	158	79
1953	164	116	152	73
1954	157	124	156	86
1955	207	131	166	108
1956	181	138	162	96
1957	204	145	158	102
1958	153		178	106

Index numbers, 1867-76 = 100

Source. Board of Trade, Annual Reports.

The gradual improvement in farming conditions from the mid '30's resulted in a steady fall in the number of bankruptcies and a slow but steady strengthening of the property market.

As with the First World War, the Second World War led to greater prosperity in the agricultural industry, and the number of bankruptcies fell rapidly, declining to less than 20 in each of the years 1942, 1943 and 1944. There was a slight increase in the early post war years, but it did not exceed 50 before the end of the decade. Farm sale prices rose rapidly, and almost continuously, throughout these years.

Stable product prices and rising costs made it more difficult to maintain profits in the 1950's, and the number of bankruptcies rose again, averaging between 150 and 200 throughout the decade. Sale prices which had reached a peak in 1951, broke the following year and then showed little definite trend until rising again in 1958.

This analysis showed the negative correlation between the number of bankruptcies and the level of farm sale prices, both of which were dependent upon farming prosperity. Rents also were inversely related to bankruptcies, although in their case there was a lag of some years.

Chapter 11.

'Real' Changes in the Annual and Capital Values of Farms

So far, discussion has been concerned with changes in the nominal rental and capital values of farms. No allowance has been made for changes in the value of money during the long period under review. Yet it is evident that there were changes, notably in the periods of inflation which occurred during the two World Wars. It was therefore decided to make an estimate of the broad movement of the 'real value', or 'purchasing power' of farm land. The difficulties of this are apparent. An attempt to calculate 'real value' must place some emphasis upon absolute values, but it has been argued throughout this study that, due to the nature of the basic material, the absolute values of rents and sale prices must be viewed with reserve. Once again, therefore, attention has been concentrated mainly on broad changes in the purchasing power of farm property, rather than its absolute level in individual years.[1]

In order to express absolute values of sale prices and rents in real terms, it was necessary to deflate them by an index which itself represented the changing purchasing power of money. Unfortunately, there is no one ideal index number. For some purposes a retail price index number would be relevant, for others, one based on wholesale

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1. For this purpose, the time series of sale prices used was that calculated by means of five year moving averages.

prices, and for yet others, an index based on specialised types of either the former or the latter. It was thought that in the present case the index number of farm product prices would be the most appropriate one to use. In effect, it would make it possible to express the purchasing power of farm property in terms of the products that are produced on agricultural land. A general index of wholesale prices, based on the Sauerbeck-Statist index number, would have given virtually the same results, as it was very similar to that of farm product prices. A graphical comparison of the two series which is given in Chart 22, shows how closely together the two series moved.

Changes in the real value of farm rents and farm capital values were calculated by dividing the indices of each of them by the indices of farm product prices for the same years. The results of the calculations are given in Tables 36 and 37 and illustrated in Charts 20 and 21. They showed a marked decline in the relative value of farm land over the period. In general terms, the purchasing power of gross rents in the 1950's was little over one third of what it had been eighty years before. The capital value of farms had also declined in real terms; the purchasing power of farms sold with vacant possession was rather less than half what it had been in the 1870's, while that of the farms sold without possession had fallen to little over a quarter of the general level at that time.

Table 36. The 'Purchasing Power' of Farm Property in Terms of Agricultural Products, 1867-1958

Year	Annual value	Capital value	Year	Annual value	Capital value
1867	98	87	1907	87	53
1868	104	90	1908	92	56
1869	106	99	1909	91	58
1870	101	97	1910	87	57
1871	98	99	1911	87	60
1872	97	100	1912	82	56
1873	94	110	1913	82	53
1874	102	108	1914	85	54
1875	98	105	1915	68	43
1876	100	105	1916	54	36
1877	105	106	1917	43	29
1878	111	109	1918	38	27
1879	106	106	1919	35	26
1880	101	97	1920	32	23
1881	100	87	1921	48	31
1882	103	86	1922	60	40
1883	108	82	1923	65	42
1884	111	82	1924	63	41
1885	108	81	1925	64	41
1886	112	83	1926	67	42
1887	107	76	1927	69	41
1888	108	72	1928	65	38
1889	108	74	1929	67	38
1890	107	68	1930	72	38
1891	107	66	1931	77	42
1892	104	58	1932	77	45
1893	100	55	1933	77	46
1894	103	55	1934	75	48
1895	106	56	1935	73	49
1896	106	58	1936	72	49
1897	97	57	1937	65	45
1898	101	59	1938	66	
1899	97	58	1939	66	
1900	92	55			
1901	95	55			
1902	91	54			
1903	94	55			
1904	93	56			
1905	92	56			
1906	89	52			

Annual value, based on rents.
Capital value, based on five year moving averages of sale prices.

Table 37. The 'Purchasing Power' of Farm Property in Terms of Agricultural Products, 1939-1957

Year	Annual Value	Capital value	
		Vacant possession	Without possession
1939	66		
1940	47	40	29
1941	40	39	26
1942	38	40	26
1943	39	42	28
1944	40	45	27
1945	40	50	28
1946	39	54	30
1947	34	51	27
1948	34	54	28
1949	33	56	28
1950	34	55	27
1951	32	49	24
1952	32	47	24
1953	33	46	25
1954	36	45	26
1955	36	43	26
1956	37	44	28
1957	41	48	30

Annual value, based on rents
Capital value, based on five year moving averages of sale prices.

Chart 20. The 'Real' Value of Farm Sale Prices, 1857 - 1958.

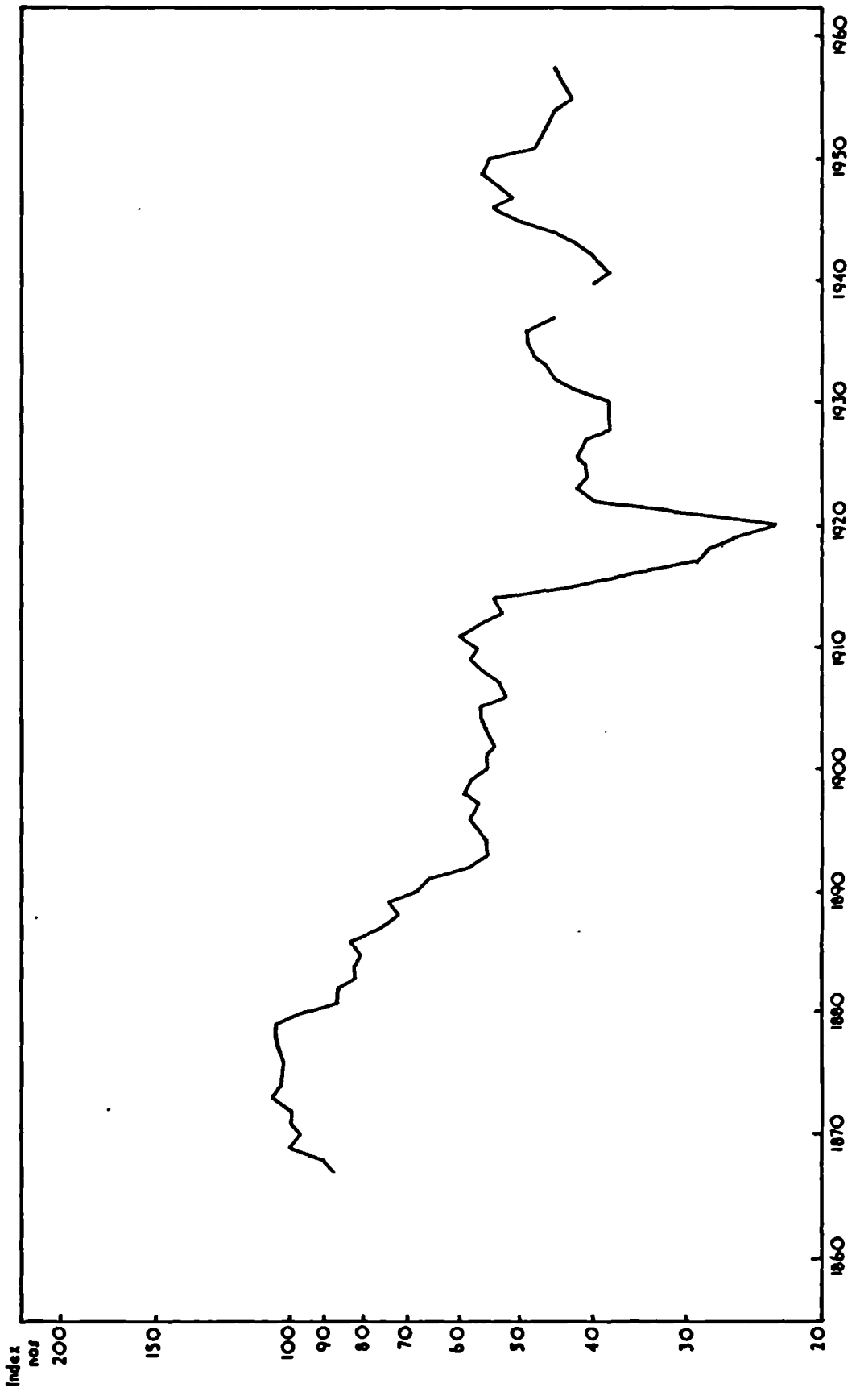


Chart 21. The 'Real' Value of Farm Rent, 1867 - 1957.

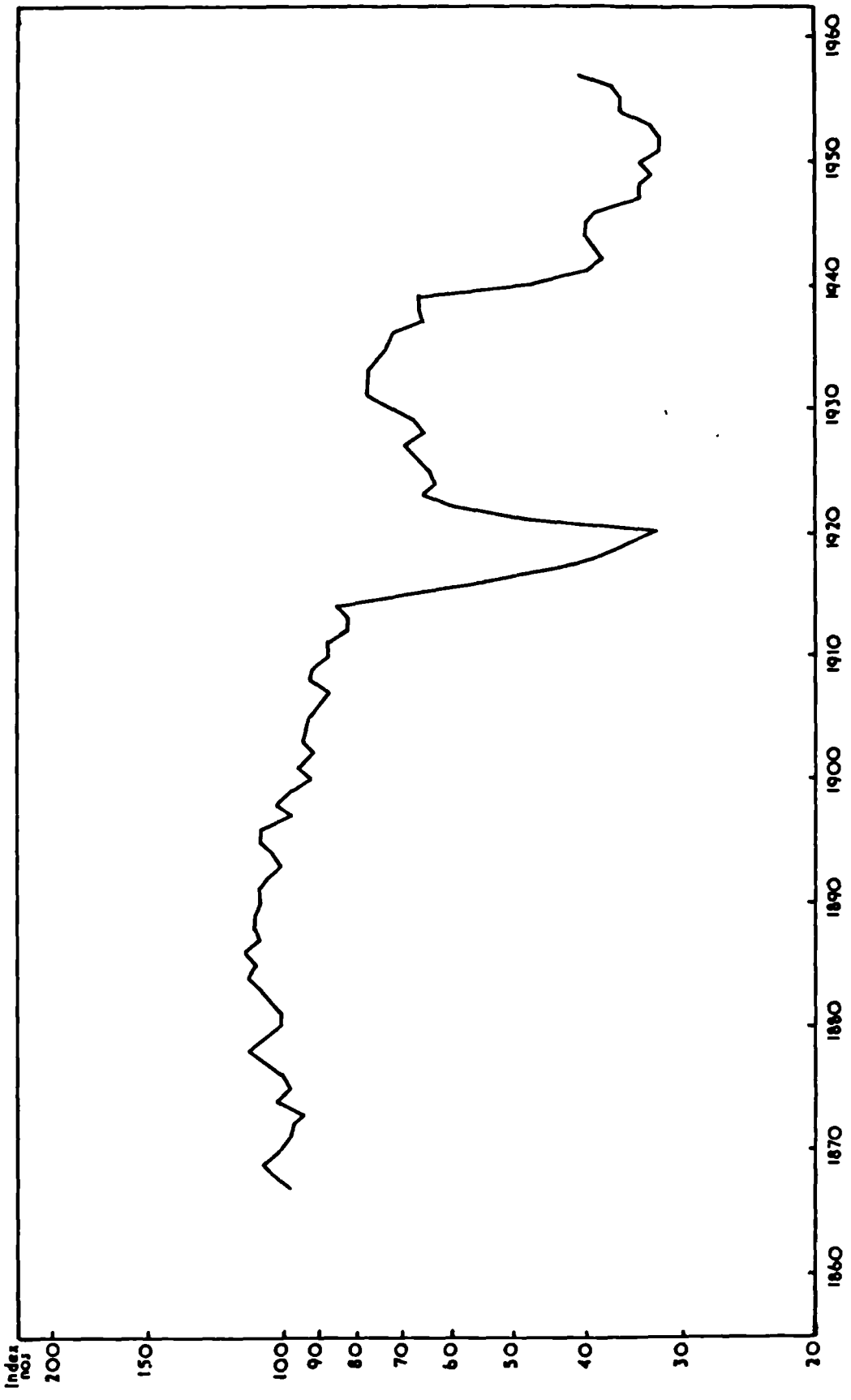
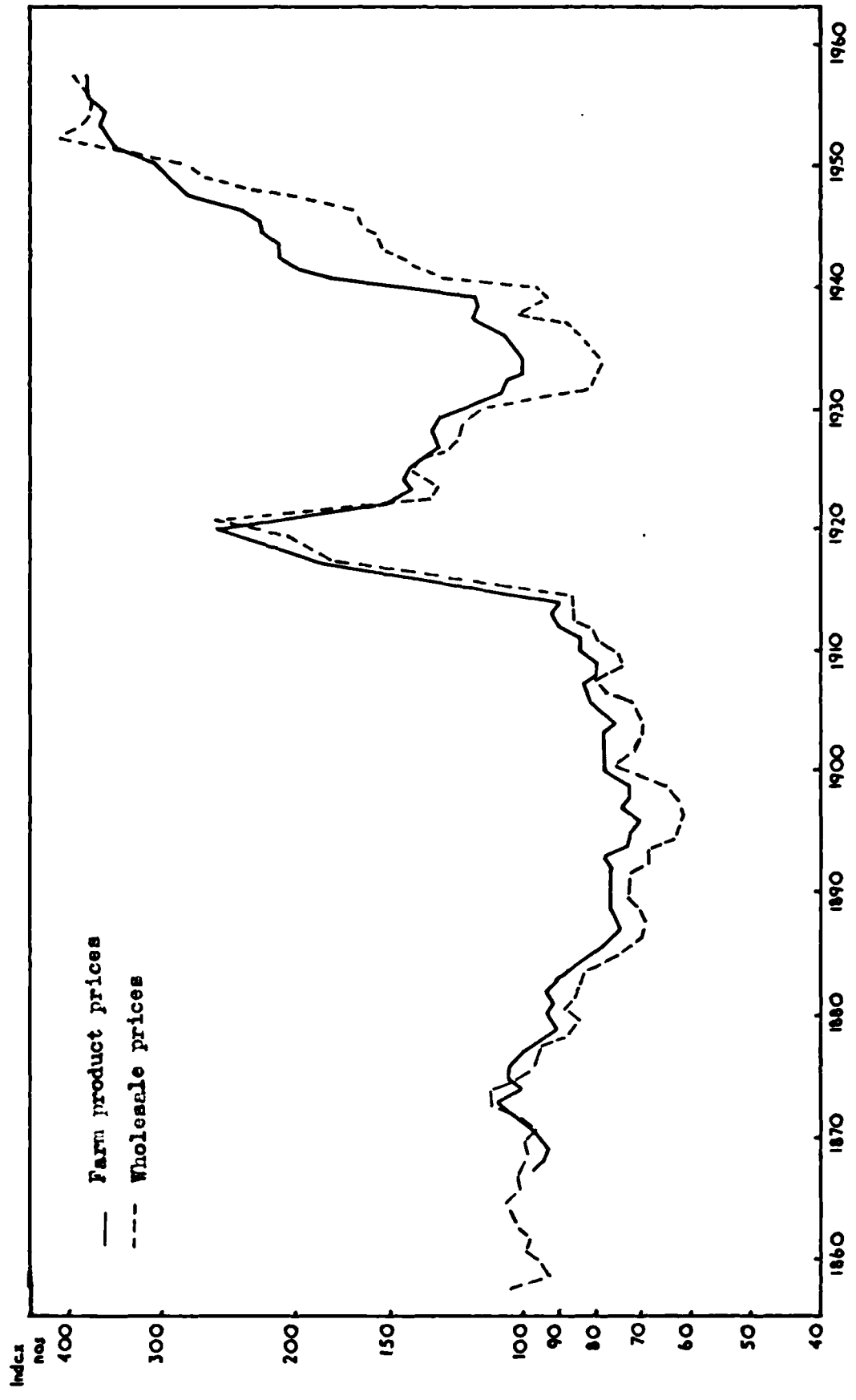


Chart 22. Farm Product Prices and Wholesale Prices, 1857 - 1957.



Although the purchasing power of both rental and capital values suffered a marked fall over the century, the periods in which this came about were rather different. The purchasing power of rents held up during the depression at the end of the century, indicative of the tardy reduction in rents in relation to product prices, and did not fall below 100 until 1887. It then eased slightly during the first decade of this century, when product prices recovered rather more rapidly, but did not fall seriously until the inflation of product prices which occurred during the war and early post war years. In 1920 rents were probably worth little more than one third of their base year value in real terms. With the collapse of the post war boom in 1921, however, their real value appreciated again, as they suffered little absolute fall, whereas product prices fell heavily, and during the inter-war years they probably commanded between two thirds and three quarters of their purchasing power in 1876. From the outbreak of the Second World War, however, their relative value fell again, due once more to the rapid rise in the prices of farm products and the much slower increase in rents. In real terms their value during the late 1940's, and most of the 1950's, was approximately one third of that in 1875, although it began to appreciate again in 1957, due to the relative stability of

of product prices and the sharp rise in rents. It appeared, therefore, that the decline in the real value of rents could be traced to three periods, the first decade of the century, the First World War, and the Second World War.

The trend in the purchasing power of farm capital values followed rather a different course initially. Sale prices fell more severely than product prices during the depression of 1876 to 1895, so that by the turn of the century their real value was probably little more than half that at the peak of the 'Golden Age'. It then remained fairly stable until the outbreak of the Second World War, but by 1920 it had been reduced to a quarter of its original level by the war time, and post war, increase in product prices. There was then a partial recovery during the inter war period, as land prices held up better than product prices after the break in 1921.

In discussing the trend of real values during and after the Second World War, a distinction has to be made between farms sold with vacant possession and those sold without possession. The purchasing power of the former fell initially but subsequently improved between 1945 and 1950, only to ease again with the absolute fall in sale prices in 1951. In the late 50's it showed a slight rise once more. That of farms sold without possession fell severely at the beginning of the war, to little over one quarter of its value in the 1870's, and continued around that level throughout the period. There were, however, signs of some improvement in the late

1950's. It appeared, therefore, that the major decline in the real capital value of farm property occurred during the depression at the end of the 19th century, during the First World War, and, in the case of farms sold without possession, during the Second World War also.

This relative fall in the value of farm property over the past century bears out the conclusion, reached in a number of recent studies,[1] that a relative decline in the economic significance of agricultural property is a characteristic of economic growth. Two basic causes are seen to underlie this change. In the first place, as a society develops economically a smaller proportion of its income is spent on food and a greater proportion on manufactured goods and on personal services. A falling income elasticity of demand for food is typical of all communities as they develop from what Professor Schultz has called "high-food-drain" economies to "low-food-drain" economies. Secondly, within agriculture itself, economic and technical innovations have resulted in a relative decline in the contribution made to total output by land and fixed equipment and a relative increase in the significance of working capital and of technical and managerial ability. This is the result of the application of science to plant

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1. T.W. Schultz, "The Declining Economic ~~Significance~~ Importance of Agricultural Land," The Economic Journal, Vol. LXI, No. 224, December, 1951.

and O.T.W. Price, "The Economic Significance of Land as a Factor of Production with particular reference to Agricultural Land". The Farm Economist, Vol. VII, No. 6, 1953.

and animal breeding, of the development of artificial fertilizers, of the mechanisation of farm operations, and of the increasing commercialisation of farm organisation and management.

There would seem to be little doubt that these factors have been operating in England and Wales over the past century as well as in other developing countries. It would, however, be misleading to attribute the whole of the fall in the relative value of farm property to this secular trend. There is a certain amount of evidence which indicates that several other factors, political and social, as well as economic, have played a contributory part. Some of these have affected capital and rental values alike, while others have been of greater significance to one or the other. In order to avoid undue repetition, those which were thought to have affected capital values over the whole period are discussed further in this chapter, while those which have been particularly relevant to rental values, and to the capital value of investment farms, are considered mainly in Chapter 12.

The major factors leading to the fall in the purchasing power of farm capital values appeared to be in the years 1875 to 1895 and 1915 to 1921. In the first of these periods the calculated farm sale prices declined, in absolute terms, from £57 to £17 an acre, a fall of approximately 70 per cent. Even when allowance was made for the

'erratic' variation of average sale prices in individual years by using moving averages, the fall was still over 60 per cent. The general level of farm product prices fell by 40 per cent over the same period.

One question which had to be considered was whether the recorded fall in sale prices was a representative one, or whether it was heavily biased by the small number of sales records. It was shown in Chapter 2 that the nature and distribution of the material meant that it was rather more representative of farms in Eastern England than in the West and Wales, and therefore probably more representative of mixed and arable farms than of pasture farms. Since the latter were not so seriously affected by the depression it is probable that the fall in value shown by the calculated sale prices over this period was rather greater than the true fall over the country as a whole. There was, however, nothing to suggest that, with this qualification, the calculated fall was unrealistic.

There was on the contrary, some independent evidence which suggested that the fall in land prices had, in fact, been very substantial. It has been seen that evidence to the Royal Commission on Agriculture in 1895 indicated that the value of lands in Great Britain, as assessed by the Inland Revenue Authorities for Income Tax Schedule A, had fallen from £1,669 million in 1875 to £834 million in 1894, a fall of 50 per cent. Moreover, it was pointed

out in the Final Report of the Commission that "some of the properties included in the definition of lands in the income tax assessments, e.g. ornamental grounds and gardens attached to houses, probably as a general rule have not been falling but have been rising in value of late years, while others have not been falling in the same extent as purely agricultural lands."[1] It followed that agricultural land, which in 1896 accounted for 61 per cent of the total Schedule A assessment, had fallen in value by more than 50 per cent.

This calculation was largely based on the conclusion that the rental value of farm land, for the country as a whole, had fallen by 30 per cent over this period and that the rate of capitilisation had fallen from 30 to 18 years' purchase. On this basis a general fall of the order of 50 - 60 per cent in capital values might not be excessive.[1]

The heavy fall in capital values was in part due to the nature of the market. During the depression the demand for farms was so slack that there was no ready market and there was probably a

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1. "Final Report of the Royal Commission on Agriculture", H.M.S.O. 1897, C.8540.
2. It is possible, however, that the Report of the Royal Commission overemphasised the extent of the depression, and of the fall in land values, by paying undue attention to the condition of arable and mixed farming in Eastern England and the Midlands.

considerable increase in the number of forced sales, which are a usual feature of depression.[1] Prices recorded at such sales tend to be lower than those realised on a ready market, but they do, nevertheless, reflect the depressed state of the market. The slackness of the market during the depression was indicated by the fall in the number of recorded auction sales. After reaching one hundred and eighty in 1874 they fell off to below twenty a year in the 1880's, rising again with the return of prosperity to one hundred and sixty in 1895 and to over three hundred in the remaining years of the century.

The second phase in which there was a further fall in the real capital value of farms was during the years 1915 to 1920. In this period, the price of farm products increased by two hundred percent while farm sale prices rose by less than 50 per cent. Part of the fall in real value was due to the lag of rents behind product prices and profits, but a more important factor was the large supply of farms put onto the market by landowners eager to sell their estates. This pressure by landowners to sell, which restricted the rise of market prices, was largely economic in origin. Gross rents had fallen during the depression and had not fully recovered subsequently, despite the agricultural recovery and the boom of the

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1. Forced sales are those in which the vendor does not enter into the sale as a 'willing seller' but through circumstances, such as bankruptcy or death, which give him, or his executors, little option but to sell the property without waiting for more favourable market conditions.

war years. Over the same period, estate costs had increased considerably, especially the cost of labour which rose from 13 shillings a week in the 1870's to over 40 shillings a week in 1920. The net rents of landowners had therefore been squeezed between falling gross rents and rising costs. Simultaneously, they were subjected to increasing rates of taxation. Income tax was 2d in the pound in 1875, compared with over 6 shillings in the pound by the end of the First World War. Another form of taxation which had become an important factor in the break-up of large estates was estate duty, which was imposed upon agricultural property for the first time by the Finance Act of 1894.

The practical and economic interest of landowners in the farms on their estates had also been reduced by government intervention into the relationship between landlord and tenant under a series of Agricultural Holdings Acts, dating from 1875. This, together with the changing structure of society, which had been hastened by the war, also reduced the social significance of landownership. The prestige of the large estate, the sporting and amenity values it offered, were not immediately discarded, nor have they disappeared yet, despite the further social revolution of the last half century, but they became absolutely and relatively far less significant than they had been at the height of the landlord tenant system in the middle of the 19th century.

The political significance of landownership had also fallen with the extension of the franchise to the industrial worker by the

Reform Act of 1867. The political and social, as well as the economic position of the large country landowner, and the squire had all fallen. Many of them therefore took the opportunity afforded by a rising market, and the willingness of tenants to buy their freeholds, to sell all, or some, of the farms on their estates.

Although farm sale prices were relatively buoyant during the mid and late 1920's, so that their real value improved slightly, the recovery was only a partial one, and, but for a further temporary fall from 1928 to 1930, their purchasing power continued at below 50 per cent of its original value until the end of the Second World War. It then appreciated slightly due to the relatively large rise in land values, only to ease again in the 1950's to about 45 per cent of the value eighty years earlier.

In concluding that the real value of farm property probably fell by half during the period under review, it must be borne in mind that farm sale prices, and to a lesser extent rents, were high in relation to other prices in the mid 1870's. Market reports indicated that demand for agricultural land was very strong at that time. A comparison with these years therefore emphasises the changes that occured. It has been shown, however, that the fall in real values, although particularly severe for capital values in the last quarter of the 19th century, was not confined to these years, but was an underlying trend throughout most of the period.

The decline in the real value of farm property has been a major factor inhibiting the investment of long term capital in agriculture. This was particularly marked during the long periods of depression in the last quarter of the 19th century and again in the interwar years. Despite the increased prosperity since 1939 the industry has relied heavily upon state assistance for maintaining and improving its long term capital. Such assistance has been forthcoming either indirectly, through taxation allowances under the Capital Expanditure Claim, the Maintenance Claim and the Investment Claim, or directly through specific grants and subsidies, culminating in the one-third capital grants introduced under the Farm Improvements Scheme in 1957.

Chapter 12

Farm Rents, Investment Prices and Security of Tenure.

Although the relative fall in the value of farm rents, and in the price of farms sold with vacant possession (or investment farms), might have been partly due to an underlying economic trend, there were several other important causes.

It has been widely held that the relatively low level of farm rents during much of the 20th century was due, at least in part, to the failure of landowners to apply a strictly economic approach to the problems of landownership. This attitude, which on many estates was in marked contrast to the policy of improving landowners of the 'Golden Age' of the 1850's and 1860's, was founded in the severe depression of the last quarter of the 19th century. The fall in rents and of farming profits led many landowners to turn their interest to other types of investment. Lord Ernle, writing of the 1880's said that, "in the main, landlords had accepted the position that there was little future for farming, that the development of their estates did not offer an outlet for their energies or capital comparable to that available elsewhere, and that their function was to be easy with their tenants in return for the sport and social status that the ownership of land conferred". He added, however, that, "in general the land was not sold, the possibilities of its monoply value were too evident in a country of growing population and increasing industrial prosperity."[1]

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1. Ernle, "English Farming Past and Present," 5th edition, Longmans, 1936, pp. 386 - 387.

This change in the attitude of landowners grew up during the depression and persisted in the years of economic recovery and relative prosperity before the First World War. Rents were not raised in line with rising profits and there were indications that they were below their competitive level. This was evident from the operation of land speculators who bought up estates and then sold the farms as individual lots, basing the prices on open market conditions rather than the prevailing rents. Many tenants were obliged to buy their farms at these competitive prices. The unrest caused by these market operations led to the setting up of the Haversham Committee "to enquire into the position of Tenant Farmers on the occasion of any change in the Ownership of their Holdings."

The failure of landowners to raise rents at this time was not solely due to this attitude borne out of depression, however, nor to the effect of successive Agricultural Holdings Acts which had granted the tenant compensation for improvements and freedom of cropping and sale of produce. It was at least partly attributable to the social and political agitation against landownership, which was a major issue in the first decade of this century. Much serious economic and political thought, as well as some of a more polemic nature, was devoted to questions of landowernship and taxation at this time, and also in the early post war

years[1]. It was rather ironical that this political feeling against landownership should reach its height at a time when the economic, social, and political powers of landowners were declining. The attention paid to the 'unearned increment' of land values was more appropriate to the case of the landowner selling property for urban development than to the owner of 'broad agricultural acres' who was receiving a declining real income. Whatever the merits of the case, however, there appears to be no doubt that many rural landowners felt that it was politcally and socially inexpedient to raise rents on their estates.

In addition to the influence of social and political factors there have been a number of economic factors which have also acted to restrain landowners from seeking increases in rent during this century. Foremost amongst them has been the system of taxation. Heavy and progressive income tax and surtax removes much of the incentive to increase rent rolls, especially in the case of wealthy owners. Estate duty has had a similar effect as some landowners have been reluctant to increase rents in the belief that this might lead to higher assessments for probate.[2] This attitude persists

1. There is a large literature on this subject. Reference may be made to Henry George, "Progress and Poverty", J. Hyder, "The Case for Land Nationalisation", Simpkin Marshall 1913, C.S. Orwin and W.R. Peel, "The Tenure of Agricultural Land", C.U.P. 1926, C. Dampier-Whetham, "Politics and the Land", C.U.P. 1927, and A.D. Hall, "Reconstruction and the Land", Macmillan, 1941.

2. D.R. Denman, "Estate Capital", Allen and Unwin, 1957, pp. 93/95.

in some quarters in spite of the fact that valuation for probate has to be based on the price the property would realise if sold in the open market at the time of death,[1] and the sale has to be assumed as having been made in such a manner and subject to such conditions, as to obtain for the vendor the best price.[2]

Further, following the depression at the close of the last century, many landowners have apparently not derived the major part of their incomes from agricultural estates but have relied extensively upon other sources.[3] Many of them do not, therefore, have the same incentive to raise farm rents as they would have if their estates were their primary source of income.

It is probable that these factors have played some part in restricting the general level of farm rents during this century, but there are a number of reasons for thinking that their influence may have been less during the last twenty years than is often supposed. In the first place, the study by Dr. Denman, which is the major authority on these matters, was based mainly upon samples of large private landowners and it may be concluded that the same factors would not influence either the large institutional landowners, such as the Church Commissioners or the Universities and Colleges, or the smaller private owners.

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1. Under the provisions of the Finance (1909-10) Act, 1910.
2. Ellesmere v Commissioners of Inland Revenue, 1918.
3. D.R. Denman, "Estate Capital", Allen and Unwin, London, 1958.

In both cases, taxation liability and non-monetary considerations would be likely to be far less significant. Moreover, such factors would become less significant with the decline in the number of large estates, which is widely believed to have taken place although there are, as yet, no reliable statistics to substantiate this consensus of opinion.

In addition to these contributory factors, however, there is one major factor which may be regarded as the most important single cause of low rents. It is the intervention by the government into the determination of rents and into the relationship between landlord and tenant with regard to security of tenure.

The most direct form of intervention with rents was that introduced in Part III of the Corn Production Act of 1917, under which landowners were prohibited from raising rents on the basis of the minimum prices introduced for wheat and oats under Part I of the Act. Questions as to the level of rent which "could have been obtained if Part I of this Act had not been in force", and of whether an excess rent was being paid, were to be determined by arbitration.

This provision restraining increases in rents was an important element in encouraging landowners to sell their properties to their tenants, rather than retain them as investments. It was not in operation for long, however, because it was repealed, along with

the provision for minimum prices for cereals, in the Corn Production (Repeal) Act of 1921. It was not subsequently re-introduced and in the long run was less important than the more indirect intervention in rent determination through the introduction of security of tenure and of arbitration.

Some measure of security of tenure was first introduced in the Agricultural Holdings Act of 1908 under which the tenant was entitled to claim compensation if he was evicted "without good and sufficient cause and for reasons inconsistent with good estate management". Potentially, this provision was of considerable importance as the first step towards security of tenure, but in practice it was not immediately effective due to the difficulty of assessing the amount of compensation. This drawback was later overcome by a provision of the Agriculture Act, 1920, under which the compensation due to a tenant for unreasonable disturbance was put at one year's rent unless the tenant could prove that the unavoidable costs of quitting the holding were greater, in which case he could claim for the full cost up to a maximum equal to two years' rent. This provision introduced an effective measure of security of tenure because any financial incentive to gain possession would be materially reduced by the need to pay compensation.

Under the same Act provision was made for arbitration for rents. Failing agreement between the two parties, either landlord or tenant could request arbitration for adjusting rent upwards or downwards as the case might be, and should the other party refuse arbitration could terminate the tenancy. If a tenant terminated the tenancy due to his landlord's refusal to go to arbitration he was entitled to claim compensation for disturbance. These changes in the system of land tenure were subsequently re-enacted in the consolidating Agricultural Holdings Act of 1923.

Security of tenure, in the form which has become familiar over the past two decades, was first introduced by a Defence Regulation in November, 1941, which provided that notices to quit should be null and void unless approved by the Minister of Agriculture. The Minister's prerogative was subsequently retained under the Agriculture Act, 1947, and re-enacted in the consolidating Agricultural Holdings Act, 1948. Under Section 23 of the 1948 Act the grounds on which a landlord could obtain possession of a holding without the consent of the Minister were limited to: failure of the tenant to pay rent, failure to remedy a breach in the tenancy contract, bankruptcy, or death of the tenant. The grounds on which the Minister was empowered to grant notices to quit were: that it was in the interest of good estate management or good husbandry, that the land was required for agricultural research or education, that it was required for a non-agricultural use, or that, in certain specified cases,

the landlord would suffer greater hardship than the tenant if the Minister did not consent. For eviction in the interests of good husbandry, provision was made for the landowner to apply to the County Agricultural Executive Committee for a Certificate of Bad Husbandry, which, if granted, was sufficient grounds for enforcing a notice to quit.

As a result of these provisions the tenant achieved virtually complete security of tenure. The effect was to eliminate the competitive element from the determination of rents except in the few cases where a tenancy fell in the farm was re-let on the open market. The sitting tenant was not subject to any competitive pressure as the only way his rent could be increased was by agreement with his landlord or, failing that, by a settlement at arbitration if his landlord pursued the matter so far. Moreover, if the landlord sold the property he had to do so subject to the existing tenancy. He was not allowed to evict his tenant, even on payment of compensation, in order to sell with vacant possession. Nor was a new landowner permitted to obtain possession.

In order to prevent security of tenure leading to a freezing of rents, the 1948 Act provided that, failing agreement on rent between landlord and tenant, either party could appeal to arbitration and the other could not refuse. Following a change, or confirmation,

of existing rent by this method no further change in rent could be made at arbitration within a period of three years. The duty of arbitrators under the 1948 Act was to decide "what rent should be properly payable". The interpretation of this concept obviously depended upon the experience and attitude of those appointed as arbitrators and one of the major criticisms which was levelled at the operation of this section of the Act was that, in practice, arbitrators determined rents which were too low in relation to the changed economic donditions of the industry. It would appear that many arbitrators interpreted "a proper rent" in relation to the existing tenancy in the light of the widespread tradition that a sitting tenant should not be expected to pay a rent as high as would be obtainable on an open market letting.

The limited amount of information available suggests that rents fixed at arbitration did, in fact, fall some way below those secured on a free letting of similar farms. The most comprehensive data available are those presented by Dr. Denman and Miss Stewart on the basis of the Cambridge survey of farm rents in 1957. This evidence, which is summarised in Table 38, supported the widely held opinion that rents secured at tender were higher than those obtained by other means and that those awarded at arbitration were below those secured by tender or by open market negotiation. It must also be

Table 38. Rent and Rent Determination Procedures.

Procedure	Index number
Prospective tenant procedures:	
Open tender	116
Negotiation with -	
stranger	100
relative of tenant	98
relative of landlord	83
Sitting tenant procedures:	
Negotiations	91
Mediatorial -	
agreed arbitrator	86
Minister - appointed arbitrator	92
independent valuer	87
Other procedures	91
Procedures unknown	66

Source: D.R. Denman and V.F. Stewart, "Farm Rents", Allen and Unwin, London, 1959. p. 104.

For purposes of comparison Dr. Denman and Miss Stewart took the rent negotiated between a landlord and a stranger as 100.

borne in mind that on some farms there was no increase at all in rents.

The virtual freezing of tenancies by security of tenure, coupled with the relatively high level of farm incomes, led to strong competition for the few farms which did come on to the open market to let. Any reasonable farm attracted hundreds of enquiries and scores of genuine offers. The landowner did not necessarily accept the highest offer regardless of other considerations but, even so, he was invariably able to obtain a sound tenant at a rent substantially higher than that prevailing under the previous tenancy. During the late 1950's it became quite common in many parts of the country for offers of up to £8 an acre to be tendered for good, well-equipped farms, while even comparatively poor ones realised £3 to £4 an acre. Moreover, a great number of the unsuccessful offers were higher than the rents currently being paid by sitting tenants for similar farms. It seems evident that many tenants were paying less for their farms than they would have to pay under more competitive conditions.

The same conclusion could be reached by a comparison of the annual charges necessary to buy a farm with possession, with the average rent paid on tenanted holdings. For example, in 1957 a general mixed farm of (say) 250 acres of average fertility, with

good equipment and situation, might cost £80 an acre, or £20,000 in all, if bought with vacant possession. A farmer with limited capital buying for occupation would normally have to borrow most of this amount. The annual sum required to pay off capital and interest at 6 per cent on a loan of £20,000 over forty years would be approximately £1,330, or £5·6s an acre. In addition, the occupier would have to pay the landowner's outgoings, of (say) £1 an acre, and would therefore be faced with total ownership costs of £6.6s an acre.

It is true that in forty years' time the capital loan would have been repaid and the annual loan charge would therefore cease, but future events tend to be discounted heavily, and the realisation that annual costs will be less in the distant future is not adequate compensation if the present loss in income is disproportionate. To allow for this, however, the alternative case may be considered in which a purchaser finds the capital to purchase his farm not by raising a loan on mortgage but by withdrawing capital he already possesses from alternative investment. In such a case he would be giving up the right to (say) 6 per cent on his capital in perpetuity. At a purchase price of £20,000 this would represent an annual loss of £1,200, which is equivalent to £4 16s an acre. In addition he would have to meet the owner's expenses of £1 an acre, making £5 16s an acre in all.

In either case the annual charges which would have to be incurred in order to purchase a farm with possession at an open market price would be much higher than the annual rent paid on many similar farms which had been subject to the same tenancy for some years. According to the Farm Management Survey and the Cambridge survey of farm rents the average level of a general mixed farm of 250 acres was less than £2 an acre in 1957[1]. Although many tenants might undertake some of the responsibilities for repair and maintenance, which legally should fall to their landowners, their expenditure on this account could not be as great as that falling to an owner-occupier. At 1957 values the sitting tenant was therefore probably paying some £3 - £4 an acre less than the occupier who bought freehold.

There are, of course, certain advantages of owning the freehold of a farm. The owner-occupier has greater security than the tenant and, unlike the latter, can hand his farm on to his son. He can use government grants to enhance the value of his farm, so securing a capital appreciation which is not subject to income tax, while on a rising market he also benefits from an increase in property value. All these are tangible advantages on a strong market with a prosperous agriculture. In economic adversity, however, they might turn into disadvantages.

1. See Chapter 5.

Ownership may mean an inability to realise capital, and an obligation to continue paying high annual mortgage charges at a time when farm incomes and land values have fallen.[1] The tenant, on the other hand suffers from neither of these disadvantages, as he can ask for a reduction in rent if economic circumstances warrant it and, in extreme circumstances, can quit his holdings without capital loss. Moreover, he has the considerable advantage of being able to husband his capital for working his farm instead of tying it up in the freehold. That this is increasingly appreciated by farmers is shown by the growth of 'leasing back' in recent years. Under this system, an owner-occupier sells his property subject to a long lease, frequently of 21 years, at an agreed rent. The purchaser is usually one of the large landowing institutions.

It was therefore concluded that, even if the advantages of ownership outweigh its disadvantages, a market evaluation of the differential would not be expected to amount to £3 or £4 an acre under competitive conditions.

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1. This was evident during the interwar years when many of the owner-occupiers who had purchased their farms at the end of the First World War were unable to meet their annual charges during the subsequent depression.

The provision of security of tenure, and the relative failure of rents to reach an economic level, had a pronounced effect upon the property market. One important result was that a premium was created for farms sold with vacant possession. An attempt to measure this premium was made by expressing the difference between the average price of farms sold with vacant possession and of those sold without possession, as a percentage of the farmer. This is shown for each year from 1939 onwards in Table 39.

The premium calculated in this way may tend to exaggerate the true figure because some of the better investment farms are apparently sold privately[1] and so the prices they realise do not enter into the auction sale prices analysed in this study. The general consensus of professional opinion, as expressed in the property market reports in The Estates Gazette, and in other professional journals, however, fully supported the conclusion that a substantial premium for possession had existed since 1940.

The premium measured the difference in the values placed by the market upon unoccupied and upon tenanted farms. The purchase of a farm with a sitting tenant secured a series of low rents which

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1. I am grateful to members of a number of firms of land agents for advice on this point.

Table 39. Estimate of the Premium for Vacant Possession.

Year	Vacant possession £'s per acre	Without possession £'s per acre	Premium for possession £'s per acre.	per cent
1939	25	19	6	32
1940	33	19	14	74
1941	37	27	10	37
1942	40	25	15	60
1943	48	27	21	78
1944	45	29	16	55
1945	53	29	24	83
1946	57	31	26	84
1947	74	34	40	118
1948	79	43	36	84
1949	76	38	38	100
1950	80	39	41	105
1951	88	44	44	100
1952	76	38	38	100
1953	73	35	38	109
1954	75	41	34	83
1955	80	52	28	54
1956	78	46	32	70
1957	76	49	27	55
1958	86	51	35	69

might prove difficult, inconvenient, or even impossible to raise, whereas the purchase of a farm with possession secured the right to share in farm profits, and had become almost the only way by which anyone wishing to farm on his own account could get into the industry.

A premium of this nature could not persist on a free market, because competition to buy farms without posseesion, in order to evict tenants and resell with vacant possession, or force tenants to buy their freeholds at competitive prices, would lead to a rise in price of tenanted farms. At the same time, the increased supply of farms for sale with possession would lead to some reduction in their price, so that the gap between the two would fall until it was not more than the costs of buying and reselling.

This was borne out by the behaviour of the farm property market in the early years of the war. The rapid increase in vacant possession prices in the first two years of the war led to a speculative demand for tenanted farms which rose sharply in value in 1941. After the introduction of security of tenure in November of that year, however, the speculative demand ceased and prices of tenanted farms eased. By the end of the war they were very little (10 per cent) above the level they had reached in 1941, whereas prices of vacant farms had gone ahead

by a further fifty per cent. Similarly, disproportionate increases in the average valuesof the two classes of property were recorded after 1947, when the war time provision for security of tenure was retained in statute form in the Agriculture Act of that year and subsequently re-enacted in the Agricultural Holdings Act, 1948. In 1949 and the early 1950's the premium rose to 100 per cent of the invested price.

The submission that security of tenure, coupled with a relative failure of the system of arbitration, was a primary cause of the lag of rents and of investment prices, was substantiated by the reaction of the market to the amendments of these provisions which were introduced in the Agriculture Act, 1958. These amendments are so important for any consideration of the future level of rents and of the prices of investment farms that they are discussed in detail in an Appendix to this study. In the present content the main changes introduced under the Act, and their effects upon the market, are summarised.

The provisions relating to security of tenure and to the determination of rents at arbitration which are contained in the Agriculture Act, 1958, represent an attempt to remove, in some degree, the institutional restraints imposed upon the operation of market forces by the Agricultural Holdings Act, 1948. The

broad purpose of the amendments is to make the 1948 Act work in the way originally intended, that is to say, to combine a high degree of security of tenure for the efficient tenant, without protecting the inefficient one unduly, with a system of arbitration which will encourage an economic level of rents.

The amendments to the provisions relating to notices to quit may result in a slight lessening of the high degree of security of tenure enjoyed by the tenant farmer under the 1948 Act. It will be somewhat easier for a landowner to evict an incompetent tenant and to gain possession himself on certain specified, but still very limited grounds. The changes introduced are so slight, however, that in practice it is unlikely that their operation will lead to any noticeable slackening of the present inflexibility of tenure, nor are they likely to have any marked influence upon the level of farm rents.

Rents are, however, likely to be affected by the new definition of 'rent properly payable' which is to be observed at arbitration. Under the Act this is defined explicity to exclude the effect of an existing tenancy, as "the rent at which, having regard to the terms of the tenancy (other than those relating to rent) the holding might reasonably be expected to be let in the open market by

a willing landlord, to a willing tenant, there being disregarded... any effect on rents of the fact that the tenant who is a party to the arbitration is in occupation of the holding."

It is as yet too early to present any statistical data indicative of the trend of rents following the 1958 Act, but market reports suggest that the introduction of "open market rents" has proved even more effective than was originally expected. Since the Act was passed there has been a considerable change in the attitude of landowner, agent and tenant, resulting in a very substantial increase in rents on many estates. In the majority of cases agents have not found it necessary to resort to arbitration, as the knowledge that "open market assessment" could be made has induced many tenants to agree to large increases in rent which formerly they would have rejected. In the few cases that have been referred to arbitration the landowners' claims for higher rents have generally been substantiated.

Professional market reports have also referred to a sharp rise in the price of investment farms and attribute this partly to the same factor. Unfortunately, the number of records of farms sold without possession has been very limited and the average values calculated for 1957 and 1958 must be regarded with considerable

reserve. It appears, however, that the premium has been declining in recent years.

It would, therefore seem that the provisions of the 1958 Act have re-introduced a competitive element into the demand for farm tenancies, and that a major re-adjustment of rental and of capital values is now (1960) in process.[1]

1. Members of a number of large firms of estate agents have informed the author privately that during 1959 and early 1960 they revalued the whole of the estates under their management. Substantial increases in rents were achieved (increases from £2 to £8 an acre have been secured in some cases) and only in isolated cases have tenants preferred to go to arbitration.

Chapter 13

The Relationship Between Farm Sale Prices and Rents

The purpose of the present chapter is to review the broad movements of farm sale prices and of farm rents in England and Wales from 1857 to 1958 and to consider to what extent they were similar and in what ways they differed. A more precise analysis of the relationship between them is then made.

The capital value of an income earning asset will be the summation of its anticipated future earnings discounted at the prevailing rate of interest appropriate to that asset. This relationship can be more precisely expressed in the following form.

Where,

V is the capital value of an asset

a is the annual income it yields

r is the rate of discount, and

n the number of years for which it is anticipated the income will flow,

$$V = \frac{a}{1+r} + \frac{a}{(1+r)^2} + \frac{a}{(1+r)^3} \cdots\cdots \frac{a}{(1+r)^n}$$

This series may be summed,

$$V = \frac{a}{r}\left[1 - \frac{1}{(1+r)^n}\right]$$

Where n approaches infinity, i.e. the income is expected in perpetuity, this reduces to:

$$V = \frac{a}{r}$$

In the property market the rate of discount is usually expressed in terms of its reciprocal, the number of years' purchase, e.g.

capital value = rental value x years' purchase.

Theoretically, the rental value of farm property will be the same to the owner-occupier as to the landowner. Competition to buy and to rent farms will ensure that the net rent to the owner is the same as the residual amount left to the owner-occupier, after allowing due rewards for all his farming as distinct from his estate owning functions. In practice, provided there is a free market, there will be a tendency towards this equality, but it will not be perfect unless there is mobility between landownership, owner-occupation and tenancy.[1]

Rental value will be primarily dependent upon the profitability of farming, but the rate of capitalisation will be influenced by other factors, so that although capital values and rents will tend to move in the same direction they will not necessarily change in the same degree. This theoretical framework forms the basis of the analysis of the relationship between rents and sale values which follows.

Trends in sale prices and rents

In comparing the time series of sale prices and of rents, the

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1 This equality will be greater in areas, such as certain parts of the United States, where social mobility between landowner, owner-occupier and tenant is greater than in Great Britain.

difference in the sources from which the two were calculated had to be borne in mind, particularly when referring to the magnitude of change.

The time series of sale prices and of farm rents, which were given in the first part of this study, are illustrated in Chart23. The two series showed the same broad general movements. Both sale values and rents were at a peak in the latter part of the 1870's, fell severely to a low point around the turn of the century and, but for a partial recovery at the end of the First World War, continued to be depressed until the onset of the Second World War; then both rose almost continuously throughout the 1940's to reach levels in 1951 greater than those of the 1870's; sale prices became more stable in the mid 1950's before rising again, while rents continued to increase throughout the decade.

This general relationship was brought out in greater detail by an examination of the shorter term trends within each series which were analysed in Chapters 3, 4 and 5. This comparison is summarised in Table 40. The table showed clearly the striking similarity between the trends in sale prices and in rents, which, but for the tendency of rents to lag slightly behind sale prices, were virtually identical. The only major exception was after 1951 when sale prices first fell and then showed no definite trend whereas rents continued to rise.[1] The general conclusion reached was that sale prices and rents followed the same general trends although the magnitudes of the movements were different.

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1 This exceptional period is discussed fully in Chapter 12.

Chart 23. Farm Sale Prices and Rents, 1857 - 1957. (1867 - 76 = 100)

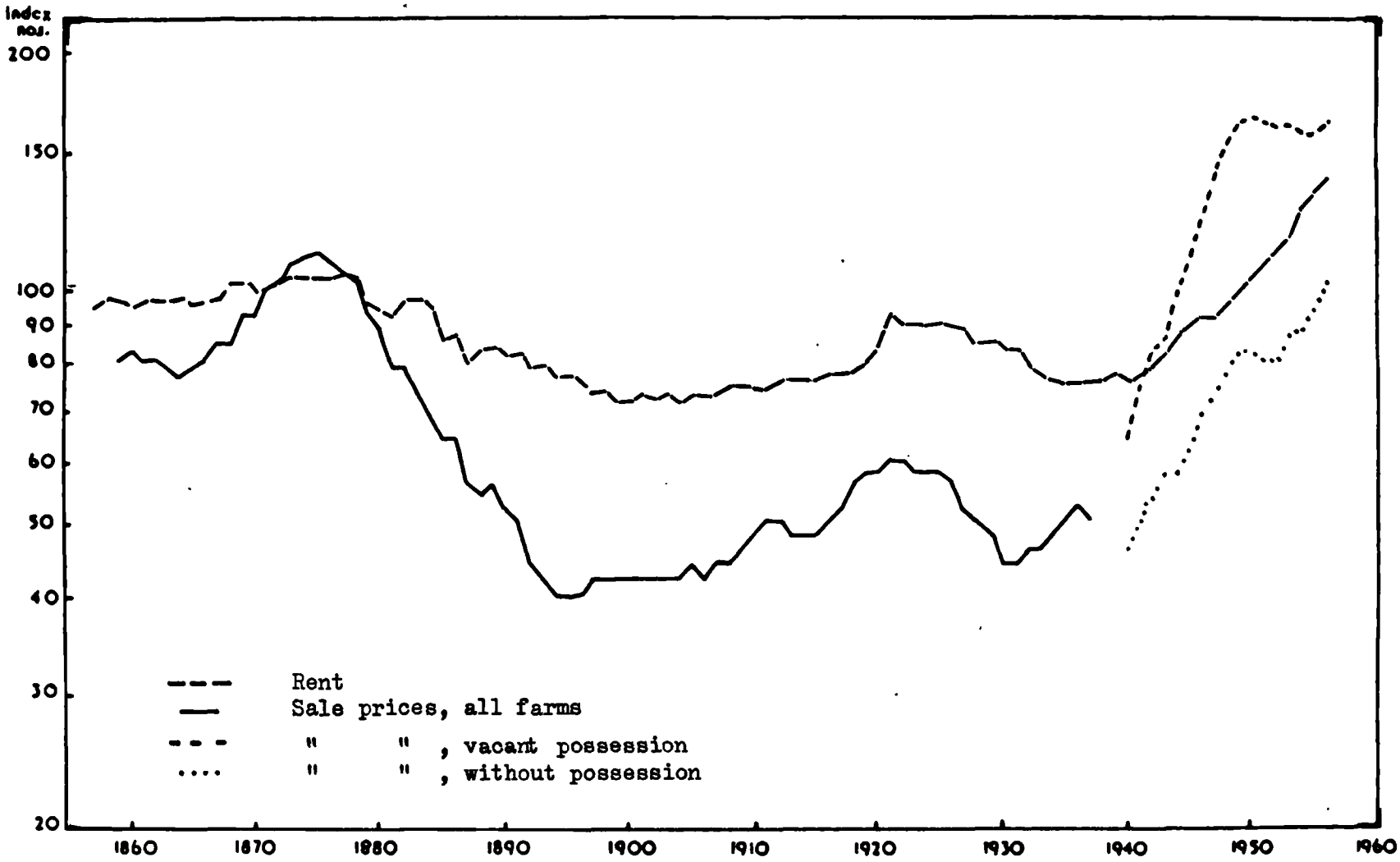


Table 40. A summary of the Comparative Movements of Farm Sale Prices and Rents in England and Wales, 1957 - 1958.

1857 - 1966 - no marked trend.	1857 - 1965 - no marked trend.
1867 - 1876 - rising steadily.	1967 - 1878 - rising.
1877 - 1895 - falling rapidly with minor recovery in 1888 - 1891.	1879 - 1899 - falling steadily.
1896 - 1916 - no marked trend at first, then slight upward movement.	1900 - 1917 - stable, then slight improvement.
1917 - 1920 - sharp rise.	1918 - 1921 - sharp rise.
1921 - 1927 - break, then relatively stable.	1922 - 1927 - break, then relatively stable.
1928 - 1933 - sharp fall.	1928 - 1933 - falling.
1934 - 1939 - slow rise.	1934 - 1940 - stable.
1940 - 1951 - rapid and extensive rise, large premium for possession.	1941 - 1956 - a steady but slow increase.
1952 - 1956 - no definite trend following break in 1952.	
1957 - 1958 - a further rapid rise.	1957 - 1958 - a rapid rise.

The lag of rents behind sale prices

In order to analyse the lag of rents behind sale prices in greater detail a comparison was made of the major turning points in the two time series, to which reference has already been made. This comparison is set out in Table 41. In the first part of the table the upturns of sale prices and of rents are compared and the lag of rents is shown in the third column, while in the second part, the downturns are analysed in a similar way.

Table 41. Turning Points in Time Series

Major upturns

Sale prices	Rents	Lag in years
1867	1867	-
1896	1900	4
1917	1918	1
1934	1934	-
1940	1941	1
1957		

Major downturns

Sale prices	Rents	Lag in years
1877	1879	2
1921	1922	1
1928	1928	-

This summary of turning points showed that out of the eight years in which major changes in the trends of farm sale prices were recorded, the rent index showed a similar movement;

in the same year, on three occasions,

in the following year, on three occasions,

two years later, on one occasion,[1]

four years later, on one occasion.

It cannot be claimed that these results were precise because of the nature of the data, but the consistency shown suggests that rents generally responded to changing economic conditions within a year or so of farm sale prices. (The four year lag at the end of last century was exceptional). This relatively rapid response of rents can be partly attributed to the use of an index based on rents actually received rather than one based on contract rents.[2] The latter would tend to move more slowly, particularly when rents were contracted on long term leases, which were more frequent during the 19th century. The former, on the other hand, reflected the tendency of landowners to allow remissions of rent, and to allow arrears to accumulate, during bad years, although retaining their contract

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1 This relates to the years 1877/1879. In fact, the rent index showed a slight fall in 1878 but this was followed by a considerably greater one the following year which was thought to provide a more clear cut indication of a change in trend.

2 The divergence between two indexes of this kind is well illustrated in diagram III of the Country Landowners' Association's Report, "The Rent of Agricultural Land in England and Wales, 1870-1946", p.49. The diagram was based on information presented to the Royal Commission on Agriculture, 1895.

rents at the same level.[1]

The magnitude of movements in sale prices and rents

Although the foregoing analysis showed that sale prices and rents followed the same general trends, the magnitudes of the movements of the two time series were very dissimilar. Throughout the period, sale prices fell more rapidly and severely than rents during depression and rose more rapidly and steeply in prosperity. This was illustrated better by showing both series on a 1910-1913 base (Chart 24).

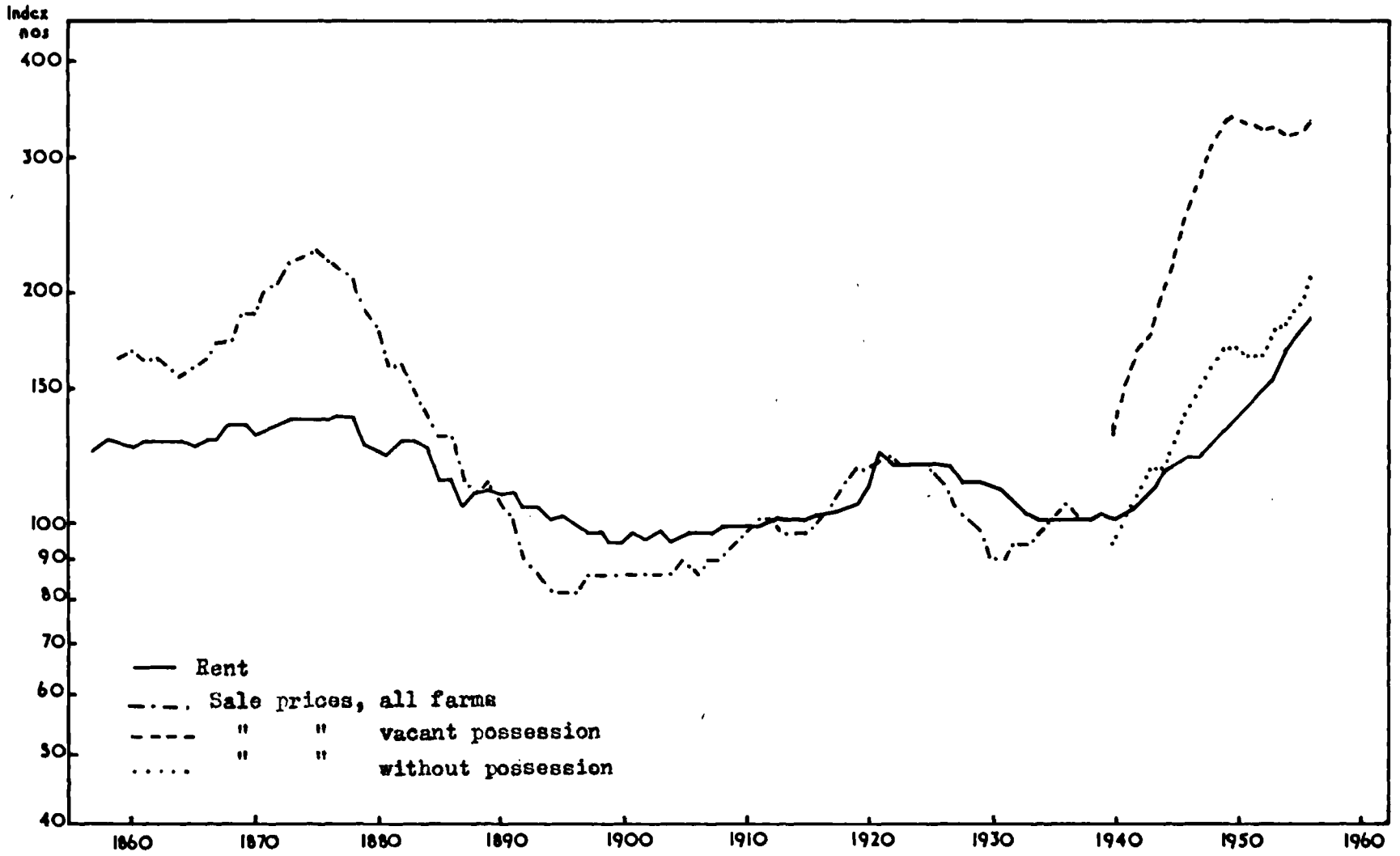
This aspect of the relationship was most evident in the two major phases of the period; the fall in values in the last twenty years of the 19th century and the rise in values during the twenty years following the outbreak of the Second World War. Taking 1867-1876 = 100 for both series, the index of rents had fallen to 70 by 1899 whereas that of sale prices was down to 36 at its lowest point in 1895. Again, during the short lived boom at the end of the First World War, the sale prices index rose by 23 points, from 46 in 1916 to 69 in 1920 whereas the rent index rose by only 16 points, from 76 in 1916 to 92 in 1921. Similarly, after 1939 the sale price of farms sold with vacant possession rose by over 300 per cent, and that of investment farms by more than 250 per cent, whereas rents rose by barely 100 per cent.

In an attempt to determine the cause of this variation, the analysis of the relationship between sale prices and rents was carried a stage further by the use of scatter diagrams. Because of the division

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1 On reletting farms which had fallen vacant, however, landowners would only be able to secure contract rents equivalent to the prevailing rents actually received.

Chart 24. Farm Rents and Sale Prices, 1857 - 1958
(1910 - 13 = 100)



of the sales records into farms sold with vacant possession and those sold without possession after 1938, and the change in source of rent data in the same year, separate diagrams were drawn up for the years 1857 to 1938 and 1939 to 1958[1]. The diagrams were based on the comparative figures of sale prices and rents given in Table 42. In this table rents were lagged by one year to allow for their tendency to move approximately one year after sale prices.

Values of the two variables for 1857 to 1938 were first plotted on arithmetic scales, (Chart 25). This gave a clear indication that sale prices and rents tended to move together, high prices being associated with high rents and low prices with low rents, throughout the period. It was also apparent, however, that the relationship between the two was not linear but curvilinear in nature, sale prices increasing at a greater rate than rents. The nature of the curve suggested that the relationship was exponential and best fitted by a function of the order,

$$y = a\, b^{x}$$

where capital value is y and rent is x.

To test this assumption the data was plotted on semilogarithmic paper; sale prices being plotted on the logarithmic scale and rent along the arithmetic scale. If the relationship were an exponential

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1 This division also simplified the choice of suitable scales for the two diagrams.

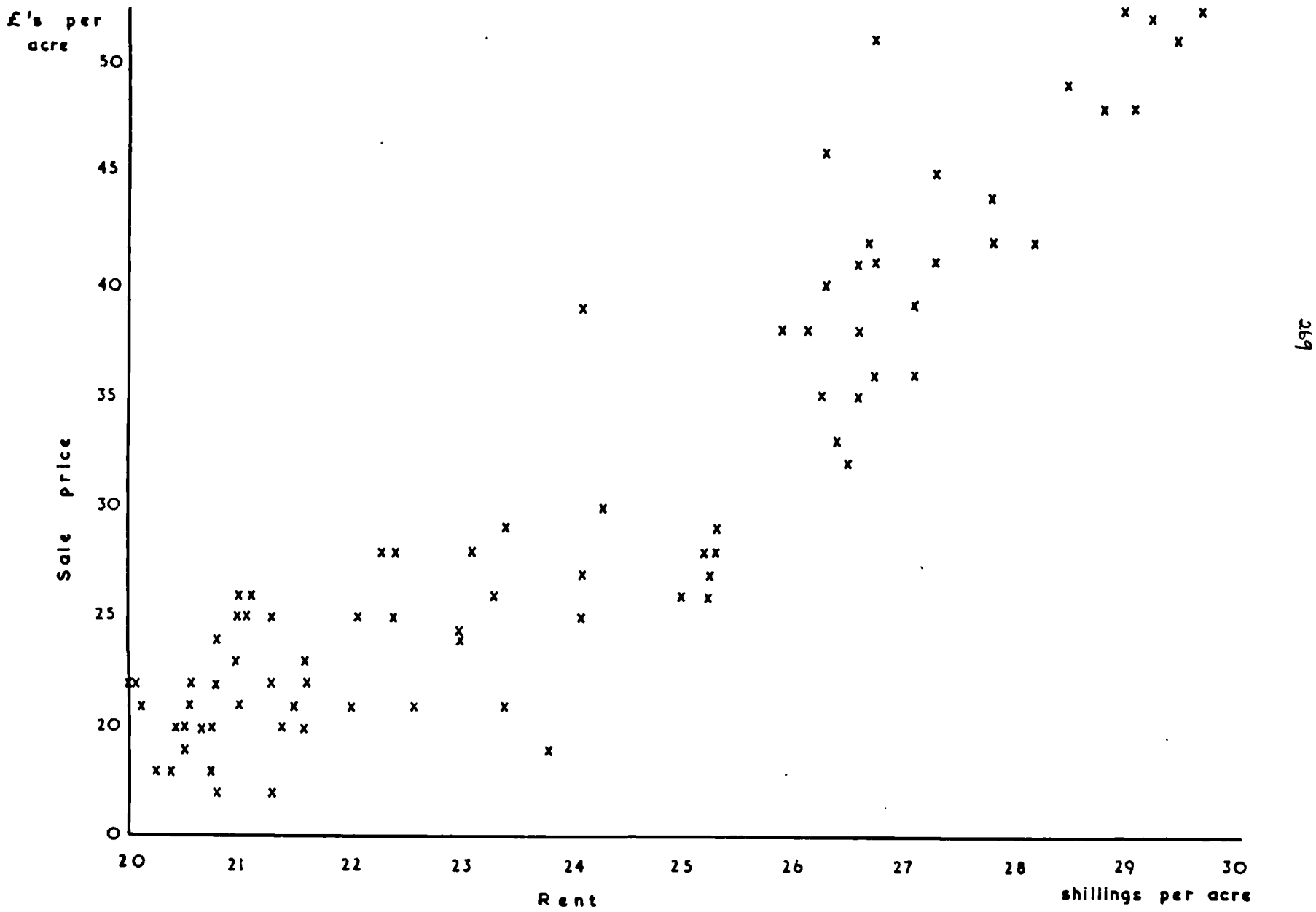

£'s per acre
50
45
40
35
30
25
20
0
Sale price
20
21
22
23
24
25
26
27
28
29
30
Rent
shillings per acre

Table 42. Comparative Movements of Farm Sale Prices and Rents 1857-1958

Year	Sale price £'s per acre	Rent Sh. per acre	Year	Sale price £'s per acre	Rent Sh. per acre	Year	Sale price £'s per acre	Rent Sh. per acre
1857	46	25.9	1897	19	26.5	1937	25	21.0
1858	39	26.3	1898	22	20.5	1938	25	21.0
1859	35	26.2	1899	21	20.0	1939	19	21.6
1860	42	26.35	1900	20	20.1	1940	19	21.4
1861	41	26.7	1901	18	26.7	1941	27	21.8
1862	41	26.6	1902	20	20.25	1942	25	22.2
1863	35	26.75	1903	22	20.5	1943	27	23.0
1864	38	26.6	1904	18	19.9	1944	29	24.6
1865	36	26.6	1905	22	20.4	1945	29	25.0
1866	36	26.75	1906	21	20.6	1946	31	25.8
1867	44	27.1	1907	22	20.6	1947	34	25.8
1868	42	27.8	1908	18	20.8	1948	43	26.6
1869	45	28.2	1909	20	20.75	1949	38	27.6
1870	42	27.3	1910	24	24.75	1950	39	29.25
1871	49	27.8	1911	26	20.8	1951	44	30.0
1872	48	28.5	1912	25	21.1	1952	38	31.5
1873	54	28.8	1913	22	21.3	1953	35	32.8
1874	48	29.0	1914	21	21.3	1954	41	35.2
1875	52	29.1	1915	23	21.5	1955	52	37.2
1876	57	29.25	1916	22	21.6	1956	46	39.0
1877	51	29.75	1917	25	21.6	1957	49	41.2
1878	51	29.5	1918	28	22.1	1958	51	
1879	46	26.7	1919	29	22.3			
1880	38	26.3	1920	33	23.4			
1881	39	25.9	1921	26	26.4			
1882	41	27.1	1922	27	25.35			
1883	32	27.3	1923	28	25.35			
1884	39	26.5	1924	29	25.3			
1885	30	24.1	1925	28	25.3			
1886	28	24.3	1926	26	25.2			
1887	24	22.4	1927	27	25.0			
1888	26	23.0	1928	25	24.1			
1889	28	23.3	1929	19	24.1			
1890	24	23.1	1930	21	23.8			
1891	25	23.0	1931	21	23.4			
1892	21	22.4	1932	20	22.6			
1893	20	22.0	1933	21	21.6			
1894	17	21.4	1934	26	21.0			
1895	17	21.3	1935	23	21.0			
1896	20	20.8	1936	25	21.0			

Notes:

Rents lagged on year.
Sale prices, farms sold without possession from 1939.

one the use of a semilogarithmic scale would reduce the lines of best fit to a straight line since,

$$y = a\, b^{x}$$

can be written in the form,

$$\log y = \log a + x \log b$$

The scatter diagram plotted on this basis is shown in Chart 26. The close concentration of points along what appeared to be a linear line of relationship provided a strong indication that the most suitable mathematical relationship between sale prices and rents was, in fact, the exponential one.

This mathematical relationship can be expressed in terms of the property market. When rents were high the rate of capitalisation was also high but when rents were low the number of years' purchase was also low, so that sale prices changed proportionately more than rents. For example, a farm which was let for 30 shillings an acre in 1875 might have changed hands at 35 years' purchase, or £52 an acre in that year. In 1900 the same farm might have been let at 20 shillings an acre and sold for £20 an acre, or only 20 years' purchase of the gross rent.

An analysis of sale prices and rents over the years 1939 to 1958, which is illustrated in Charts 27 and 28, indicated that a similar relationship existed in the earlier part of this period. Until 1951 the increase in rents which occurred was accompanied by an increase in rates of capitalisation. In 1952, however, there was an abrupt change in the relationship, as years' purchase fell sharply although

(Semilogarithmic scale.)

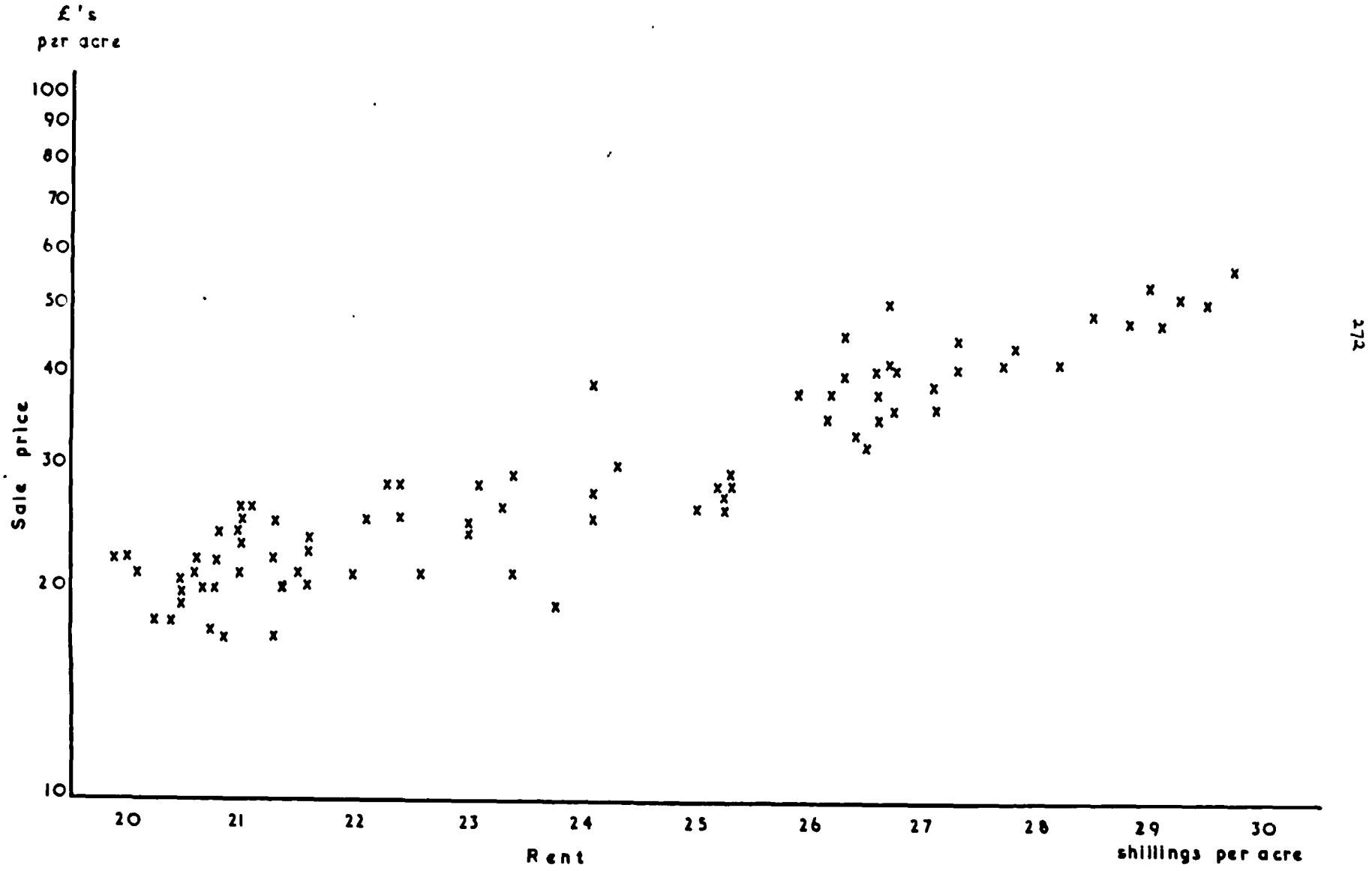


Chart 27. The Relationship Between Farm Sale Prices and Rents, 1939 - 1957.

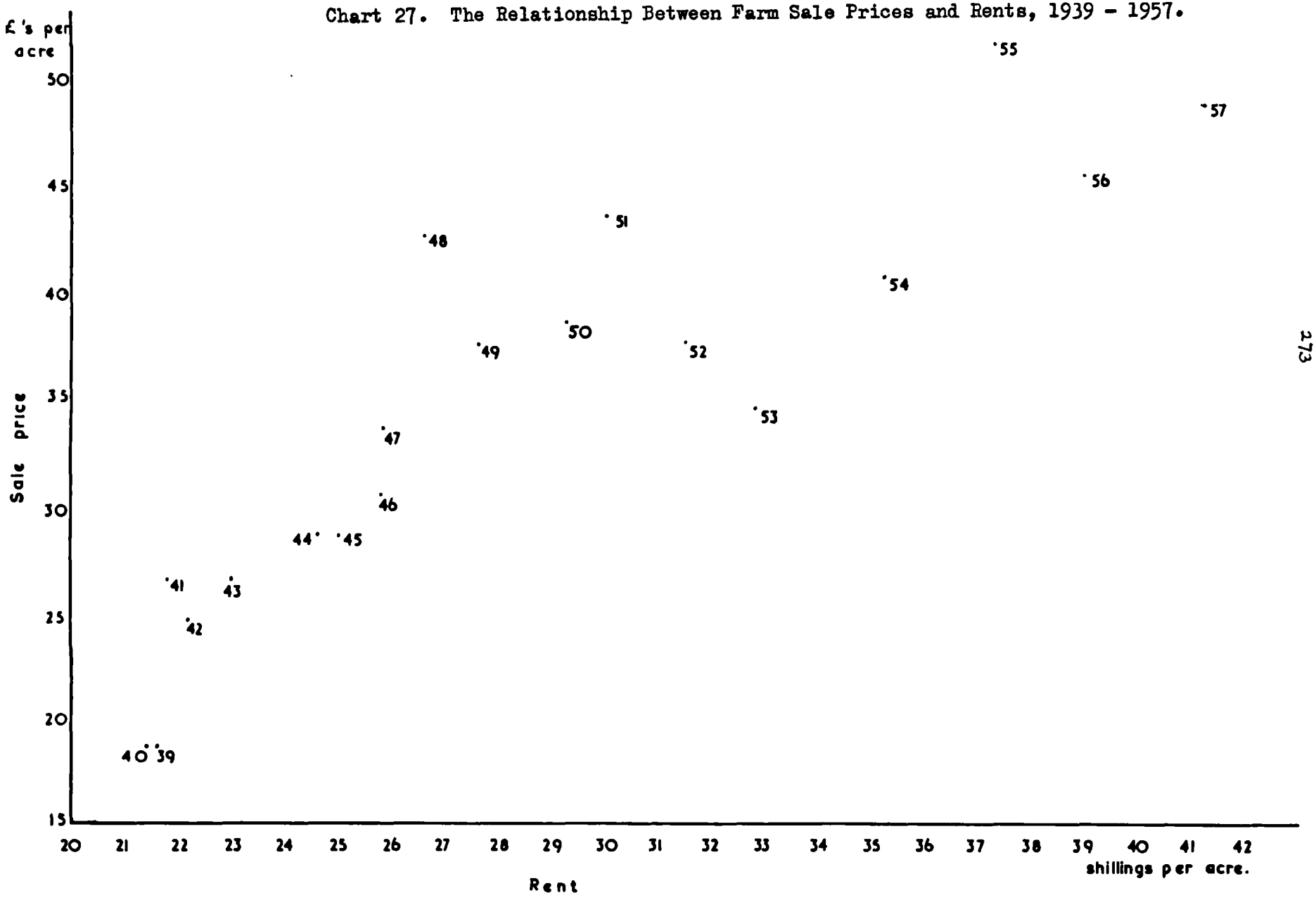
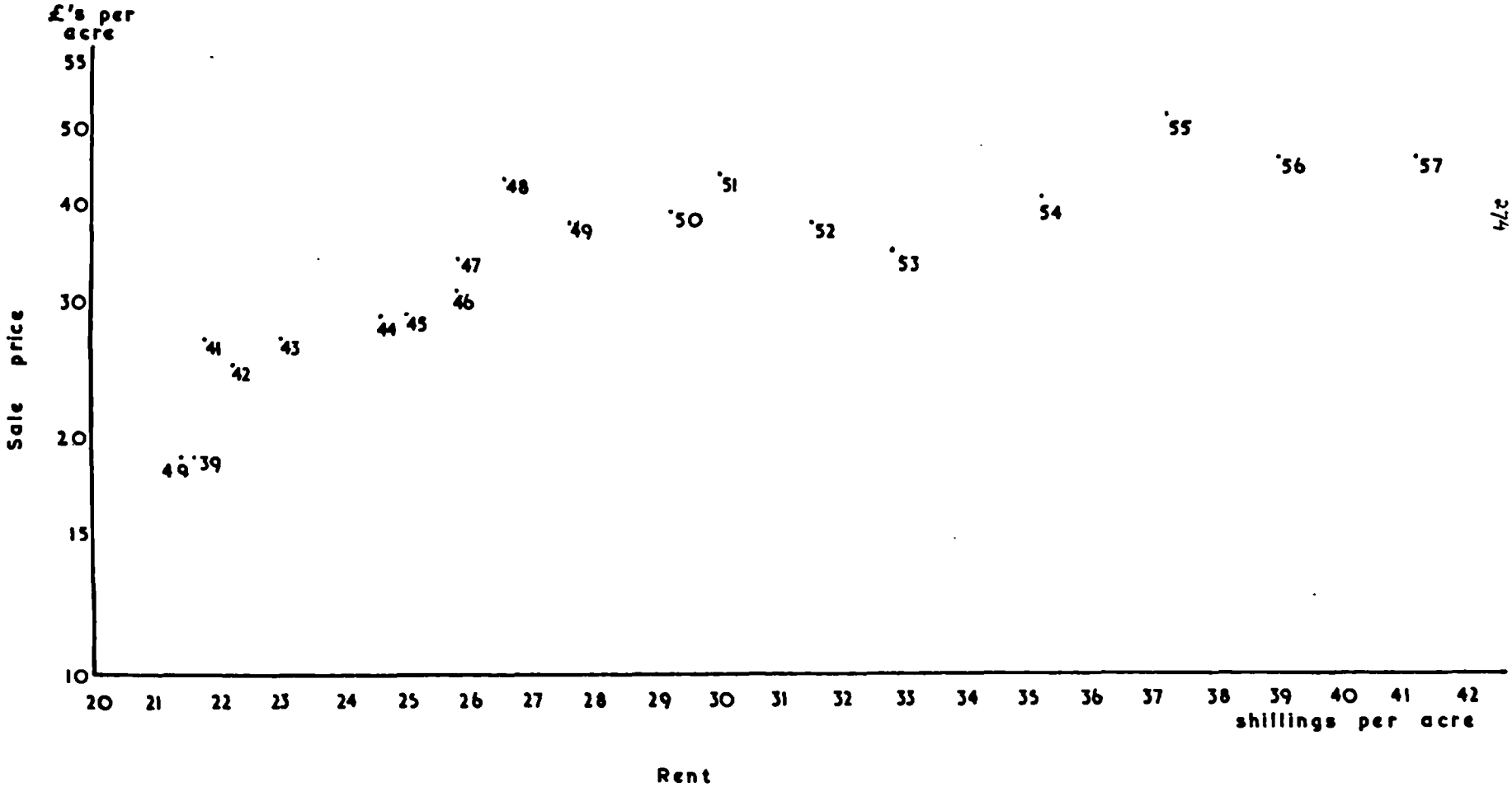


Chart 28. The Relationship Between Farm Rents and Sale Prices, 1939 - 1957
(Semilogarithmic scale.)



rents continued to rise. In anticipation of a later Chapter, it was concluded that this change was due to a break in capital values in 1952, which was brought about by monetary factors.

One of the qualifications which must be made about using the main time series of rents and sale prices for this analysis is that they relate to different groups of farms. For the period from 1939 to 1958, however, it was also possible to analyse the relationship between the rents and sale prices of the same individual farms. This was done by using some of the data obtained from the Estates Gazette and the Estates Exchange Year Book for calculating the time series of sale prices.

For the majority of farms recorded sold without possession the annual rent was published as well as the sale prices. By dividing one into the other the number of years' purchase was calculated. This was done for all farms recorded sold without possession, and with rent stated, for a number of years, and then the median number of years' purchase was calculated for each year. The results are shown in the table below.

Table 43. Average Sale Price and Years' Purchase of Farms Sold Without Possession, 1939 to 1958.

Year	No. of farms	Average years' purchase	Average sale price per acre
1939	125	18	£19
1941	240	23	£27
1943	248	24	£27
1945	294	25	£29
1947	111	27	£34
1949	171	28	£38
1951	131	30	£44
1954	70	26	£41
1958	33	25	£54

A distinct trend in rates of capitalisation was found. From 18 years' purchase in the late 1930's the rate rose to 25 by the end of the war and to 30 by 1951. This consistent increase was a reflection of the fact that sale prices appreciated by 130 per cent over this period whereas rents rose by much less, approximately 40 per cent. Although the number of cases recorded in the last two years was so small that they must be treated with considerable reserve, it appeared that the rate fell again after 1951. The poisition since that year has, however, been complicated by the unusual conditions of the economy and especially by high interest rates and credit restriction. From 1947 to 1951 these data support the conclusion that the rise in market values was associated with increasing rates of capitalisation.

This variation in the rate at which rental values were capitalised according to the state of agricultural prosperity, was confirmed by a number of independent sources. A striking illustration is available of the change in rates of capitalisation over the years 1875 to 1894. Sir Robert Giffen calculated that in 1875 the capital value of land was equivalent to 30 years' purchase of its annual value.[1] Giffen used the Inland Revenue Schedule A valuations for this purpose, but it has been shown by Rhee[2] and Bellerby[3] that these were broadly comparable with rental values at that time. Nearly twenty years later, in evidence placed before the Royal Commission on Agriculture, Sir Alfred

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1 Sir Robert Giffen "The Accumulation of Capital in the United Kingdom, 1875-85", Journal of the Royal Statistical Society, vol.XLI, 1878.

2 H,A. Rhee, "The Rent of Agricultural Land in England and Wales, 1870-1946", The Central Landowners' Association, 1949.

3 J.H. Bellerby, "Distribution of Farm Income in the United Kingdom 1867-1938", Journal of the Agricultural Economics Society, Vol.X No.2.

Milner estimated from the same sources that the rate of capitalisation had fallen to 18 years' purchase by 1894[1].

Further evidence given to the Royal Commission referred to the exceptionally high prices paid for farm land in the 1870's and the much lower rate of capitalisation ruling twenty years later when the general level of rents had fallen by some 30 per cent.[2] Similar experiences were recorded during the early years of the 19th century. Writing of the closing years of the Napoleonic Wars, Ernle said, "the social advantages of landownership and its apparently remunerative character, as well as the large fortunes realised in recent trade, combined to give land a fancy value. New capitalists gratified both their ambitions and their speculative instincts by becoming purchasers. Their bidding forced existing owners into ruinous competition. As much as forty-five years' purchase was given for purely agricultural land." [3] Yet only a few years later, during the severe depression which followed the end of hostilities, Preston wrote, "some of the best estates in the kingdom are selling at a depreciation of £50 per cent. One of the finest grass farms in Somersetshire sold lately at 10 years' purchase." [4]

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1 Final Report of the Royal Commisson on Agriculture, 1897, C.8540, p.23.
2 Ibid, P.32.
3 Ernle, "English Farming Past and Present", Longmans, 5th Edition, p. 321/322.
4 R. Preston, "Further Observations on the State of the Nation", (1816), quoted by Ernle, ibid, p.323.

Evidence of a widespread fall in the rate of capitalisation during a period of depression was provided by Crop Reporters' estimates of the rental and capital values of farms in England and Wales in 1925 and 1931. A comparison of the estimated values showed that over the country as a whole, rental values fell by 13 per cent over three years but capital values fell by 21 per cent.[1]

Some interesting details of similar fluctuations in farm sale prices, which showed the same feature of rates of capitalisation rising during prosperity and falling during depression, were also provided by Miss Mathieson in a study of Romney Marsh,[2] while a similar phenomenon was reported, in more general terms, by Dr. Gardner in relation to sales of farm land in Oxfordshire during the inter-war years.[3]

The statistical evidence considered in this chapter, together with the independent evidence from other sources, led to the conclusion that one important facet of the fluctuations of sale prices and rental values was the change which occurred in the rate of capitalisation during different phases of agricultural prosperity. This change could be interpreted in terms of the market expectation of future events. The rate of capitalisation was apparently dependent not only upon the current rent and the prevailing rate of interest, but

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1 Ministry of Agriculture and Fisheries, "The Agricultural Output of England and Wales, 1930-1931". Cmd.4605, p.67.

2 Miss M.C. Mathieson, "The Development of Agriculture in the Romney Marsh", unpublished M.Sc. thesis, University of London, p.76.

3 T.W. Gardner, "An Economic Study of the Ownership and Tenure of Agricultural Land in Oxfordshire", unpublished Ph.D. thesis, University of Reading.

also upon anticipations of future rents and capital values. When the market anticipated that future values would rise, demand increased and competition forced up sale prices so that the rate of return as calculated on current incomes was low. When, on the other hand, the market anticipated a fall in land values, pressure to sell reduced sale prices so that the current rate of return on new prices was high. The expectation of future changes in the level of rents and capital values therefore led, at times, to prices which appeared disproportionate to current incomes.[1]

This behaviour of the market is well summed up in a comment by Lord Keynes which referred to the Stock Market, but which could also be applied, although in a less extreme form, to the property market. "It is an essential characteristic of the boom that investments which will in fact yield 2 per cent ... are made in the expectation of a yield of 6 per cent and are valued accordingly. When the disillusion comes the expectation is replaced by a contrary error of pessimism with the result that investments which would in fact yield 2 per cent... are expected to yield less than nothing".[2]

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1 During the boom in farm land prices in the late 1940's a number of estate agents reported, rather critically, that farm prices no longer bore any relation to their true agricultural values, e.g. The Estates Gazette, 10th January 1948. By true agricultural value they apparently meant the capital sum arrived at by capitalising rental value at a traditional rate of interest.

2 J.M. Keynes, "The General Theory of Money, Employment and Interest", Macmillan, London, pp. 321/322.

A number of other factors affecting the fluctuations in capital values are discussed in later chapters. The present one may be concluded by referring to certain factors which tended to make the index of farm rents less volatile than that of sale prices.

In the first place, the sale prices related to numbers of farms which changed hands during the year for which their values were recorded. They would, therefore, be directly influenced by economic conditions prevailing in the property market at the time. The rental values, on the other hand, did not refer to rents recorded on new lettings only, but to average rents on estates where only a small proportion of tenancies were likely to fall in during any one year. The rents on farms with sitting tenants were not likely to be as sensitive as new rents to changed economic conditions, even on a free market, because of the nature of the tenancy contract, and the tendency of owners to wait to see if an apparent change in economic conditions was of a temporary or permanent nature, before adjusting existing rents.

Secondly, the traditions of landownership in this country, at least since the last quarter of the 19th century, have been against rack renting and, in particular, against taking a full economic rent from sitting tenants. These traditions have been reinforced by legislation strengthening the tenant's bargaining position, which goes back to 1875 and culminated in the Agricultural Holdings Act, 1948. An index of rents based primarily on rents received from sitting tenants would therefore be unlikely to reflect fully the true economic value of farm

prosperity. This would certainly have been the case, for example, during the 1950's when rents on new lettings were frequently from 50 to 100 per cent higher than on previous lettings, whereas the overall increase in rents was only about 7 per cent per annum.[1]

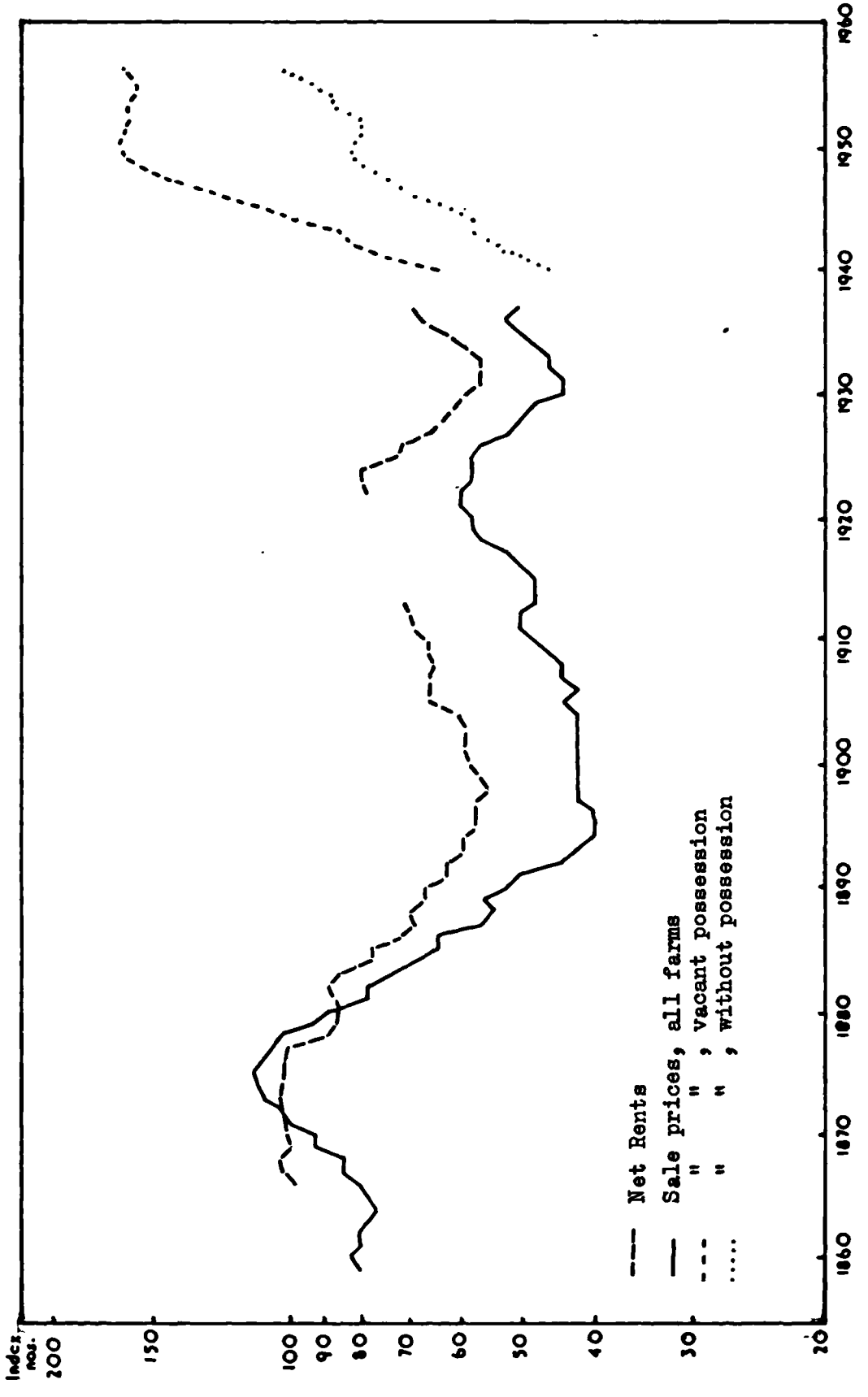
Finally, it might be reasoned that sale prices would be influenced not only by gross rents received but also by the level of outgoings, so that some comparison should be made between the magnitude of movement of sale prices and of net rents. If net rents were more volatile in their movement than gross rents then this might explain part of the wider fluctuation of sale prices. Reference has already been made to the limited amount of information available on landowners' outgoings, but a tentative series of net rents was presented as an addendum to Chapter 4. This did, in fact, show rather greater fluctuations than the time series of gross rents. A comparison of net rents with sale prices, however, (Chart 29), showed that this factor could account for only a small part of the wide fluctuations of capital values.

It was concluded that, while these factors might have explained some part of the greater magnitude of change in sale prices than rents, much of the difference could be attributed to fluctuations in market expectations of future incomes and capital values.

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1 Country Landowners' Association's Reports on "Enquiries into Agricultural Rents and The Expenses of Landowners".

Chart 29. Farm Sale Prices and Net Rents, 1867 - 1938.



Chapter 14

Farm Sale Prices, Interest Rates and Security Prices

It has been seen that the capital value of farm property is dependent, not only upon the annual income it yields, but also upon the rate at which that income is capitalised. The rate of capitalisation, or number of years' purchase, is the reciprocal of the yield per cent on investment in farm property, which is only one of a large number of yields, or rates of interest, in the investment market. Although there are variations within the general structure of interest rates, there is a tendency for all of them to move in the same direction. It was therefore postulated, as a working hypothesis, that the capital value of farm property would be influenced by changes in the long term rate of interest.

Investors are directly concerned with rates of interest as they consider switching capital from one type of investment to another in search for higher yields. A fall in the long term rate of interest in the capital market might therefore be expected to lead to a flow of capital to the property market and to a rise in land prices, while a rise in interest rates might lead to a withdrawal of such capital, with a consequent fall in property values, and its re-investment in the Stock Market.[1]

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1 Operations of this nature would not take place without some time lag because of the time needed to assess market conditions, and to implement investment decisions. This lag would be greater in the case of purchasing and selling real property than other securities.

The purchase of farms for vacant possession is likely to be affected by the rate of interest in a different way. In some cases a purchaser may have to withdraw capital invested in securities, in which case his attitude to market yields will be similar to that of the investor, but it is a reasonable assumption that the majority of purchasers for occupation will have to borrow all, or a large proportion, of the capital necessary to buy their farms. They will therefore be more concerned with the rate at which they can borrow than with the rate of interest on securities. The structure of interest rates is such that the borrowing rate and the lending rate will tend to move together, but some difference between them may be expected.

On the basis of this theoretical appreciation it was decided to compare changes in farm sale prices with those in the long term rate of interest, and also with the lending rate on purchase loans made by the Agricultural Mortgage Corporation.

In earlier discussions of the relationship between interest rates and land values, it has generally been assumed that the appropriate long term rate of interest to use is that on Consols[1]. The reasons given for this were that this rate was traditionally regarded as the 'pure' long term rate of interest, that Consols, unlike most other 'gilt edge' stock, were irredeemable and the investor could therefore

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1 See especially S.G. Sturmey, "The Sale Value of Farm Land and the Long Term Rate of Interest, England and Wales, 1918 to 1950". The Farm Economist, Vol. VIII No.1, 1955.

only secure the return of his capital by awaiting a suitable opportunity to sell, and, finally, that many of the traditional investors in agricultural land, such as many Colleges and charity trusts, were legally precluded from investing in equities.

As the first step in the analysis, therefore, it was decided to compare the time series of farm sale prices with a series of yields on Consols. The latter was constructed by relating the nominal yield on £100 stock to the average price in each year. During the period under review there were changes in the 'coupon' on Consols. In 1857 it was 3 per cent, and this was maintained until March, 1888 when it was changed to $2\frac{3}{4}$ per cent. Fifteen years later it was again reduced, this time to $2\frac{1}{2}$ per cent, in April, 1903. This rate has been maintained ever since on "Old Consols" although a new 4 per cent stock was subsequently introduced. The average annual price of Consols and the average yield are shown in Table 44. A graphical comparison of changes in the annual yield with changes in the sale price of farms is given in Chart 30[1], and a summary is provided in Table 45.

The relationship between the long term rate of interest and farm sale prices appeared to be complex. During the major trend periods it was the reverse of what would be expected on theoretical grounds, in that the correlation was direct and not inverse. The interest rate and sale prices moved in the same direction from 1878 to 1895, 1900 to 1921, 1935 to 1938 and 1946 to 1951. In the first of these

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1 Owing to limitations of scale, this diagram, and Chart 32, were constructed on a three cycle semilogarithmic scale. All other diagrams showing time series were on two cycle semilogarithmic scales.

Table 44. The Price and Yield of Consols, 1857-1958.

Year	Price	Yield	Year	Price	Yield	Year	Price	Yield
1857	92	3.3	1897	112	2.5	1937	76	3.3
1858	97	3.1	1898	111	2.5	1938	74	3.4
1859	95	3.2	1899	107	2.6	1939	67	3.7
1860	94	3.2	1900	100	2.7	1940	74	3.4
1861	92	3.3	1901	94	2.9	1941	80	3.1
1862	93	3.2	1902	94	2.9	1942	83	3.0
1863	93	3.2	1903	92	3.0	1943	81	3.1
1864	90	3.3	1904	88	2.8	1944	80	3.1
1865	90	3.3	1905	90	2.8	1945	86	2.9
1866	88	3.4	1906	88	2.8	1946	96	2.6
1867	93	3.2	1907	84	3.0	1947	91	2.7
1868	94	3.2	1908	86	2.9	1948	78	3.2
1869	93	3.2	1909	84	3.0	1949	76	3.3
1870	93	3.2	1910	81	3.1	1950	71	3.5
1871	93	3.2	1911	79	3.2	1951	66	3.8
1872	93	3.2	1912	76	3.3	1952	59	4.2
1873	93	3.2	1913	74	3.4	1953	61	4.1
1874	93	3.2	1914	75	3.3	1954	67	3.7
1875	94	3.2	1915	66	3.8	1955	60	4.1
1876	95	3.2	1916	58	4.3	1956	53	4.7
1877	95	3.2	1917	55	4.5	1957	50	5.0
1878	95	3.2	1918	57	4.4	1958	50	5.0
1879	98	3.1	1919	54	4.6			
1880	98	3.1	1920	47	5.3			
1881	100	3.0	1921	48	5.2			
1882	101	3.0	1922	57	4.4			
1883	101	3.0	1923	58	4.3			
1884	101	3.0	1924	57	4.4			
1885	99	3.0	1925	56	4.5			
1886	101	3.0	1926	55	4.5			
1887	102	2.9	1927	55	4.5			
1888	101	3.0	1928	56	4.5			
1889	98	2.8	1929	54	4.6			
1890	96	2.9	1930	56	4.5			
1891	96	2.9	1931	57	4.4			
1892	97	2.8	1932	67	3.7			
1893	99	2.8	1933	74	3.4			
1894	101	2.7	1934	81	3.1			
1895	106	2.6	1935	87	2.9			
1896	111	2.5	1936	85	2.9			

Source:

Central Statistical Office Annual Abstract of Statistics, compiled from figures published by the Bank of England.

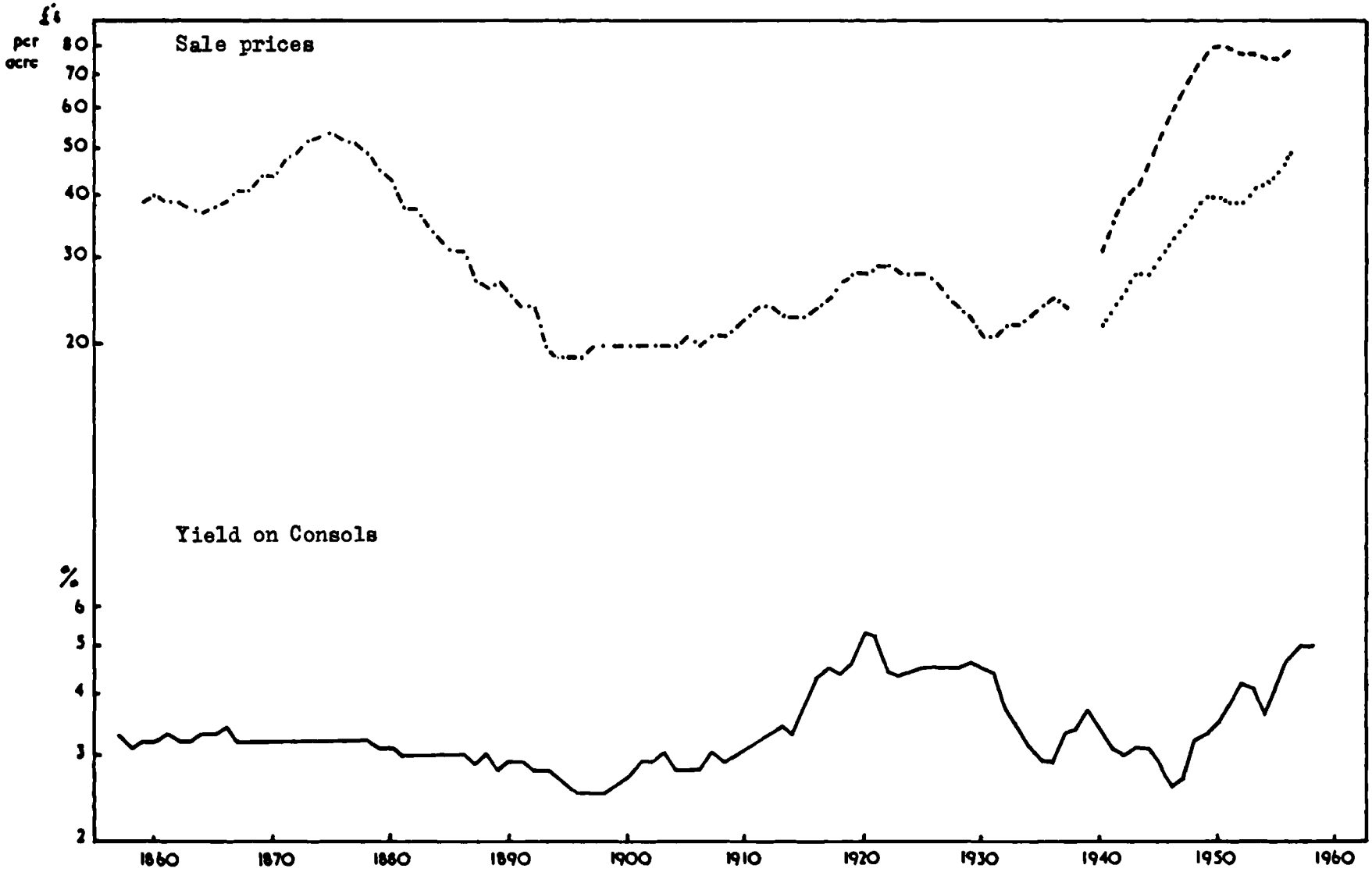
'Coupon':-

3% from 1857 to 1888
2¾% from 1889 to 1903
2½% from 1904 to 1958

Table 45. Comparative Trends in Farm Sale Prices and the Rate of Interest on Consols.

Farm Sale Prices		Rate of Interest	
1857 - 76	Rising slowly	1857 - 78	Stable
1877 - 95	Falling steeply	1879 - 98	Easing, stable in mid '80's
1896 - 1916	Slow recovery	1899 - 20	Rising steeply
1917 - 20	Rising rapidly		
1921 - 28	Break, followed by slow fall	1921 - 29	Break, followed by greater stability
1929 - 33	Falling steeply	1929 - 35	Falling steeply
1934 - 39	Slow recovery	1936 - 39	Recovery
1940 - 45	Rising steeply	1940 - 46	Falling
1946 - 51	Further steep rise	1947 - 52	Steep rise
1952 - 58	Break, followed by upward trend with fluctuations	1953 - 54	Fall
		1955 - 58	A further rise

Chart 30. Farm sale prices and the yield on consols, 1851 - 1960



periods, values of both variables were falling, but in each of the other periods they were rising.

In a number of shorter periods an inverse relationship was evident. In the years 1921 to 1923, 1932 to 1935, 1940 to 1942 and 1944 to 1946, a fall in the long term rate of interest was accompanied by a rise in farm sale prices. Finally, from 1857 to 1878 the yield on Consols was almost constant while farm sale prices were appreciating.

In terms of the length of time involved, the most significant relationship between the long term rate of interest and property values was the positive one which was evident throughout the major trend periods. Some logical explanation of a direct correlation of this nature, which appeared contrary to theoretical assumptions, was required. It is submitted that the explanation lay in the relationship between each of these variables and the general level of prices.

It has been shown in Chapter 10 that the major factor influencing farm sale prices was the price level of agricultural products. The relationship between them was direct and positive in that land values followed the general rise and fall of product prices. Now product prices, in turn, are positively correlated with the general level of all prices, so that upward or downward trends in the latter result in similar movements in farm sale prices.

An upward trend in the general level of prices is equivalent to a fall in the purchasing power of money, so that the real value of a fixed income, such as that yielded by Consols, declines, and competition

to sell Consols, and re-invest in securities yielding a variable income, will depress their capital value also. Conversely, when there is a downward trend in the general level of prices, the real value of a fixed income rises and competition will lead to an increase in the market value of Consols.

This conclusion was borne out by the movement of the general price level, and of the other variables, in the periods previously considered. From 1875 to 1897 the general level of prices fell by 40 per cent, and the capital value of farm property fell by an even greater amount, but the market price of Consols appreciated from 94 to 112, in spite of a reduction in the nominal rate of interest from 3 per cent to $2\frac{3}{4}$ per cent in 1888. Conversely, during the next twenty years, the general level of prices rose by some 30 per cent, and land values also improved, although at a slower rate, but Consols declined steadily from 112 to 74 and fell even more rapidly at the end of the war, dropping to 48 in 1921 when product prices and property values were at a peak.

A further striking illustration of this relationship was seen after 1946. The cheap money policy inaugurated at the end of the Second World War led initially to an improvement in security values, including those of Consols, which approached par at the time when the new issue of 'Daltons' was made. This 'managed' reduction in the long term rate of interest proved impossible to hold, however, without serious inflation and the price of Consols 'broke', falling to 78 in 1948 and, subsequently,

with only a minor recovery during the 'credit squeeze' of 1953 and 1954, to 50 in 1957. Most of this depreciation in capital value occurred from 1947 to 1951 when Consols fell 30 points, but during this time the general level of prices, and the capital value of farms, continued to appreciate. Once again inflation and a fall in the real value of money was accompanied by a pronounced fall in the capital value of Consols but a rise in property values.

Since 1952 government policy has been increasingly directed towards stabilising the value of the pound. Some appreciation in the value of Consols might therefore have been expected. There was, in fact, some recovery in 1953 and 1954 but this was too slight to offset the general downward drift. The further fall to 50 by 1958 may be attributed to the lack of confidence in Consols following the 40 per cent depreciation of the previous ten years, and the 'cult of the equity', which became a dominant market feature in the late 1950's.

Turning from long term trends to a consideration of shorter periods, several years could be discerned in which there was an inverse relationship between the long term rate of interest and farm sale prices. A fall in the interest rate on Consols was accompanied by, or shortly followed by, a rise in farm sale prices in 1922, 1932 to 1935, 1940 to 1942, 1945 to 1946 and 1954. On two other occasions, 1952, and 1955 to 1956, an increase in interest rates was followed by a fall in land values.

In three of these periods it was not possible to conclude that there was any causal relationship between interest rates and property values,

because of changes in farm product prices. The years 1932 to 1936, 1940 to 1942, and 1945 to 1946, were all periods in which farm product prices were rising, and this was undoubtedly a major factor contributing to the rise in farm sale prices. On the other three occasions in which sale prices moved inversely to the rate of interest, changes in product prices could not be regarded as the more important causal factor. In 1952 an increase in interest rates was accompanied by a sharp fall in farm property values, although product prices continued to rise and farm profits rose substantially. In 1954 a fall in interest rates was followed by a rise in land values in spite of the fact that the index of farm product prices fell, for the first time since 1938. In 1955 and 1956 another increase in the rate of interest led to a further break in sale prices. In these years, product prices increased fractionally, although profits actually fell due to rising costs.

It was significant that the inverse response of property values to interest rates occurred after 1951 when the post war expansion programme for agriculture came to an end. From that year onwards, official policy was directed towards improving efficiency rather than expanding output, and there was no further extensive increase in product prices or farm incomes. Under these more stable price conditions, the rate of interest assumed greater significance in determining sale prices and the abrupt and sharp alterations of interest rates which characterised the tightening and slackening of the 'credit squeeze' had a correspondingly greater effect on the land market.

This analysis led to the following conclusions. During longer-term trends, in which there was a pronounced change in the general level of prices, the capital value of farms tended to move in the same direction as the long term rate of interest, or inversely to the market price of Consols. In the shorter term, however, the reverse relationships were observed at least since the end of the First World War. Reductions in the rate of interest were accompanied by increases in property values, while increases in the rate of interest were accompanied by falls in property values. On several occasions it was not possible to say whether this was a causal relationship because of the influence of changes in product prices, but at times when the latter were relatively stable, as in the 1950's, the long term rate of interest did appear to exert considerable influence on farm sale prices. Over the period as a whole, however, the effect of changes in the level of product prices appeared to be dominant over the short term purely monetary relationship.

This conclusion throws some further light upon the relationship between farm sale prices and rents which was analysed in the previous chapter. It was shown there that the greater magnitude of change in sale prices was due, at least in part, to changes in the rate of capitalisation. In general, there was a positive relationship between sale prices and years' purchase, so that both were high together or low together. It might be postulated that the rate of capitalisation i.e. the yield on investment in farm property, would be positively associated

with the rate of interest on Consols. The fact that over the longer trend periods farm sale prices and the long term rate of interest tended to be positively, rather than negatively, correlated, indicated that the reverse was more generally the case. A summary of the relationship in a number of outstanding periods is given below.

Years	Rate of capitalisation	Yield on Consols
1870 - 75	Very high	3.2%
1890 - 95	Low	2.6 - 2.9%
1929 - 31	Low	4.4 - 4.6%
1947 - 51	Very high	2.7 - 3.8%

It was concluded that changes in the rate of capitalisation of farm property were not directly correlated with changes in the long term rate of interest, but, as was suggested in the previous chapter, primarily dependent upon market anticipations of future incomes and capital values.

Farm sale prices and the mortgage rate of interest

It has already been pointed out that purchasers of farms with vacant possession are likely to be more influenced by the borrowing rate than the lending rate on long term capital. It was decided to see whether there was any correlation between the rate of interest charged on mortgage loans and the capital value of farms sold with vacant possession. For this purpose, the morgage rate of interest charged by the Agricultural Mortgage Corporation, which is the largest

single source of mortgage capital in England and Wales, was selected as the most representative.

The Agricultural Mortgage Corporation, which was set up at the end of 1928 under the Agricultural Credits Act of that year, was established primarily to provide long term credit for the purchase of farms. Changes in the interest rate charged on mortgage loans by the Corporation since it was first established are shown in Table 46.[1] It will be seen from this table that before 1950 the rate was changed only once, whereas subsequently it was changed thirteen times in nine years.[2] These changes were the result of changes in the general level of interest rates during the 'credit squeeze'.

For purposes of comparison with farm sale prices, which relate to whole years only, average mortgage rates were calculated for each year. The two series are compared in Table 47.

A comparison of the data in the table indicated that there was an inverse relationship between the mortgage rate of interest and farm sale prices. The recovery of the latter, from the depths of the depression, began in 1934 when interest rates were reduced to 4¼ per cent, and the post war boom in land values, which carried farm prices from £53 an acre

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1 I should like to express my thanks to the Managing Director of the Agricultural Mortgage Corporation, Mr. F.W. Jennings, for his courtesy in providing this data, and also for his most helpful interest in this aspect of the work.

2 Under the terms of agreement between a borrower and the Agricultural Mortgage Corporation the rate of interest on a loan is fixed throughout the period of the loan, usually 40 years. Changes in the rate of interest therefore affect new borrowers only.

Table 46. Changes in Interest Rates Charged on Mortgage Loans by the Agricultural Mortgage Corporation.

		Mortgage Loans
1928	19th December	5%
1934	16th April	4¼%
1944	16th May	3½%
1949	4th November	4%
1951	19th May	4¼%
1952	26th February	5½%
1952	7th August	6%
1953	14th May	5½%
1953	26th November	5%
1954	20th May	4½%
1955	3rd August	5½%
1956	31st July	5¾%
1957	26th July	6%
1957	9th October	7%
1958	25th July	6%
1959	23rd April	5½%

Source. The Agricultural Mortgage Corporation.

Table 47. Farm Sale Prices and the Annual Interest Rate Charged on Mortgage Loans by the Agricultural Mortgage Corporation

Year	Farm sale prices £'s per acre	Interest rate per cent	Year	Farm sale prices £'s per acre	Interest rate per cent
1929	19	5	1944	45	3⅞
1930	21	5	1945	53	3½
1931	21	5	1946	57	3½
1932	20	5	1947	74	3½
1933	21	5	1948	79	3½
1934	26	4¼	1949	76	3½
1935	23	4¼	1950	80	4
1936	25	4¼	1951	88	4¼
1937	25	4¼	1952	76	5½
1938	27	4¼	1953	73	5½
1939	25	4¼	1954	75	4¾
1940	33	4¼	1955	80	5
1941	37	4¼	1956	78	5¾
1942	40	4¼	1957	86	6½
1943	48	4¼	1958	86	6½

Farm sale prices are for all farms from 1929 to 1937, and for farms sold with vacant possession only from 1938 to 1958.

in 1945 to £79 an acre in 1948, coincided with a reduction of the interest rate to its lowest level over the whole period, 3½ per cent. On the other hand, farm sale prices rose substantially during the Second World War, although the mortgage interest rate remained constant at 4¼ per cent until May 1944, and they also continued their post war rise throughout 1950 and 1951, although the interest rate was put up to 4 per cent in November 1949, to 4¼ per cent in May 1951, and to 4¾ per cent in November 1951.

The explanation of these different reactions seemed to lie, once again, in the movement of product prices. They were rising in each of the four periods referred to, and the earlier analysis has shown that they were positively correlated with farm sale prices. It was concluded that during these years the mortgage rate of interest was a subordinate factor affecting property values. When product prices, and farm profits, were rising, reductions in interest rates probably acted as a subsidiary factor strengthening farm sale prices, while increases in the mortgage rates were not strong enough to exert a negative effect on the property market, although they may have prevented sale prices from reaching even greater heights.

Throughout the 1950's there was a strong inverse relationship between the mortgage interest rate and farm sale prices. The increase in the rate to 4¾ per cent in November 1951, followed by further increases to 5½ per cent in February 1952, and then to 6 per cent in August of the same year, had a profound effect upon property values.

The calculated farm sale prices, which had reached a peak of £88 an acre in 1951, fell to £76 an acre in 1952, and to £73 an acre a year later. (Property market reports for these years also referred to a fall of 15 per cent in capital values consequent on the increase in interest rates.) Sale prices staged a partial recovery in 1954 and 1955 to £86 an acre, following the reduction in the interest rate to 5 per cent in November 1953, and to 4½ per cent in May 1954. They fell again, however, in 1956 and 1957, when the interest rate was raised progressively to 5¾ per cent, 6 per cent and ultimately to 7 per cent in October 1957. They began to recover once more in 1958, when it was lowered to 6 per cent, and rose more rapidly in 1959 when there was a further reduction to 5½ per cent.

The coincidence of these movements indicated quite clearly that changes in the rate of interest, including that on mortgage loans by the Agricultural Mortgage Corporation, exercised a strong influence upon farm sale prices during the 'fifties.

This influence was strengthened by two factors. Firstly, the rapid increase in farm product prices and farm profits which had taken place during the previous decade, virtually ceased after 1951. Secondly, capital rationing was effected not only by alterations of the interest rate but also by more direct methods. The granting of mortgage loans, as of bank loans, was tighter and more restricted during the credit squeeze and it may be concluded that it was the shortage of capital, as well as its high cost, which restricted the demand for farm property and led to an easing of prices.

It was concluded that the interest rate on mortgage loans was negatively related to farm sale prices, and that its influence was evident during times when there was no marked upward or downward trend in farm product prices. When there was a strong movement of the latter their positive influence upon property values was predominant and outweighed the effect of changes in interest rates. In other words, when potential occupiers anticipated rising profits from farming the demand to obtain farms increased, and was little affected by an increase in the rate of interest on loan capital. Similarly, at a time of falling prices, the market anticipated falling profits, and reductions in mortgage interest rates did not provide sufficient incentive to strengthen demand and sale prices. This conclusion is consistent with the theory of interest and business expectations put forward by the Keynesian economists.

Changes in the capital values of farms and securities

In addition to analysing the relationship between farm sale prices and rates of interest, it was decided to make a brief comparison of changes in the capital value of farms and of other securities. For this purpose, Consols and industrial ordinary shares, or equities, were selected. Reference has already been made to changes in the capital value of Consols which are shown, in terms of index numbers, in Tables 48 and 49 and illustrated in Chart 31. A similar index was constructed for equities

Table 48. Changes in the Capital Value of Farms, Consols and Equities, 1857-1938.

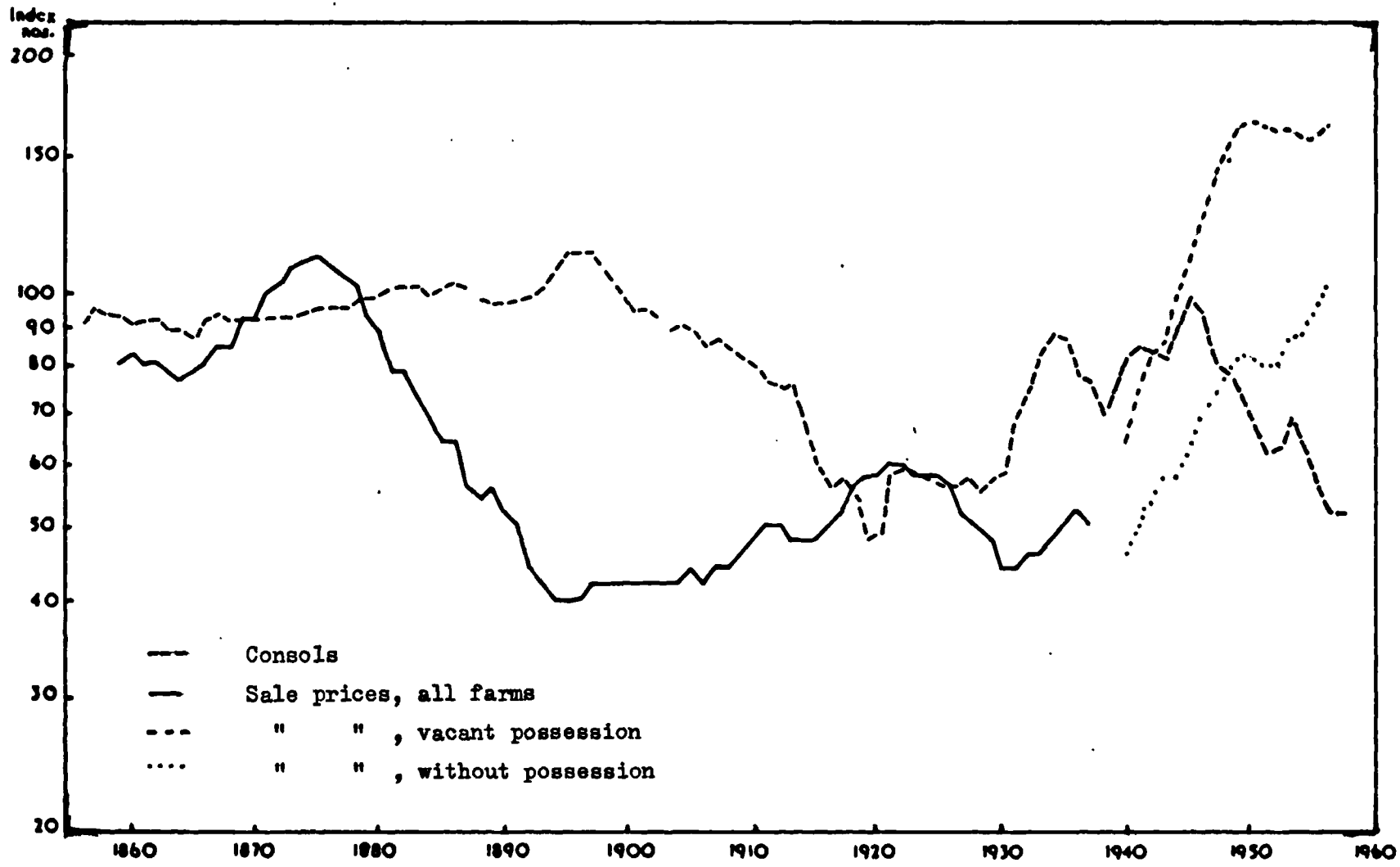
Year	Farms Index no.	Consols Index no.	Equities Index no.	Year	Farms Index no.	Consols Index no.	Equities Index no.
1857	84	99		1897	40	120	142
1858	79	104		1898	46	119	141
1859	73	102		1899	44	115	145
1860	88	101		1900	42	108	142
1861	85	99		1901	38	101	135
1862	85	100		1902	42	101	133
1863	73	100		1903	46	99	130
1864	79	97		1904	38	95	122
1865	75	97		1905	46	97	130
1866	75	95		1906	44	95	131
1867	92	100	75	1907	46	90	129
1868	88	101	79	1908	38	92	121
1869	94	100	83	1909	42	90	121
1870	88	100	92	1910	50	87	131
1871	102	100	104	1911	54	85	138
1872	100	100	117	1912	52	82	137
1873	113	100	120	1913	46	80	135
1874	100	100	116	1914	44	81	134
1875	109	101	110	1915	48	71	127
1876	119	102	103	1916	46	62	145
1877	107	102	98	1917	52	59	163
1878	107	102	90	1918	59	61	195
1879	96	105	83	1919	61	58	229
1880	79	105	98	1920	69	51	230
1881	82	108	97	1921	54	52	157
1882	86	109	93	1922	56	61	179
1883	67	109	88	1923	59	62	220
1884	82	109	84	1924	61	61	216
1885	63	106	83	1925	58	60	239
1886	59	109	83	1926	54	59	253
1887	50	110	81	1927	56	59	274
1888	54	109	83	1928	52	60	312
1889	56	105	94	1929	40	58	307
1890	50	103	94	1930	44	60	248
1891	52	103	93	1931	44	61	193
1892	44	104	92	1932	42	72	187
1893	42	106	93	1933	44	80	228
1894	36	109	96	1934	54	87	277
1895	36	114	106	1935	48	94	307
1896	42	119	128	1936	52	91	356
				1937	52	82	331
				1938	52	80	272

All index numbers 1867-76 = 100.

Table49 . Changes in the Capital Value of Farms, Consols and Equities, 1938-1958.

Year-	Farms		Consols	Equities
	Vacant possession Index no.	Without possession Index no.	Index no.	Index no.
1938	104	40	80	272
1939	96	40	72	253
1940	119	40	80	209
1941	142	56	86	223
1942	146	52	89	250
1943	181	56	87	299
1944	173	63	86	326
1945	204	61	92	345
1946	227	65	103	375
1947	270	71	98	394
1948	308	90	84	378
1949	293	79	82	359
1950	308	82	76	364
1951	339	92	71	421
1952	293	79	63	348
1953	281	73	66	375
1954	289	86	72	497
1955	308	108	65	584
1956	300	96	57	538
1957	292	102	54	578
1958	331	106	54	593

Chart 31. Farm Sale Prices and the Price of Consols, 1857 - 1958.



and is shown in the same tables,[1] and in Chart 32.

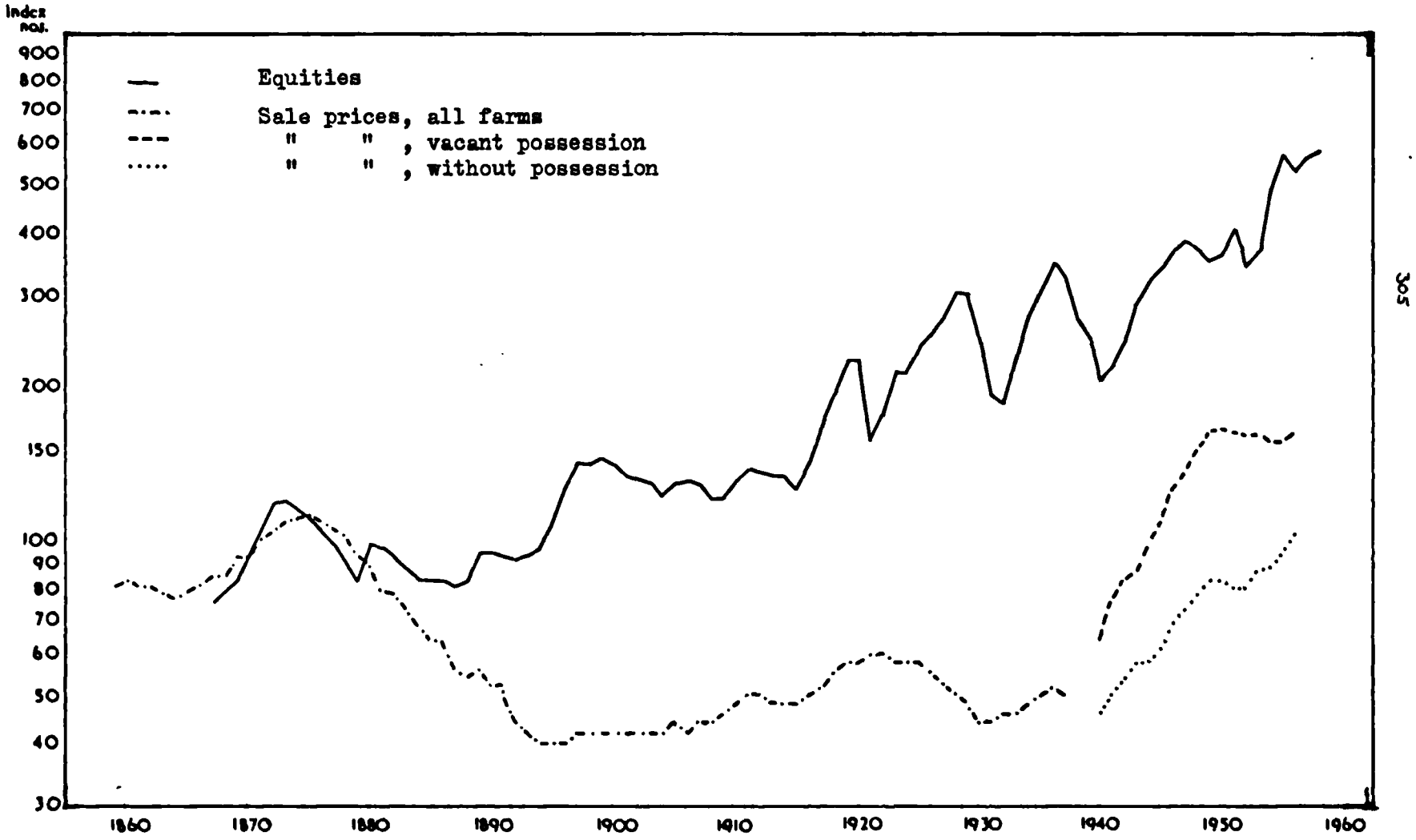
The relationship between farm sale prices and Consols has already been analysed, and the present discussion was therefore directed primarily to the relative movements of land values and of equities. Two major features were evident. Firstly, the long term upward trend in values, the 'growth' of equities, and secondly, the periodic fluctuations, the traditional booms and slumps of the Stock Market, which coincided with the oscillations of the trade cycle superimposed on the longer term trends of prices.

Comparison of the movement of capital values of equities and of Consols, with those of farm land, which are shown in Charts 31 and 32, illustrated that the latter had not been subject to the same long term upward trend as equities, and that Consols had suffered a downward trend. In general terms, by 1958 the capital value of equities had appreciated to six times their base year level, and of farms sold with vacant possession to almost twice that level. Farms sold without possession were approximately the same value as in the base period, while Consols had fallen to half their previous level. In terms of the secular trend, therefore, the change in farm land values lay between that of equities and of Consols.

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1 The time series of industrial ordinary shares was compiled by, and made available through the courtesy of, the Intelligence Unit of the National Provincial Bank Ltd. From 1867 to 1933 it was based on an index by K.C. Smith and G.F. Home "An Index Number of Securities 1867 - 1914", published in a Special Memorandum in June 1934, by the London and Cambridge Economic Service in conjunction with the Harvard University Committee on Economic Research. This was extended to 1933 by linking with the "London and Cambridge Economic Services's Index of 92 Industrials", and to 1958 by the index of equity shares published in the London and Cambridge Bulletin, the source of which since 1950 has been Moody's Services Ltd.

CHart 32. Farm Sale Prices and Equity Prices, 1857 - 1958.



Turning from the secular movement to the longer term trends, a comparison of changes in the capital values of farms and of equities showed many similartities in general movement, although not of magnitude. The relationship is summarised in Table 50. Out of the relatively large number of trend periods discerned, in only two short periods did the two variables move in opposite directions. One was during the years 1922-28 when equity prices were appreciating while sale values, after partly recovering from the sharp fall in 1921, began to drift down from 1925. The second was in 1893-95, when equities were rising, while farm sale prices were falling to the lowest level of the depression. In all other periods the general trends of the two variables were the same. It was concluded that, after allowing for differences in secular trends, the longer term movements in the capital values of farm property and of equities were very similar, although the degree of change was different. The earlier analysis of the relationship between farm sale prices and general price movements indicated that this general correlation could be attributed to the dependence of both property values and equities upon general economic conditions.

Changes in capital values, 1938 - 1958

In view of the substantial changes which have taken place in the price of farms, and of other securities, during the last twenty years, it was decided to consider this period in slightly more detail. This was facilitated by the fact that a greater amount of information was

Table 50. Comparative Trends in the Capital Values of Farms, Equities and Consols, 1857 - 1958

Farms		Equities		Consols	
1857 - 76	Rising slowly	1867 - 73	Rising	1857 - 78	Stable
1877 - 95	Falling steeply	1874 - 87	Falling with recovery in 1880	1879 - 99	Rising slowly with break in early '90's
		1888 - 96	Rising, with pauses in early and late '90's		
1896 - 1916	Stable, then slow rise	1900 - 15	No marked trend	1900 - 20	Falling slowly
1917 - 20	Rising rapidly	1916 - 20	Rising steeply		
1921	Break	1921	Break	1921 - 23	Rising
1922 - 28	Easing	1922 - 28	Rising steeply	1924 - 29	Falling slowly
1929 - 33	Falling steeply	1929 - 32	Falling rapidly	1930 - 35	Rising steeply
1934 - 39	Slow recovery	1933 - 36	Rising steeply		
		1937 - 40	Falling rapidly	1936 - 39	Falling
1940 - 51	Rising steeply, check in 1949	1941 - 51	Rising rapidly, break in 1948-49	1944 - 46	Rising
1952 - 53	Break	1952	Break	1947 - 52	Falling
1954 - 55	Rising	1953 - 55	Rising	1953 - 54	Recovery
1956 - 57	Check	1956	Check	1955 - 58	Falling
1958	Rising	1957	Rising		

available than for earlier periods.

The comparative movements in the capital values of equities,[1] Consols and farms are shown in Table 51 and illustrated in Chart 33. A number of interesting features were evident. Of major interest was the fact that relative increases recorded for both vacant and investment farms were greater than those for equities. With 1938-39 = 100, the relevant indices for 1958 were, vacant farms 331, investment farms 268, and equities 222. Consols depreciated in absolute as well as relative terms and by 1958 their index number was down to 71.

Within this general framework, a number of distinct phases could be discerned. In several of them the movements of farm sale prices and of equities were similar, but in others there were marked differences. In the late 1930's and the early war years, equities were depressed and it was not until 1942 that they regained their previous level. Farm sale prices, on the other hand, responded rapidly to the expansion, and greater profitability, of agriculture, and by 1942 values of both vacant and investment farms were nearly 50 per cent higher.

From 1943 to 1947 the upward trends of equities and of farm land were similar; but in 1948 they diverged again. The economic and financial crises associated with the acute balance of payments position upset the Stock Market, and the limitation of dividends had a further depressing

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1 For this comparison the Financial Times Index Number of Ordinary Shares was used as it provided a continuous series over the whole period.

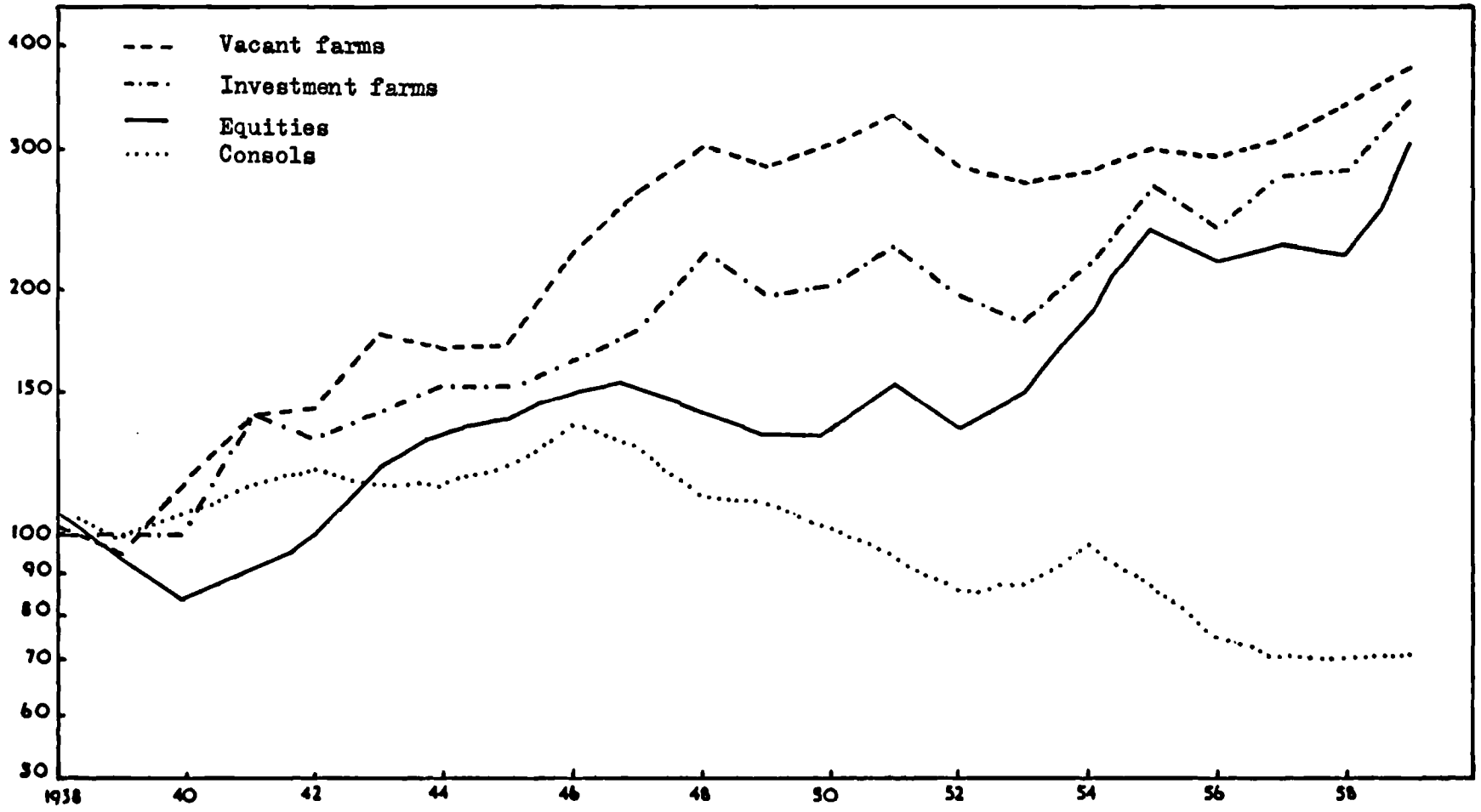
Table 51 . Changes in the Capital Value of Farms, Consols, Equities, and Urban Houses, 1939 - 1958.

Year	Farms		Consols	Equities	Urban houses
	Vacant possession	Without possession			
	Index No.	Index No.	Index No.	Index No.	Index No.
1938	104	100	106	105	
1939	96	100	96	95	100
1940	119	100	106	84	
1941	142	142	114	90	
1942	146	132	119	100	
1943	181	142	116	122	
1944	173	158	114	133	
1945	204	153	123	139	
1946	227	163	137	150	
1947	270	179	130	154	
1948	304	226	111	143	
1949	293	200	109	133	279
1950	308	205	101	135	296
1951	339	231	94	157	327
1952	293	200	84	137	307
1953	281	184	87	150	301
1954	289	216	96	191	295
1955	308	274	86	238	308
1956	300	242	76	221	321
1957	292	258	71	229	323
1958	331	268	71	222	327

Index numbers of urban houses, 1939 = 100.

All other index numbers, 1938-39 = 100.

Chart 33. Farm Sale Prices and the Prices of Consols and Equities, 1939 - 1958.



effect upon ordinary shares, which persisted until 1950. Agriculture, on the other hand, was stimulated by the need for a further expansion of production to offset reduced imports, and farm sale prides rose sharply in 1948. Though they eased slightly the following year they then hardened again up to 1951.

Property prices and equities followed very similar patterns throughout the 1950's. They reached peaks in 1951, then fell sharply in the following year to recover once more and reach further peaks in 1955. Further breaks in 1956 led to more stable conditions before values began to rise again in 1958. At the end of this period a remarkable rise in equity prices carried the Financial Times Index Number up by 100 points in 1959. The market for farm land was also very strong during this year and substantial, although less extreme, gains were made in the capital values of vacant and of investment farms.

It was concluded that the capital values of farms and of equities diverged when the influence of agricultural policy was particularly strong and divergent from that for the general economy. At other times they showed similar trends which could be attributed primarily to changes in the general level of prices.

Changes in the Capital Values of Farms and of Urban Houses

Finally, it was decided to compare changes in the capital value of farms with those of urban houses. A general index showing the movement of prices of private houses sold with vacant possession is also shown in

Table 51. Indices are available for each year from 1949 with base year 1939.[1] It was interesting to record that the general order of movement of this was very similar to that for farms sold with vacant possession throughout the 1950's. Both had risen to approximately three times their pre-war level by 1949 and further slight rises were recorded during the '50's. Both series reached peaks in 1951, then fell in the mid '50's to recover to the earlier level by 1958.

It was evident that both series were affected in similar degree by the depreciation in the values of money which occurred during the 1940's, and also by the alternations of the credit squeeze in the 1950's. Further, although the demand for farms and houses arises from basically different sources, both were subject to a premium for possession throughout much of this period. For several years after the war it was both difficult and costly to build new houses for occupation, and many existing ones were subject to 'sitting tenancies' at fixed rents under the Rent Restrictions Acts. The market circumstances were therefore somewhat similar to those for farms, and it is interesting to record that the price reactions were alike. Such a situation would be unlikely to persist for long, however, because the market price of second hand houses must ultimately be affected by the cost of building new ones, whereas it is not possible to build new farms, at least not in a long settled country such as Britain.

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1 These index numbers were calculated by the Cooperative Permanent Building Society, and were provided by courtesy of the Society.

Conclusions

The following conclusions were drawm from this study.

1) It was found possible to calculate annual average sale prices of farms in England and Wales from published data of auction sales. The sales records contained details of farm size and the annual figures could be corrected for variations in this factor. No information was available relating to types of farming, but the geographical distribution of the records indicated that the calculated prices might be more representative of mixed and arable farms than of pasture farms. They were not regarded as statistically representative for the country as a whole.

2) The records available made it possible to calculate average prices for each year from 1857 to 1958. Changes in the time series so constructed were found to agree closely with published reports on the state of the property market. It was thought that the observed trends in values were sufficiently reliable to permit further analysis, although the absolute values had to be regarded with reserve, especially for the earlier years when there were few sales records.

3) A time series of farm rents was also calculated covering the same period. The absolute valus were not regarded as representative of all farms in England and Wales, but the comparability of information from a number of sources, including

property market reports, indicated that the general trends were reliable.

4) The major trends which were observed in the movement of farm sale prices and of farm rents were found to conform closely to similar trends in the prosperity of the agricultural industry and of the economy as a whole. It was found possible to explain each of the major trends in land values by reference to the agricultural and economic conditions known to be prevailing in each period.

5) A strong association was observed between the general trends of farm sale prices and rents and of the prices of agricultural products. The latter were considered to be the most important single factor determining land values. In certain periods, however, there were marked differences in the magnitude of change in sale prices, rents and product prices. Rents and, to a lesser extent, sale prices were found to lag slightly behind product prices.

6) The relationships between product prices and farm sale prices, and between product prices and rents, were not constant throughout the whole period. They were found to vary from one major trend period to another. These changes were attributed partly to changes in the costs of agricultural production and partly to changes in the legal relationship between landlord and tenant and in social and political attitudes to landownership.

7) The marked and almost continuous increase in agricultural wage rates throughout the period under review exercised a negative influence on land values. Changes in the prices of fertilisers and feedingstuffs, which were positively correlated with farm product prices, appeared to modify the reaction of sale prices and rents to changes in product prices.

8) A positive association was found between land values and farm profits and a negative one between land values and the number of bankruptcies amongst farmers.

9) When the time series of farm sale prices and of rents were deflated by an index of farm product prices, a long term downward trend in the 'real' value of farm property was observed. This was attributed partly to the secular decline in the economic significance of agricultural land, and partly to an accompanying decline in the social and political importance of landownership.

10) Security of tenure was found to have exercised a restraining influence upon farm rents since 1940 and also to have affected the sale value of investmemt farms, resulting in the creation of a large premium for vacant possession. A strong rise in rents and investment prices was anticipated following the introduction, by the Agriculture Act 1958, of the 'open market rents' criterion for rental arbitration.

11) A detailed analysis of the relationship between farm sale prices and rents showed a strong positive relationship. This relationship was not constant, however, but varied during the different phases of prosperity and depression in agriculture. The rate of capitalisation was found to be high when land values were rising and low when they were falling. This was partly attributable to changes in market expectations of future land incomes and capital values.

12) A complex relationship was found between farm capital values and the long term rate of interest. Over the long period trends, a positive correlation was observed between sale prices and the yield on Consols. This was contrary to the relationship expected on theoretical assumptions. It was attributed to the overriding influence of changes in the general level of prices, which was associated positively with both farm sale prices and the yield on Consols.

13) In the shorter term, there was a negative relationship between the yield on Consols and farm sale prices. A similar relationship was observed between farm sale prices and the mortgage interest rate. These influences were evident when there was no marked trend in farm product prices. It was concluded that the influence of interest rates was subordinate to that of product prices, upon which market expectations of profitability appeared to be based.

14) Over the longer term trends, a negative association was found between the capital values of farms and of Consols, although a positive relationship was noted in certain specific years (see 13).

15) In general, there appeared to be a positive correlation between the major trends of farm sale prices and of equity prices. Over shorter periods, equity prices fluctuated more widely than property values.

16) In terms of a secular trend, the capital value of farms was found to have appreciated considerably less than that of equities, but more than that of Consols, which had actually fallen in absolute as well as 'real' value over the period under review.

17) Over the period from 1939 - 1958, the capital value of farms, including those sold without possession, had appreciated more than equity prices, while Consols had depreciated. Over the same period the increase in the price of farms sold with vacant possession was found to be very similar to that of urban houses.

Suggested further lines of work

It is submitted that if more extensive and more detailed information relating to farm sales could be obtained, a number of further studies might be made. These might include:

a) The construction of separate indexes of sale prices for geographical regions and for types of farming. These could be weighted to calculate a more representative index of sale prices for England and Wales.

b) A study of the relationship between farm sale prices and farm profits, by size and type of farm. A similar analysis might be made of the relationship between rents and profits.

Appendix I

Changes in the Prices of Farms of Different Sizes

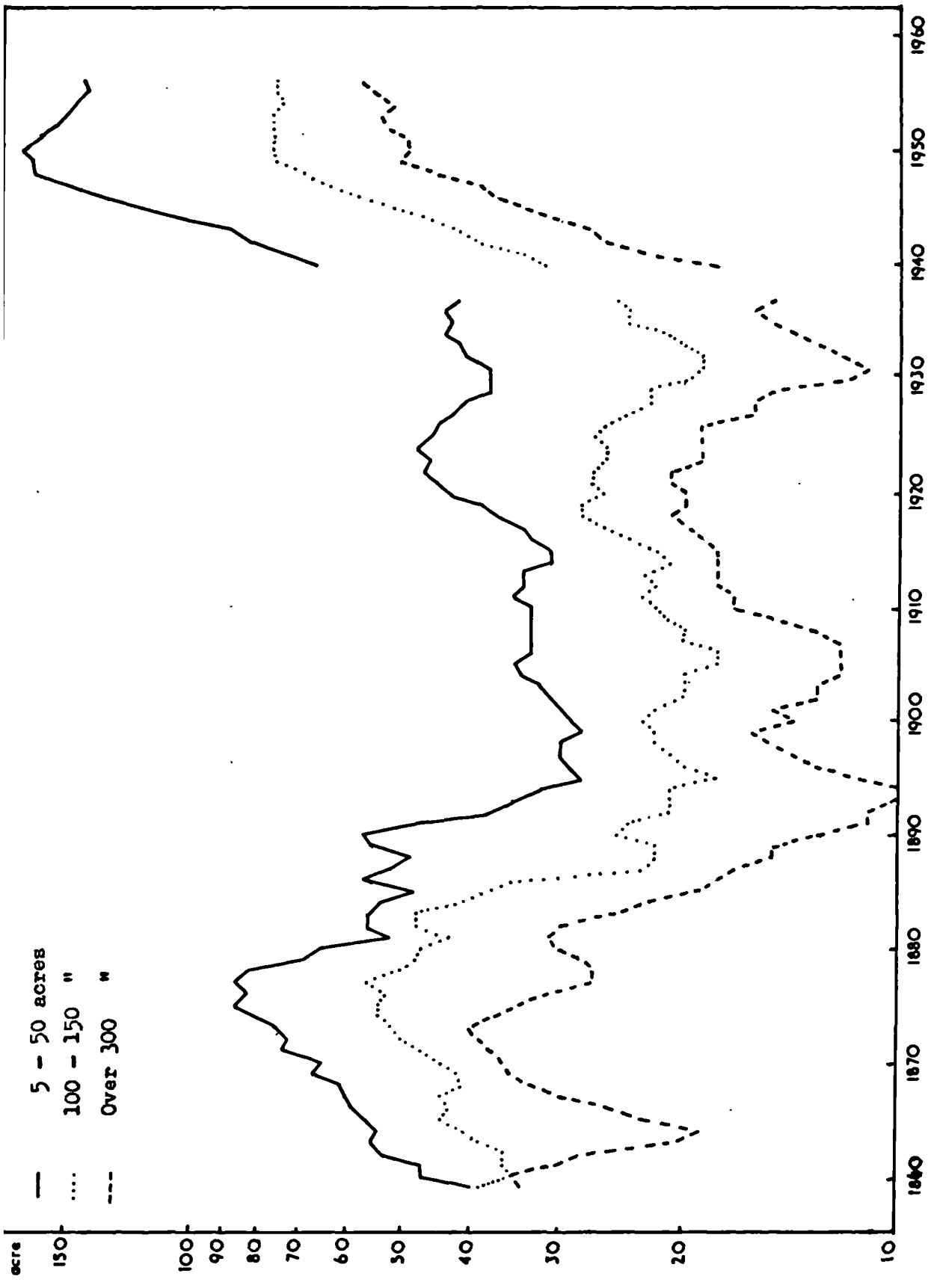
Because of the limitations of the farm sales data the only further analysis possible beyond that of general movements in prices, was by size of farm. Changes, from 1857-1958, in the average prices recorded for farms in the various size groups, and index numbers based on 1867-71 = 100, are shown in Table B. Those for farms of 5 - 50 acres, 100 - 150 acres and 300 acres and over, are illustrated in Charts B and C.

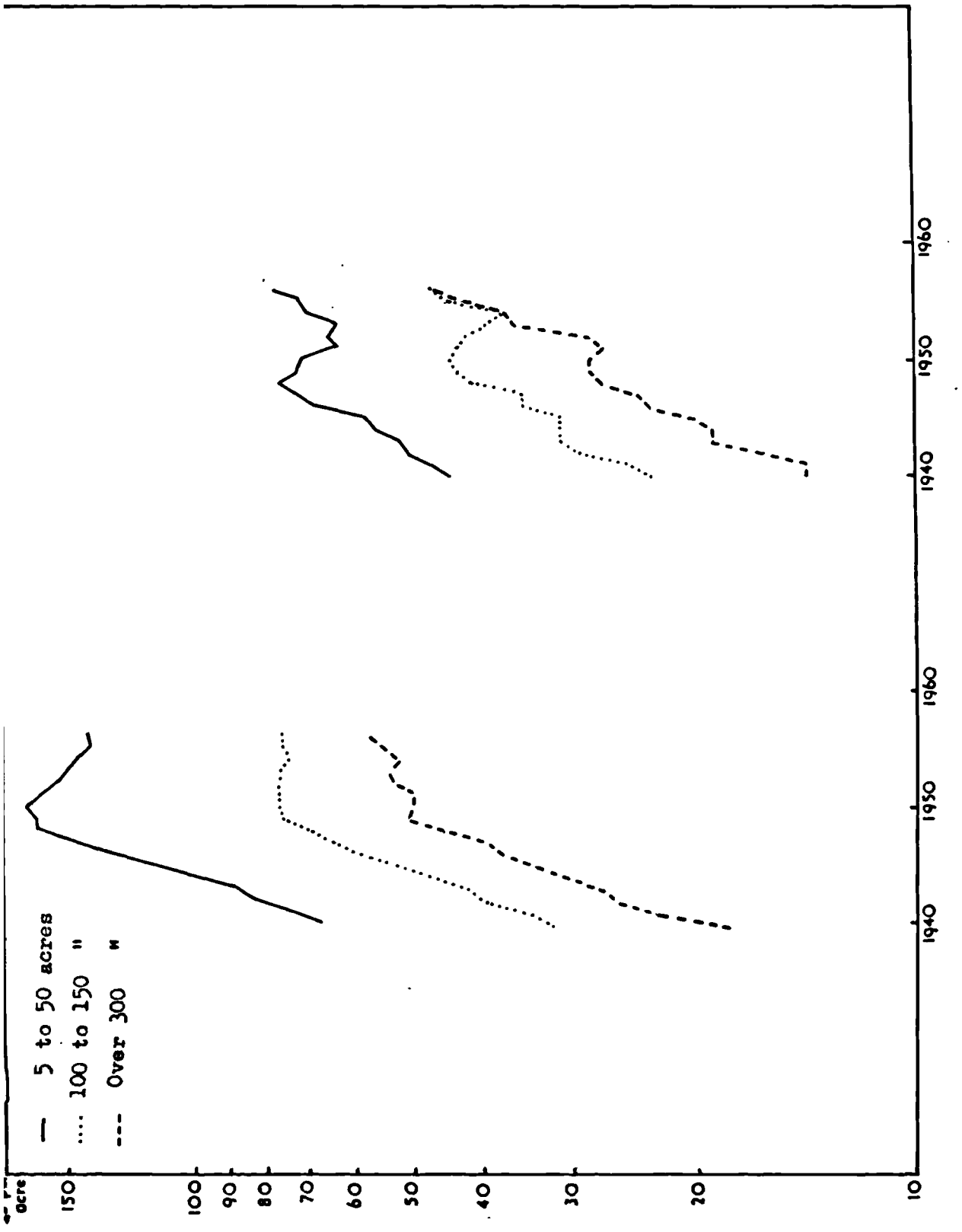
The most striking feature brought out by the comparison was the similarity of movement of prices of the different sizes of farms over the period as a whole, although there were certain differences during the various phases of prosperity and depression. In general, prices in all size groups appeared to reach peaks in 1873-77, to fall severely to 1893-97 and to recover to about two thirds of their base year values in 1919-23, only to fall again in the depression of the early 1930's. The prices of the largest farms were more depressed than those of the smaller ones, and they also appear to recover more slowly during the years up to the outbreak of the Second World War.[1] The boom in the land market during the following twenty years carried the prices of farms sold with vacant possession, in all size groups, up to approximately twice their base year level by 1954-58, and of farms sold without vacant possession to a little over the

1. These comparisons must be considered with reserve because of the small number of sales records in the largest size group.

Table B. Relative Changes in the Average Prices of Farms of Different Sizes.

Years	5 and under 50 acres		50 and under 100 acres		100 and under 150 acres		150 and under 300 acres		300 acres and over	
	£'s per acre	Index no.	£'s per acre	Index no.	£'s per acre	Index no.	£'s per acre	Index no.	£'s per acre	Index no.
1857-61	40	60	45	96	39	93	40	111	34	97
1873-77	86	128	60	128	54	129	48	133	34	97
1893-97	28	42	22	47	18	43	17	47	11	31
1919-23	45	67	32	68	27	64	25	69	21	60
1929-33	38	57	26	55	19	45	16	44	11	31
Vacant possession										
1938-42	67	100	39	83	32	76	27	75	18	51
1954-58	143	213	88	187	76	181	71	197	58	166
Without possession										
1938-42	44	66	30	64	23	55	18	50	14	40
1954-58	77	115	53	113	47	112	40	111	46	131


acre
150
100
90
80
70
60
50
40
30
20
10
1860
1870
1880
1890
1900
1910
1920
1930
1940
1950
1960
5 - 50 acres
100 - 150 "
Over 300 "


— 5 to 50 acres
.... 100 to 150 "
--- Over 300 "
150
100
90
80
70
60
50
40
30
20
10
1940
1950
1960
1940
1950
1960

base year level.

Although prices of the largest farms appeared to have improved less than those of other farms sold with vacant possession over the period as a whole, this did not indicate the true comparative movements. The largest farms suffered most in value during the depressions of 1875-95 and 1929-33, but, starting at a relatively lower level, they made the greatest proportionate gains from 1939 to 1958. It is evident from Table B that their prices increased more than threefold from 1938-42 to 1954-58, and that the proportionate gains became smaller as the size of farm declined. This tendency was even more marked in the case of farms sold without possession.

If the comparison was based on prices recorded in individual years, rather than on a series of years, as for the moving averages, an even greater discrepancy was noted.[1] By 1958 the average price recorded for farms above 300 acres was five times as high as it had been in 1937/39, and that for medium sized farms of 150-300 acres was nearly four times as high, whereas those for smaller farms had increased less than threefold.

This relatively greater fluctuation in the price of the largest farms may be partly attributed to the greater dependence of the large farm upon the market economy. Outgoings, especially for hired labour, tend to be heavier on the larger farm than on the smaller one where family labour

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1. Because of the very small number of investment sales in any one year this particular comparison was restricted to farms sold without possession.

is the rule. The profit margin on the large farm is therefore more sensitive to changes in market prices.

A second factor, is the strong association between size of farm and arable farming. Arable farming was more severely affected than stock farming during the depressions of 1875-95 and 1929-33, but during the last twenty years it has been more favoured. Greater emphasis, both technical and financial, has been placed on crop production. Moreover, many of the technical innovations of the past two decades, such as improved strains of cereals, and increased knowledge and use of fertilizers, have primarily benefitted arable farming, while the tremendous strides that have been taken in farm mechanisation have particularly favoured the large farm. Although statistical evidence is, unfortunately, not available, market reports indicate that the most substantial gains in capital values in recent years have been for large arable farms, in light land districts, such as the Cotswolds, and on first class alluvial ~~series~~ soils, such are found in parts of Romney Marsh.

APPENDIX II

Valuation for Rent.

The purpose of this Appendix is to consider whether the economic theory of farm rent, briefly outlined in Chapter 13, has any contribution to make to the process of valuation for rent in the market. In this connection, a corollary of the theory, that rent is a residual item, something left over after all other costs have been met, is a useful concept.

In view of the general acceptance of this theory of rent it is interesting to record that it finds little application in rental valuation. Mr.Walmsley, who is a leading authority in this field, has written,"The working of the landlord tenant system in this country over a long period of time has resulted in a basis of actual rent which is calculated according to no particular theory but which is so firmly established that any serious departure therefrom has hitherto proved shortlived. This basis is known as customary rent....."[1]

The methods of valuation used by professional valuers, and it would appear, widely although not universally accepted by farmers and landowners, have been widely discussed in professional journals.[2] In essence they are comparative in nature. "The

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1. R.C. Walmsley, "Rural Estate Management", 3rd Edition. The Estates Gazette, London 1955, pp. 183/184.

2. For a summary of methods of valuation used by practising valuers, see R.C. Walmsley, ibid, pp. 187 to 190.

direct comparison method must always be the touchstone by which the accuracy of any other valuation method is tested."[1]

Some valuers, although apparently only a small minority, use as a check upon an estimate arrived at on a comparative basis a further estimate based on the turnover of the individual holding. "The next stage is to decide what proportion of his gross turnover a tenant should reasonably pay in rent. The decision on any particular holding will be an arbitrary one but experience indicates a (certain) range."[2]

This procedure, based on 'arbitrary proportions' and 'reasonable payments' has a judicial air about it that may have been suitable for determining on a traditional basis the rent to be paid by a sitting tenant before the Agriculture Act, 1958 but it is less appropriate now that the proper rent has to be related to open market values.

It is on a second point, however, that the method of valuation to be submitted here diverges most widely from that adopted by professional valuers. They estimate the rent they believe the farm will actually fetch when let, or alternatively, what they

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1. R.C. Walmsley, ibid, p.187.

2. R.C. Walmsley, ibid, p 188

themselves regard as its 'true agricultural value'.[1] They do not generally estimate the rent their own particular client could afford to pay. Some few may use the turnover check already mentioned to see whether the rent they are suggesting is 'reasonable' in relation to output but, as far as is known, they do not use any detailed estimate of cost to make an assessment of gross profit margins. It is submitted that this limitation of the usual procedures adopted for ~~p~~évaluation can be overcome, at least in part, by the application of the concept of rents as a residual item and by the use of budgeting techniques to estimate that residual.

The use of budgeting for calculating rental offers.

In considering how much he can offer for a farm a potential tenant should estimate the value of the output he is likely to be able to obtain from the farm and the costs he is likely to incur in running it.[2] By relating the one to the other he should then

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1. A review of market reports and discussions with practising valuers disclosed that many valuers do not necessarily accept market values as 'true agricultural value'. During the boom on the land market following the Second World War a number of market reports contained references to land fetching more than it was worth. Such comments are due partly to a feeling that rents or sale prices were out of proportion to profitability but partly, also, to a widespread belief in an inherent value of land.

2. Potential tenants will have to submit offers when tendering, or negotiating directly, for a new tenancy. Sitting tenants may have to do so when negotiating with their landowners a proposed increase (or decrease) in rent under an existing tenancy.

estimate the gross margin of profit he may expect from farming the land in a way he believes will be suited to it's, and his own, capabilities. He must further decide what level of income will induce him to take on the tenancy; this will depend upon a number of personal factors including his present income, his preference for the farm and its farmhouse and for the type of farming to which it is best suited, and also possible alternatives open to him. On the basis of these expectations he can decide what rent he can offer. This should be the highest he can afford to pay and still leave himself a reasonable living. What each individual regards as reasonable will depend upon his personal circumstances and the other opportunities available to him. The offer made must not be too high in relation to the farm's or his own capability, and some of the wilder figures heard when walking a farm may therefore be ignored. But in view of the strong competition for tenancies at the present time (1960) he must be prepared to go up to the maximum he can really afford if he is keen on the farm and is to stand a reasonable chance of getting it.

After walking the farm the applicant should decide what system of farming would suit its capabilities and his own experience and preferences. He should then draw up a budget of his farm plan. This should show the annual output and expenditure expected in an

average year once the plan is in operation. The safest guides to the probable levels of output and costs are the previous experience of the applicant himself. Of course, some adjustments to earlier performance may be made to allow for qualities of soil and buildings and a talk to the outgoing tenant or his neighbours should help here, while the standards given in "The Farm as a Business" will provide a check. But the figures used must be realistic.

In planning the cropping and stocking, checks on the forage acreage and feedingstuffs requirement should be made by calculating forage and concentrates required for each unit of livestock. Labour requirements should also be estimated to check the provision made for labour against the work involved in the farm plan. A series of capital budgets should then be drawn up to estimate the capital needed and credit requirements at different phases of putting the plan into operation. These must take account of the fact that while much of the capital must be found on entering the farm, it will be many months before the output is built up. Care should be taken in drawing up the budgets, and cross checks should be used where ever possible, because errors of estimation in output or expenditure will have disproportionate effects upon the margin which will be available as rent.

When estimates have been made of annual returns and costs, including interest charges, the gross margin between them can be calculated. This will be the amount available to be divided between the tenant's income and the rent. The amount of rent offered will determine the farmer's income, or alternatively, the amount of income required will determine the rent that can be offered. No one but the applicant (and his family) can make this decision. Others may help with the budgeting but not in deciding the income required.

In the last few years this method of valuation has been used on several occasions when farmers have sought advice in tendering for farms.[1] Case studies based on three such occasions are submitted to illustrate the application of the method.

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1. The need for such a method of valuation has been emphasised by the recent growth in the practice of asking for tenders when a farm is relet. Confidential discussions with several of the leading firms of estate agents in the country who act as agents for a number of large institutional landowners disclosed that only two tenders out of many thousands received in recent years were submitted in this form. Both of these were based on budgets prepared by the author in discussion with the farmer.

Case Studies.

Case A. (Rental valuation, 1958)

A large farm of 450 acres in the South of England. The soil is brick earth of high fertility and the fields are large and easily worked. There is a good range of buildings with a parlour suitable for a dairy herd of 60 cows. A pleasant farmhouse is in a good state of repair. The farm is in a good situation and there is an adequate labour supply locally.

The prospective tenant has had twenty years' experience of farming, much of it in dairying and cash cropping. He owns and farms a 250 acre mixed farm in the Midlands. After careful inspection of the land and buildings he envisages the following farm plan:

Cropping: - 340 acres of tillage under a four course rotation of corn, corn, roots, leys. This will give each year, 170 acres of corn, mainly wheat and barley with some oats for feeding. Previous experience on the farm indicates good yields with an average of 33 - 35 cwts. The other half of the land will be under 80 acres of sugar beet with an estimated yield of 14 tons, 90 acres one year leys and 90 acres of permanent grassland. The leys and permanent grass will be used for grazing, silage and hay and, together with the sugar beet tops, should provide sufficient forage for the dairy

herd, followers and sheep. The wheat will all be sold off but some of the barley and oats will be kept back for the stock.

Cropping may be summarised as follows:

170 acres	Corn
80 "	Sugar beet
90 "	One year leys
90 "	Permanent grass
20 "	Buildings, roads and small copses
450 acres	

Stocking - 60 Ayrshire dairy cows averaging 720 gallons with 45 followers in a self-contained herd. The best twenty cows and heifers to be put to a dairy bull for replacements. The others to be crossed with a beef bull and the calves sold off at a week old. A self-contained pure bred flock of 70 Clun ewes will follow the dairy herd.

The farm will be run with a labour force of eight regular workers consisting of a foreman, 2 cowmen and 1 other stockman who will look after the young stock and sheep, 3 tractor drivers and 1 general worker. Most of the arable work, including the sugar beet harvesting, will be highly mechanised but a considerable amount of casual labour will be required for thinning the sugar beet.

Estimated Output.

Crops.		£
145 acres	Corn at £45 per acre	6,500
80 "	Sugar Beet x 13 tons at £6 a ton	6,240
Dairy Herd.		
60	Cows at £105 milk per cow	6,300
12	Cull cows at £40	480
40	Beef cross calves at £10	400
70	Ewes (net output of lambs, wool and draft ewes at £9.10s.per ewe)	650
		£20,570

Estimated Expenditure.	£
Feedingstuffs 35 tons at £33 a ton	1,150
Seeds 340 acres at average £4 an acre	1,350
Fertiliser 430 acres at average £4 an acre	1,700
Labour - Regular 8 men (including overtime, insurance, perquisites, etc.)	4,600
Casual	700
Power and Machinery (fuel and oil, repairs and depreciation) at £8 per acre	3,400
Miscellaneous (11 per cent of other expenditure)	1,400
	£14,300

Capital requirement.

The working capital required on this system would amount to some £55 an acre or £25,000 in all. The prospective tenant already farms a 250 acre holding in the Midlands which he owns himself. He therefore has a considerable amount of the livestock and

machinery required. Additional capital required for stocking the larger acreage and as working capital for the year would probably amount to £10,000. The applicant believes that he could sell his present farm for £17,000 - £18,000. This would be sufficient to cover the additional working capital required on the larger farm and leave some £7,000 - £8,000 for investment elsewhere. Therefore, no interest charge is included in the following calculation.

	£
Gross output	20,500
Expenditure	14,300
Gross Margin	6,200
Income required	2,500
Available for rent	3,700

Rental bid £3,700 or approximately £8 an acre.

On the basis of this calculation it would seem that the prospective tenant, requiring an annual income of £2,500 could afford to offer £8 an acre for the farm.

Case B. (Rental valuation 1959)

The farm offered is a compact holding of 150 acres in the South East of England. The soil is a medium loam above average in fertility. There is a good range of buildings with a yard

and parlour and a fair farmhouse.

The prospective tenant, with fifteen years experience as a tenant on a similar mixed farm, plans a simple system based on milk and corn. The main enterprise will be a self contained herd of 32 Friesians with 24 followers. They will be carried on 60 acres of leys, 10 acres of permanent grass and 10 acres of kale. The remaining seventy acres will be down to wheat and barley. This will give a six year rotation - 3 corn, 3 ley plus kale. An average yield of 850 gallons is expected from the cows, and the corn should average 28 - 30 cwt.

When the plan has been put into operation the yearly budget anticipated is as follows:

Estimated Output.

Crops.		£
Wheat	35 acres at £40 an acre	1,400
Barley	35 acres at £38 an acre	1,330
		2,730
Dairy.		
Milk	32 cows at £125 per cow	4,000
Calves	22 at £12	260
Cull cows	7 at £40	280
		7,270

Estimated expenditure.		£
Feedingstuffs	38 tons at £33	1,250
Labour	2 men, wages, insurance etc.	1,200
Fertiliser	£4 an acre	600
Seeds	£4 an acre on 100 acres.	400
Power & Machinery	£8 an acre	1,200
Miscellaneous	(13 per cent of other costs)	600
		5,250

With an output of approximately £7,250 and costs of £5,250 a gross margin of £2,000 a year could be obtained.

Capital requirement.

The capital required to stock, equip and run a farm of this nature would amount to around £60 an acre or £9,000 in all. At an interest rate of 5 per cent this would involve an annual interest charge of £450. The prospective tenant can provide much of the stock and equipment for the farm and will therefore only have to pay interest on any additional amount.

Taking into account his own preferences, his present income and the amount of capital he has, (£6,000) the prospective tenant would like to secure the tenancy if he could see his way clear to £1,100 a year.

The amount of rent he would be willing to offer could then be calculated as follows:

	£
Estimated Output	7,250
Expenditure	5,250
Gross margin	2,000
Loan charge on borrowed capital (of £3,000)	150
	1,850
Income required	1,100
Available for rent	750

Rent offered £750 or £5 an acre.

Case C. (Rental valuation 1960)

A large farm in the South East of England. There are 420 acres of good land, mostly loam with some clay, well suited to arable farming. Good crops of barley and wheat are grown, and good leys can be established. The arable land is well laid out in four large fields and the farmstead is well placed in the centre with good access to all parts of the land. Buildings consist of a very large barn, forming one side of two large yards. The other buildings round the yards are cattle boxes and stables. There is also a Dutch barn and an implement shed. The farmhouse is large but spacious rather than convenient. All buildings are in a good state of repair.

Separate from the main farm, by only a few hundred yards, are

250 acres of marsh. The water table is high and there is a complex well maintained drainage system. With supplementary feed from the higher land the marsh will carry five hundred ewes over the winter and will fatten their lambs in the summer.

The prospective tenant plans an arable with mixed livestock system of farming. The main enterprise will be cash cropping with a supplementary beef enterprise. The marsh will be used for sheep which will also require some ten acres of rape and turnips.

Cropping.

250	acres corn (yield 30 cwts. per acre)
10	" potatoes or market garden
10	" kale
10	" roots - sheep keep
140	" leys
420	Arable
250	marsh
5	buildings, etc.
675	

The fertility of the cash crop acreage will be maintained by grazing the leys. Manure will also be available from the yards.

Livestock.

Cattle - Selling off 100 beef-cross fat bullocks a year. Buying in at 12 - 18 months in autumn to yard over winter and fatten off leys.

Sheep - Breeding flock of 500 Kent ewes crossed with Down ram to produce fat lambs in late autumn.

Output.

Crops.	£
250 acres Wheat and barley at £40 per acre	10,000
10 " potatoes or green cash crop at £100 per acre	1,000
Livestock.	
100 Fat bullocks at £70	7,000
5 ewes (£8 per ~~acre~~ ewe for sale of lambs wool and draft ewes less replacement cost of ewes)	4,000
	22,000

Expenditure.

Store cattle - 100 at £45	4,500
Seeds - 320 acres at £4.10s.	1,440
Feedingstuffs - 10 tons at £33	330
Fertiliser - 420 acres at £4	1,680
Labour - 6 men (+ extras)	3,300
Power & Machinery - £8/acre (arable)	3,300
Miscellaneous (10 per cent of other expenditure)	1,500
	16,050

Capital requirements.

Stock - Sheep (at £8.10s. per ewe)	4,250
Cattle	6,200
	14,450

Machinery, seeds, fertilizer, etc. would bring initial capital requirement up to about £21,000. On this system of farming most of the year's outlay would have to be met before any return was received. In the first year tenant right might amount to say, £2,500 and working capital would be required for wages and half-years rent before any return was in. It would not be possible to enter on this scale without £27,000. As the prospective tenant would need to borrow £12,000 of this the annual interest charge at 6 per cent would amount to £700.

Rental Calculation.	£
Estimated output	22,000
Estimated expenditure	16,000
Gross margin	6,000
Interest charge on £12,000 at 6 per cent	700
	5,300
Income required	2,000
Available as rent	3,300

Rental bid £3,300, or approximately £5 per acre over the whole farm. This may be thought of as equivalent to £6.10s an acre on the arable land and £2 an acre on the marsh.

APPENDIX III

The Agriculture Act, 1958.

The Agriculture Act, 1958 contains a number of provisions relating to the tenure of agricultural land and to the determination of rents at arbitration.

Section I of the Act repeals the powers of supervision, direction and dispossesion granted to the Minister under Part II of the Agriculture Act, 1947. In recent years there has been a growing feeling that the exercise of such powers, while necessary and acceptable under the siege conditions of war, were both unnecessary and distasteful under the very different conditions prevailing in this country in the mid and late 1950's, and as a result of this public feeling they were falling into disuse. The effect of the amendment has therefore been to bring the letter of the law into line with its practice, and to relieve the landlord and owner-occupier, as well as the tenant, of the threat of direct intervention by the state.

On the other hand, amendments introduced under section 3 (2) of the Act should make it slightly easier for the landowner to evict an incompetent tenant. In the first

place, the emphasis on consent to notices to quit has been altered slightly by a change in wording so that whereas formerly the Minister "shall withhold his consent" unless he is satisfied as to certain matters, under the amendment the Agricultural Land Tribunal (to whom these powers are transferred) "shall consent to the operation of a notice to quit, if, but only if, they are satisfied as to one or more of the following matters." The change may seem slight, but in practice it might imply that consent may normally be given rather than normally withheld. The matter or matters on which the Tribunal must be satisfied, and which must be specified by the landlord in his application for their consent, may be one or more of the following:

"(a) that the carrying out of the purpose for which the landlord proposes to terminate the tenancy is desirable in the interests of good husbandry as respects the land to which the notice relates, treated as a separate unit; or

(b) that the carrying out thereof is desirable in the interests of sound management of the estate of which the land to which the notice relates forms part or which that land constitutes; or

(c) that the carrying out thereof is desirable for the purposes of agricultural research, education, experiment or demonstration, or for the purposes of the enactments relating to smallholdings or allotments; or

(d) that greater hardship would be caused by withholding than by giving consent to the operation of the notice; or

(e) that the landlord proposes to terminate the tenancy for the purpose of the land's being used for a use, other than for agriculture, not falling within paragraph (b) of subsection (2) of the last foregoing section."

Paragraph (e) remains the same as the corresponding paragraph (e) of section 25 (1) of the 1948 Act and paragraph (c) is the same as the former paragraph (b) except for the omission of "otherwise" before "desirable" which does not appear to affect its meaning, but the remaining three paragraphs introduce amendments,

The major change introduced under (a) is the qualification "as respects the land to which the notice relates treated as a

separate unit". This is in line with an interpretation of section 25 (1) (a) of the 1948 Act given in the courts whereby it was held that a landlord could not seek possession of a holding on the grounds of furthering the good husbandry of land in his own occupation.

On the other hand the introduction of paragraph (b) in the 1958 Act means that it will now be possible for a landlord to gain possession of a holding on the grounds of sound estate management of his estate as a whole whereas paragraph (a) of section 25 (1) of the 1948 Act had been interpreted to mean good estate management of the holding treated as a separate unit. This has been adopted to enable other factors, such as management costs and estate organisation, to be taken into account as well as the production from a particular holding. It is possible to think of a situation in which the purpose for which the landlord proposed to take possession might be in the interest of sound management of the whole estate but might not necessarily lead to an improvement of the management of the individual holding. The amalgamation of holdings to form larger and more economic units might be a case in point.

Paragraph (d) amends the provision of the 1948 Act

under which the landlord could only plead hardship if the tenancy had existed before 1947, or, where the tenancy had been created after 1947, if he required the land for a specific purpose which had been stated in the contract. This limitation meant that the landlord had less than equitable treatment in relation to the tenant who could plead hardship in any case. These qualifications have been deleted so that hardship to the landowner is now to be considered on the same basis as that of the tenant. It was widely reported in the press at the time the Agriculture Bill was published that the tenant could only plead hardship if the landowner was claiming possession on the grounds of his own hardship, but this would appear to be a misinterpretation of the relevant clauses of the Act. The last paragraph of Section 2 of the Act provides that, "Notwithstanding that they are satisfied (as to the grounds specified for consenting to a notice to quit) the Tribunal shall withhold consent to the operation of the notice to quit if in all circumstances it appears to them that a fair and reasonable landlord would not insist on possession." It may be argued that a fair and reasonable landlord would not ignore excessive hardship caused to a tenant if evicted so that under this proviso

hardship may still be pleaded as a grounds upon which the Agricultural Land Tribunal may refuse consent to a notice to quit.

The purpose of Section 2 of the 1958 Act is to give an objective definition of the rent which "should be properly payable" referred to in Section 8 of the Agricultural Holdings Act, 1948. There had been a certain amount of controversy as to the interpretation of this phrase. Mr Walmsley defined it as "that (rent) which a prudent tenant might reasonably be expected to offer and a properly advised landlord might reasonably be expected to accept on an open market letting of the holding, but excluding scarcity value." [1] By scarcity value Walmsley meant a premium value offered in order to secure the tenancy with a view to obtaining a revision to the proper rent at the end of three years. This definition was widely, but not universally, accepted and it would seem that, implicitly or explicitly, some professional valuers, in interpreting the rent properly payable were guided by the tradition of asking a sitting tenant for a rent somewhat lower than that which could be obtained on a free market letting. Under the 1958 Act the "rent properly payable" is defined explicitly to exclude the effect of an

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[1] R.C. Walmsley, "Farm Rents", The Chartered Surveyor, March 1956, p.502

existing tenancy. It is defined as "the rent at which, having regard to the terms of the tenancy (other than those relating to rent) the holding might reasonably be expected to be let in the open market by a willing landlord, to a willing tenant, there being disregarded...any effect on rent of the fact that the tenant who is a party to the arbitration is in occupation of the holding."

This new definition has been subjected to a considerable degree of criticism from those representing the tenant farmer's interests. It has been argued that such open market rents as are recorded under present conditions are influenced by a number of unusual factors and that it will therefore be unfair to the sitting tenant if his rent is assessed in comparison with those obtained at new lettings. Some of these fears may be dispelled by the operation of certain sections of the 1948 Act which are still applicable and also by the interpretation which the Government intends shall be placed upon the new definition.

Section 8 of the 1948 Act stipulates that in assessing the rent of a farm the arbitrator

"(a) Shall not take into account any increase in the

rental value of the holding which is due to:

(i) improvements which have been executed wholly or partly at the expense of the tenant....or

(ii)improvements which have been executed thereon by the landlord (with the aid of a grant)

(b) shall not take into account relief from payment of rates....and

(c) shall not fix the rent at a lower amount by reason of any dilapidation or deterioration of, or damage to, buildings or land caused or permitted by the tenant."

Of more immediate importance is the possibility that the open market rents, which will presumably be taken as the basis of assessment, might be unduly influenced by "freak" bids made by wealthy business men intending to set up as hobby farmers, by unusually efficient farmers wishing to extend their holdings, or by "ordinary" farmers willing to pay a premium in order to secure a tenancy with a view to asking for a remission once they had become fully established. The Government have made it clear that the definition of the rent properly payable is to be interpreted in such a

way as to exclude bids of this kind being used as the basis of comparison. This was expressed by Mr Godber, the Minister's Parliamentary Secretary, at a meeting of the Central Association of Agricultural Valuers on 19th June, 1958.

"We must, of course, ensure that arbitrators are not obliged to take into account premium rents. The definition in the Bill, if I may remind you of it again, refers to the rent at which the holding might reasonably be expected to be let in the open market by a willing landlord. Such a landlord could not reasonably be expected to accept the highest tender if it is obviously more than a good tenant could afford to pay, and keep on paying, without exploiting the fertility of the land. Nor could he reasonably be expected to refuse to let his farm until an exceptionally efficient tenant happens to offer an unusually high rent. A willing landlord could not reasonably be expected to hold out for a freak bid, and it follows that he could not reasonably expect to obtain an excessive rent."

This does not, however, entirely resolve the matter. It can be argued that, due in part to the present degree of security of tenure, the supply of farms coming on to the market

to let is artificially low so that with an intense demand rental offers are unusually high. The open market rent under present circumstances may therefore be somewhat higher than would be the case if there were a free market for tenancies. It is possible, however, that the operation of the 1958 Act may lead to a greater number of farms coming on to the market to let. In the first place, the slight easing of the provisions for security of tenure may encourage landowners to evict the more incompetent tenants and seek new ones. Secondly, and probably of far greater importance, when a tenancy falls in through the death or retirement of a tenant, the landowner may be encouraged by the provisions of the Act (which should make it easier for him to secure a realistic rent and also to regain possession if he wished to do so) to re-let to a new tenant rather than sell with vacant possession as has frequently been the case. If the number of farms to let does increase in this way there may be a slight easing of high rental offers, but they can not be expected to fall very much while agriculture retains its present degree of prosperity. If it is agreed that security of tenure in the form laid down

in the 1948 Act and modified in the 1958 Act is to be retained then it would appear that the new definition of the rent properly payable may be the best suited to assessing rents reasonably consistent with prevailing economic conditions.

CUTTING FROM "THE FINANCIAL TIMES"

FEBRUARY 15TH, 1960.

EQUITIES *versus* FARMS

By J. T. WARD, Lecturer in Agricultural Economics at Wye College, University of London

In view of the spectacular rise in equity prices in the last 18 months and the strong market for agricultural property, it may be of interest to compare the appreciation of capital values of these types of investment over the past 20 years.

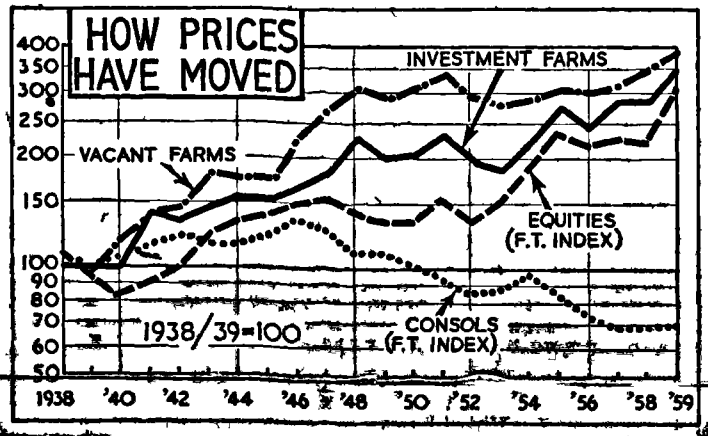
For this purpose, yearly averages of THE FINANCIAL TIMES index numbers of Industrial Ordinary shares, and for further comparison, of 2½ per cent. Consols, have been converted to a 1938-39 base. Changes in the sale value of farms are shown in the form of average values and index numbers calculated from sales data published in The Estates Gazette. They relate to farms sold as such and not to agricultural estates, bare agricultural land, nor farms sold subject to planning permission.

Lag of Rents

Separate sale values and index numbers are shown for farms sold with vacant possession and for those investment farms sold subject to a tenancy. The divergence between them is mainly due to the lag of rents behind farm profits and to security of tenure, which together placed a premium on possession.

A comparison of changes in the capital values of equities, Consols, and farms is illustrated in the chart. The most striking feature is that up to 1959 the appreciation in capital value of both vacant and investment farms was greater than that of equities. With 1938-39=100, the relevant index numbers for 1959 were, vacant farms—385, investment farms—347, and equities—305. Consols depreciated in absolute as well as relative terms and by 1959 were worth less than three-quarters of their pre-war value.

The index numbers of equity prices used here are, however, yearly averages so that the figure recorded for 1959 does not fully reflect the 45 per cent. rise in equities during the last 12 months. By the end of the year the index number (base 1938-39 =100) had reached 392, nearly 90 points above the average figure for the year. The prices of agricultural property also increased throughout the year, and the greater part of the rise was probably recorded in the last six months, but the increases were less than that for equities, being about 12 per cent. for vacant farms and perhaps 20 per cent. for investment farms.



If comparable data were available for the end of the year, it seems probable that the index number for vacant farms would have been close to 390 and that for investment farms somewhat less. It may therefore be broadly true to say that by the end of the 1950's the capital values of equities and of farms sold with vacant possession had risen to almost four times their pre-war levels while the appreciation of investment farms had been slightly less.

A Wide Range

For each of these assets, averages conceal a wide range of figures. Ordinary shares in some leading companies have appreciated much more than the average. Similarly, the increase in value of good farms, and especially the larger arable farms, in favourable parts of the country such as the Cotswolds or Romney Marsh, has been considerably greater than the four-fold increase secured by the general run of holdings.

Over the period 1938 to 1959 two major trends may be discerned. From 1938 to 1951 the capital value of farms, and especially of those sold with vacant possession, increased more rapidly than that of equities. By 1951 the index numbers were: vacant farms 338, investment farms 232, equities 157. Since 1952 the contrary has been true as equities have appreciated in value at a greater rate than farms, and particularly of those sold with possession. In this latter period equities appreciated by almost 125 per cent., whereas investment farms rose by just under 75 per cent. and vacant farms by only 24 per cent.

In the earlier period agricultural output was greatly expanded, product prices were increased and farmers' incomes rose more rapidly than those in the economy as a whole. There were two phases to this expansion. The first, during the war, was based on extending the arable acreage from 12m. to 18m. acres. Guaranteed prices and assured markets were introduced for all major products and prices were fixed high enough to ensure substantial increases in farm incomes.

The second phase was from 1947 to 1951 when the expansion programme was designed to maintain the arable acreage and also to extend livestock production as a partial solution to the balance-of-payments problem. Guaranteed prices and assured markets were retained in peace under the Agriculture Act of 1947. Farm incomes again rose and by 1951-52 they stood at six times their pre-war level.

After 1951 external conditions changed and agricultural policy was increasingly directed to improving efficiency rather than to greater output. Farm costs rose more rapidly than product prices and despite the system of agricultural subsidies farm incomes fell slightly in the mid-'50s. They have since shown signs of recovering.

The rate of growth in the value of investment farms has been between that of equities and of vacant farms. Until 1951 they appreciated more rapidly than equities but less than vacant farms whereas since then they have gained on the latter but lost ground to the former. This is primarily because in the earlier period, and especially the war years, rents lagged a long way behind farm profits but subsequently began to catch up, a process which has been accelerated in the last two years.

The influence of agricultural policy can be seen in those phases when the capital values of equities and of farm land diverge. At other times, and over the period as a whole, they show similar trends which can be attributed to monetary factors and to the growth of the economy. In 1946 the cheap money policy initiated the second phase of the boom in farm land, after 1951 the credit squeeze was partly responsible for the fall in the market and in 1958 and 1959 the relaxation of credit restrictions led to a renewed rise in property prices.

The Outlook

Although the outlook for agriculture appears sound, any further major expansion of the industry is unlikely, and only moderate increases in farm profits can be expected. Vacant possession prices will therefore be primarily influenced by credit facilities and by interest charges on long-term capital. The prices of investment farms are, however, likely to appreciate further as a result of the marked rise in farm rents following the 1958 Agriculture Act, and especially as the net return on investment in farm property—perhaps a little over 3 per cent.—is currently higher than that earned on many first-class equities.

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Landowners' Capital in Agriculture:

estimates of the total capital value of agricultural holdings in England and Wales for the years 1925, 1931, 1939, and 1949.[1]

THERE are several ways of estimating the capital values of property. Two frequently used for goods which can be reproduced are original cost minus depreciation, and replacement cost minus depreciation (in the case of long-term goods for which costs of production may alter considerably during the lifetime of the property).

Either of these methods may be used to value buildings and permanent equipment but not land, which has no original or replacement cost, and is therefore valued in practice by either comparison of market values or capitalization of annual yield.

[1] Received 3 June 1952.

It is sometimes suggested that the valuation of farm real estate would be more accurately carried out if land and buildings were valued separately by the method considered most appropriate to each, the results being added to arrive at the final total. Theoretically it seems more sound, and in practice it is much more convenient, to regard a farm as an economic entity and to value it as such by either of the two last mentioned methods, i.e. by comparison of sale values or by income capitalization.

The disadvantages of the income capitalization method are well known. The estimation of annual values is a difficult task which is further complicated when net rather than gross yields are required, while the choice of a rate of discount or capitalization is even more hazardous. The comparison method overcomes the difficulties of estimating annual yield and rate of capitalization by accepting them at their market valuations, and although prices are widely dispersed, owing to the local nature of the market and the undue influence of fortuitous circumstances, reliable averages may be calculated provided sufficient data are available. It is a common practice among professional valuers to combine the two methods by using one to check the results obtained by the other, and this procedure was adopted in the present study.

The reliability of the methods was tested by comparing the results obtained for 1925 and 1931 with the estimates of total capital value for the same years made by the Ministry of Agriculture. The closeness of the results suggested that the methods could be used with some confidence for the later years, 1939 and 1949.

All values refer to holdings above one acre. Fruit, vegetable, and poultry holdings were excluded.

The Sale Value Method

(*a*) *Prices.* Prices used were based on studies of the sale value of farms in England and Wales between the wars and from 1939 to 1949.

Britton estimated the average price of farm land to be £30·9 an acre in 1925,[1] and the Crop Reporters of the Ministry of Agriculture valued it at £30 an acre for the same year.[2] Britton's calculations were restricted to farms of 5 and less than 300 acres and his average value becomes approximately £29 an acre when corrected to include all holdings above 1 acre. He pointed out that his estimate might err on the low side, owing to the biased distribution of the sales data, but the error is unlikely to have been considerable. The most reliable figure would appear to be £30 an acre.

The Crop Reporters' estimate was £24 an acre for 1931[2] and Britton's average sale value was £23·6 an acre for farms of 5 to 300 acres and £22·0 an acre corrected for all farms over 1 acre. This latter figure was probably too low because an undue proportion of sales was recorded in those regions, notably the eastern counties, where farm sale values fell heavily during the years from 1929 to 1931, while Wales, where decreases were far less severe, was under-represented. Moreover, many of the transactions were forced sales, and prices are likely to have been below their economic level. It is probable that £23 an acre is the most reliable estimate.

Average prices for 1939 and 1949 were based solely on the recorded values of farms sold at auction. Data were obtained for 832 farms comprising 97,676 acres in 1939 and 774 farms of 75,814 acres in 1949. Average prices were found to be £26·5 an acre in the former year, and in the latter, £41·5 an acre for farms sold without possession, and £87 an acre for those sold with vacant possession.[1]

The extent of the vacant possession premium in 1949 raised the question whether its influence should be included in estimates of capital value. It was implicit in the estimate made for the earlier years, as farms were not grouped according to their status in this respect when the average values were calculated, but on a national basis the premium probably amounted to no more than £23,000,000 both in 1925 and in 1939, and to considerably less than that in 1931. The position was very different in 1949 when average sale values varied by more than 100 per cent. according to whether a farm was offered with or without vacant possession. Accordingly, two estimates were made for that year. The first assumed the national estate to consist entirely of tenanted farms while the second took into account the relative number of farms which were tenanted and owner occupied. It is probable that the proportion of owner occupiers has increased in recent years, since many tenants have purchased their farms and landlords have been keen to offer vacant possession whenever possible, but the extent of the change is not yet known. Orwin estimated that the area owned by the persons occupying it increased from 10 to nearly 30 per cent. of the whole between 1918 and 1927.[2] It is unlikely that the change in recent years has been so great, because greater security of tenure has relieved the tenant of the necessity to buy his farm to prevent its being sold over his head as happened in so many cases after the First World War, but it may still be considerable. The acreage assumed to be under owner-occupation, 33 per cent. of the total is based on the National Farm Survey data for 1941 so that the total capital value for 1949 may be underestimated on that account.

Tenanted farms have been valued at average prices paid for farms sold without possession and owner-occupied farms at vacant possession prices, although it has to be admitted, of course, that the existing status of a farm does not predetermine its status at sale. Valuing 16,000,000 acres without possession at £41·5 an acre, and 8,000,000 acres with possession at £87 an acre, is equivalent to valuing the total acreage at £56·5 an acre.

The value of rough grazings was based on the Crop Reporters' estimates for 1925 and 1931, adjusted in proportion to the increase in rent for this type of land for 1939 and 1949.

(*b*) *Acreages.* The area of land under crops and grass in England and Wales declined by a million and a quarter acres from 1925 to 1949, and the area recorded under rough grazings increased by half a million acres during the same period. These changes were relatively small and had only a minor influence upon changes in total capital values.

The results of estimating the capital value of all the agricultural land in England and Wales by the sales value method are shown in Table 1.

The Income Capitalization Method

Gross annual income and the appropriate rate of capitalization were used to estimate total capital value by this method.

(*a*) *Gross Income.* The Ministry of Agriculture and Fisheries estimated the gross annual income from all agricultural land to have been £42,350,000 in 1925

[1] D. K. Britton, 'The Sale Value of Farm Land between the Wars', *Farm Economist*, vol. vi, no. 5, 1949.

[2] *The Agricultural Output of England and Wales, 1930–1*, Cmd. 4605, p. 54.

[1] J. T. Ward, unpublished data.

[2] C. S. Orwin, 'The Land Question', *Miscellaneous Papers in Agricultural Economics*, vol. v, Agricultural Economics Research Institute, Oxford.

TABLE 1. *Estimated Capital Value of Agricultural Holdings in England and Wales (by sales values)*

Year	*Crops and grass holdings above 1 acre*			*Rough grazing*			*All agricultural land*	
	Acreage	*Sale value per acre*	*Total capital value*	*Acreage*	*Sale value per acre*	*Total capital value*	*Total acreage*	*Total capital value*
	'000 acres	£	£'000	'000 acres	£	£'000	'000 acres	£'000
1925	25,755	30	773,000	5,024	4·2	21,000	30,779	794,000
1931	25,283	23	582,000	5,316	3·2	17,000	30,599	599,000
1939	24,643	26·5	653,000	5,541	3·8	21,000	30,184	674,000
1949	24,380	41·5 (56·5)	1,012,000 (1,377,000)	5,526	4·6 (5·2)	25,000 (29,000)	29,906	1,037,000 (1,406,000)

Figures in brackets include a proportion of farms valued at vacant possession prices.

TABLE 2. *Estimated Rental and Capital Value of Agricultural Holdings in England and Wales*

Year	*Crops and grass*			*Rough grazing*			*All agricultural land*				
	Acreage	*Rental value per acre*	*Total rental value*	*Acreage*	*Rental value per acre*	*Total rental value*	*Total rental value*	*No. of years' purchase*	*Capitalized gross income*	*Vacant possession premium*	*Total capital value*
	'000 acres	*s. d.*	£'000	'000 acres	*s. d.*	£'000	£'000		£'000	£'000	£'000
1925	25,755	31 0	39,900	5,024	4 6	1,100	41,000	18·2	746,000	23,000	769,000
1931	25,283	28 0	35,400	5,316	3 9	1,000	36,400	16·0	582,000	10,000	592,000
1939	24,643	27 6	33,900	5,541	3 9	1,000	34,900	18·3	639,000	23,000	662,000
1949	24,380	32 6	39,600	5,526	4 6	1,250	40,850	27·7	1,132,000	369,000	1,501,000

and £36,700,000 in 1931.[1] These estimates were based on average rental values per acre multiplied by total acreage.

A similar procedure was adopted in the present study to calculate total annual income for 1939 and 1949. The National Farm Survey estimated the average rent for crops and grass on farms of 5 acres and over to be 27 shillings an acre in 1941. This was adjusted to 27*s.* 6*d.* if holdings of less than 5 acres were included. It was assumed that the same figure was approximately correct for 1939 because additions to gross rental incomes in the early war years were due more to payment of arrears than to an increase in average rents. On this basis gross rental income was estimated for that year at £33,900,000 and £34,900,000, including rough grazing.

The Country Landowners' Association estimated that gross rents rose by 18 per cent. from 1938 to 1949.[2] An increase of this order on a pre-war average rent of 27*s.* 6*d.* gives an average of 32*s.* 6*d.* an acre for 1949 and a total gross income of £40,850,000.

The only figures available for comparison are those contained in the Report of the Inland Revenue Commissioners on payments under Schedule A Income-tax. This gives an assessment of gross and net income from the ownership of real estate, divided approximately between 'houses etc.' and 'lands etc.' 'Lands, etc.' includes 'farm land and buildings, farmhouses occupied by tenant farmers or their farm servants, lands occupied for athletic, etc., purposes, woodlands, certain sporting rights, etc., and any pleasure grounds held with a house in excess of one acre',[3] and it is obvious that an assessment of gross income from lands so defined would not provide a suitable basis for the present study.

(*b*) *Rate of capitalization.* The rates of capitalization of gross income shown in Table 2 have been calculated from the gross rents and sale values of farms recorded sold at auction. The method was checked by comparing the results obtained for 1925 and 1931 with estimates made by Campion[4] for 1926–8, and Stamp[5] for 1928. From sales data the rate was calculated to be 18·2 years' purchase in 1925 and 16 years' purchase in 1931. (Campion estimated it to be 17¼–18¾ for 1926–8 and Stamp put it at 17 for 1928.) The appropriate figures for 1939 and 1949 were found to be 18·3 and 27·7 years' purchase.

The changes which took place in the rate of capitalization from 1925 to 1931, and, more notably, from 1939 to 1949, were a result of the far greater proportional changes in capital values than in rental values during the earlier period of depression and the later one of prosperity. The results of capitalization gross income in this way are shown in Table 2.

In order to make these results comparable with those obtained by the sales-value method some allowance had to be made for the vacant possession premium, since all rates of capitalization were based on data relating to tenanted farms and the ratio of sale value to rental value would have been higher in the case of farms sold with vacant possession, particularly for 1949. The allowances for the possession premiums have been based on those calculated by the comparison of sale values.

[1] *Agricultural Output of England and Wales, 1930–1*, Cmd. 4605, p. 50.
[2] The County Landowners' Association, *An Enquiry into Agricultural Rents and the Expenses of Landowners in 1949 and 1950.*
[3] Ninety-Fourth Report of the Commissioners of His Majesty's Inland Revenue, 1951.
[4] H. Campion, *Public and Private Property in Great Britain*, O.U.P., Humphrey Milford, London, 1939.
[5] Sir J. Stamp, *The National Capital and Other Statistical Studies*, P. S. King and Son, London, 1937.

The results obtained by the different methods, and final estimates of the total capital value of farm real estate in England and Wales, are shown in Table 3. The sale value of the national agricultural estate declined from £795,000,000 in 1925 to £620,000,000 in 1931, then increased from £670,000,000 in 1939 to £1,085,000,000 (or £1,455,000,000 allowing for vacant possession premiums) in 1949. It must be emphasized that this trend is primarily a reflection of changes in sale values and does not represent changes in the physical capital embodied in farm real estate.

TABLE 3. *Estimates of the Total Capital Value of Agricultural Holdings in England and Wales*

	Ministry of Agriculture estimate	*Average sale-value method*	*Income capitalization method*	*Final estimate*
	£'000,000	£'000,000	£'000,000	£'000,000
1925	815	795	770	795±25
1931	645	600	590	620±30
1939	..	675	660	670±10
1949	..	1,035	1,130	1,085±50
		(1,405)	(1,500)	(1,455±50)

Figures in brackets include a proportion of farms valued at vacant possession prices.

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Movement in Seasonality of Milk Production[1]

THE success of the campaign for maintaining milk production in winter in spite of the difficult circumstances of the present day is well established and, until recently, a steadily increasing gallonage has reached the market. At the same time winter milk has tended to form an increasing proportion of the total production of the year.

In this connexion there has been frequent use of the terms 'seasonal producers' and 'level producers', and although it is obvious that there are individual farms which vary in their seasonality of production, very little attention has been given to this kind of variation and its consequences. The composition of seasonal areas and level areas, similarly, has not been so rigid as appears, sometimes, to be taken for granted. Changes in seasonal balance have, in fact, complex origins, and in the accompanying tables figures from the Milk Marketing Scheme are used to draw attention, in simple form, to some of the questions of redistribution of production which lie behind them. How far, for instance, has the winter level been maintained by successful effort on the part of all producers, or by the conversion of producers of summer to winter milk, perhaps in areas more suited to cheap summer production? Is production as well localized as before? How definite is the trend on individual farms? The sample of the Scheme is, of course,

[1] Received 12 March 1952.

too small to provide competent answers, and it is drawn from farmers working for the wholesale market not from producer-retailers whose experience is obviously relevant, but it suggests the mobility among producers that may obtain over the country as a whole, and a flexibility on the individual farm which, perhaps, is hardly appreciated.

All the figures refer to the ratio of winter to annual production, not to absolute increases or decreases in winter milk, and the customary definitions of seasonal and level production have been used.

The seasonal producer follows the natural seasonal rhythm of production and does not depend too much on concentrated feedingstuffs, but 'level' production does not imply an even gallonage throughout the year, a winter production of anything above, roughly, 45 per cent. of the total being a usual qualification if a full range of farms is taken.[1] In the present instance the proportion is fixed at 45·45 per cent. to correspond with earlier usage in the Oxford reports. A very small increase in the ratio may represent a considerable addition to gallonage and a narrow scale, therefore, is always used in measuring change. There is no convention about the margin which should be allowed for accidents of yield, &c.,[2] before effective change is assumed and only changes of less than 1 per cent. have been disregarded here. Nor is there any real general principle determining the length of time over which his production should be observed before a farmer can be classified as a seasonal or level producer. Here the yearly status has been taken though for many purposes a period average would be more reliable. The difficulties of classification are clear from the tables which rather suggest that the descriptive aptness and stability of the definitions are open to question.

In Mr. Bridges's report on the milk costs of 1934–5 to 1938–9[3] an analysis of seasonal and level production was made on a regional basis. The wholesale producers co-operating in the Scheme and producing ordinary milk, were grouped by counties and a county was described as 'seasonal producing' if summer gallonage was 20 per cent. higher than that of the winter over the period as a whole. The counties were then grouped into regions.[4] The position of these regional groups at the end of the period, in 1938–9, can be compared with that in some subsequent years (Table 1). In 1943–4 the proportion of milk produced in winter increased in most regions except the level Northern and North-western, with a bias towards the grass areas, but after that it is, if anything, the groups already organized for level production which show the greatest improvement in winter milk. Neither shortage of concentrates[5] nor marketing changes appear to have affected the normal distribution of winter production round the towns on this showing, but the differences in size of sample between the areas makes any but the broadest comparisons doubtful. The increasing interest taken in milk production in the arable areas is evident in the figures for the Eastern group.

The composition of the regional groups was not necessarily consistent, however. That is to say, there was a general bias towards seasonal or level production

[1] In a detailed special study such as that of R. R. Jeffery (*Production Costs and Returns in Seasonal and Level Dairies in the West and South-West of England, 1947*) the middle groups are omitted.

[2] This would be closely connected with the gallonage on the individual farm.

[3] A. Bridges, *Milk Production.* Oxford, Agricultural Economics Research Institute, 1943.

[4] These regions are not, therefore, identical with those of the Milk Marketing Board which, as for instance in the North-Western, may cover counties of differing seasonal make-up.

[5] Some concessions in rationing were made in effect to this type of producer.

TABLE 1. *Winter Production by Regional Groups*

	Percentage of milk produced in winter in				
	1938–9	*1943–4*	*1945–6*	*1947–8*	*1949–50*
Seasonal areas			*per cent.*		
Northern	40·17	44·25	38·63	36·16	41·98
North-western	43·59	42·92	45·55	45·42	49·60
South Wales	42·13	40·87	47·55	42·32	44·62
South-western	42·00	45·29	44·10	42·88	45·33
All seasonal areas	42·82	43·72	44·83	44·00	47·37
Level areas					
Northern	45·69	43·89	46·14	46·45	50·87
North-western	46·85	44·71	49·69	47·69	53·21
Eastern	45·02	49·11	48·24	48·83	52·59
South-eastern	46·84	48·23	47·41	44·01	48·64
Midland	45·77	48·20	50·93	47·99	49·87
South-midland	45·71	48·09	50·16	46·86	49·97
South-western	46·29	47·33	48·66	47·08	50·30
All level areas	45·89	47·49	48·77	47·00	50·78

TABLE 2. *Number of Seasonal and Level Producers*

	1938–9	*1943–4*	*1945–6*	*1947–8*	*1949–50*
Seasonal areas			*number*		
Number of producers	135	126	98	159	109
Number of seasonal producers	92	78	53	95	49
			per cent.		
Seasonal producers as percentage of total number	68·2	61·9	54·1	59·8	45·0
Level areas			*number*		
Number of producers	233	235	189	183	150
Number of level producers	128	139	132	103	110
			per cent.		
Level producers as percentage of total number	54·9	59·2	69·8	56·3	73·3
All areas			*number*		
Total number of producers	368	361	288	347	265
			per cent.		
Percentage producing on level basis	46·5	51·8	61·7	48·8	65·6
Percentage of milk produced in winter	44·9	46·2	47·6	45·7	49·4

in the areas but the individual farms chosen might have been unrepresentative in this respect. In fact, even in 1938–9, of the 233 farmers in the 'level area' groups only 128 were level-producing, on a strict application of the definition, while 43 of the 135 in the 'seasonal areas' were also level-producing (Table 2). The actual figures are influenced by sampling, but it is interesting, nevertheless, that when a group of farms is taken, without bias, in an area which is thought to be predominantly seasonal- or level-producing it should be so far from being homogeneous.

The change-over to level production by individual farmers was greater than the change in the amount of winter milk produced, and was particularly marked in the seasonal group. Altogether, production in the sample had changed towards winter milk by 4·5 per cent. and the number of level producers had increased by 19·3 per cent. between 1938–9 and 1949–50, which is the most recent year and also that in which there was the greatest advance.

Another feature of the development over the period was that the actual level to which winter production was carried by the farmer was higher than before. The range among all farms in the sample is shown in Table 3. Until 1949–50 most of the farms were in the middle groups (40·00–49·99 per cent.) but there was an increase over the years in the number of producers obtaining a ratio of winter milk of more than 50 per cent., the proportion rising from 12·4 per cent. in 1938–9 to 25·6 per cent. as early as 1943–4 and to 42·2 per cent. in 1949–50 with quite a large concentration in the higher groups. The highest ratio obtained by any producer was 60·9 per cent. in 1938–9 and 68·7 per cent. in 1949–50. These men are winter, not level, producers, and there may be a case for the regular use of the terms summer or winter, or summer, level and winter production, instead of the familiar ones.

TABLE 3. *Distribution of Farms according to Winter Ratio of Production*

	1938–9	*1943–4*	*1945–6*	*1947–8*	*1949–50*
Number of farms	382	375	301	370	275
Percentage of milk produced in winter:			*per cent.*		
20·00–24·99	0	0·5	0·7	0·8	0
25·00–29·99	0·8	1·9	1·3	0·3	0·4
30·00–34·99	3·9	3·2	3·3	7·8	3·3
35·00–39·99	9·9	11·2	10·3	12·7	7·6
40·00–44·99	36·4	26·9	20·6	25·7	20·7
45·00–49·99	36·6	30·7	32·6	28·4	25·8
50·00–54·99	10·5	17·6	19·9	15·4	21·8
55·00–59·99	1·6	6·1	9·0	6·7	13·1
60·00 and over	0·3	1·9	2·3	2·2	7·3
	100·0	100·0	100·0	100·0	100·0

The position is very similar if two identical samples are taken, one consisting of the 132 farms which appear in both 1938–9 and 1943–4 (i.e. in the war period) and another of the 109 which appear in both 1945–6 and 1949–50. Their use has the advantage, however, of showing more clearly the movement away from winter production as well as that towards it (Tables 4 and 5). Winter production declined, in some degree, on 49 of the 132 farms of the first period and on 34 of the 109 of the second. Classified by type, there were 63 farmers who counted as level-producers in 1938–9 but more of them had reduced their winter milk in 1943–4 than had increased it (37 compared with 19), 26 having become, by definition, seasonal producers. In the seasonal group winter production had fallen lower than before on only 12 of the 69 farms. Considerable changes either way were recorded. In the second period only 27 of the 64 level, and 7 of the 45 seasonal, producers had reduced the ratio, and the changes themselves were smaller.

TABLE 4. *Movement in Winter Production on 132 Identical Farms between 1938–9 and 1943–4.*

Percentage of total milk produced in winter	1938–9	1943–4																		
			Winter production increased (by the following percentages)									Winter production decreased (by the following percentages)								
		Winter production unchanged	1·00–2·49	2·50–4·99	5·00–7·49	7·50–9·99	10·00–12·49	12·50–14·99	15·00–17·49	17·50 and over	Total	1·00–2·49	2·50–4·99	5·00–7·49	7·50–9·99	10·00–12·49	12·50–14·99	15·00–17·49	17·50 and over	Total
	Number of farms																			
30·00–32·49	1	..	..	..	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..
32·50–34·99	4	..	1	1	..	..	..	..	..	1	3	..	1	..	..	..	..	..	..	1
35·00–37·49	6	1	..	3	1	..	..	..	..	..	4	..	..	..	..	1	..	..	..	1
37·50–39·99	6	..	1	2	..	..	1	..	1	..	5	..	..	1	..	..	..	..	..	1
40·00–42·49	20	4	..	4	3	..	4	1	..	1	13	..	1	2	..	..	..	..	..	3
42·50–44·99	29	9	1	4	6	2	..	..	..	..	13	1	1	3	1	..	..	..	..	6
45·00–47·49	22	3	3	2	2	1	..	1	1	..	10	1	4	5	..	..	..	..	..	10
47·50–49·99	26	2	2	4	3	..	..	1	..	..	10	1	8	3	1	1	..	..	..	14
50·00–52·49	12	2	1	1	..	..	..	..	..	..	2	2	2	1	2	..	..	..	1	8
52·50–54·99	3	..	..	1	..	..	..	..	..	..	1	..	1	..	1	..	..	..	..	2
55·00–57·49	3	..	..	..	..	..	..	..	..	..	..	..	1	..	..	1	..	..	1	3
Total	132	21	9	22	16	3	5	3	2	2	62	5	19	15	5	3	..	..	2	49

TABLE 5. *Movement in Winter Production on 109 Identical Farms between 1945–6 and 1949–50*

Percentage of total milk produced in winter	1945–6	1949–50																		
			Winter production increased (by the following percentages)									Winter production decreased (by the following percentages)								
		Winter production unchanged	1·00–2·49	2·50–4·99	5·00–7·49	7·50–9·99	10·00–12·49	12·50–14·99	15·00–17·49	17·50 and over	Total	1·00–2·49	2·50–4·99	5·00–7·49	7·50–9·99	10·00–12·49	12·50–14·99	15·00–17·49	17·50 and over	Total
	Number of farms																			
22·50–27·49	2	..	..	1	..	..	..	..	..	1	2	..	..	..	..	..	..	..	..	..
27·50–29·99	2	..	1	1	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..
30·00–32·49	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
32·50–34·99	2	1	..	..	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..
35·00–37·49	3	..	..	1	1	1	..	..	..	..	3	..	..	..	..	..	..	..	..	..
37·50–39·99	9	..	1	4	1	3	..	..	..	..	9	..	..	..	..	..	..	..	..	..
40·00–42·49	9	..	..	1	3	2	..	..	..	2	8	..	..	1	..	..	..	..	..	1
42·50–44·99	17	2	1	5	..	2	1	..	1	..	10	1	1	1	2	..	..	..	..	5
45·00–47·49	21	2	1	3	2	1	..	1	1	..	9	4	4	1	..	..	1	..	..	10
47·50–49·99	16	3	2	2	3	2	..	1	..	..	10	..	1	1	..	..	1	..	..	3
50·00–52·49	11	2	1	..	3	..	..	..	..	..	4	2	1	..	..	..	1	1	..	5
52·50–54·99	7	1	1	2	..	..	..	..	..	..	3	1	1	1	..	..	..	..	..	3
55·00–57·49	5	1	..	..	..	1	..	..	..	..	1	1	1	..	..	..	1	..	..	3
57·50–59·99	2	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	2
60·00–62·49	2	..	..	1	..	..	..	..	..	..	1	..	..	1	..	..	..	..	..	1
62·50–67·49	1	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	1
Total	109	12	8	21	14	12	1	2	2	3	63	10	11	6	2	..	4	1	..	34

It is also clear from Tables 4 and 5 that although so many level producers had lost ground, farmers already working for a relatively high winter output were willing and able to increase the proportion still further, the response of those already producing between 45 per cent. and 50 per cent. having been quite considerable in each period. Such a position, if it was general for the country as a whole, would argue that the price incentive had been fairly widely accepted and that it was sufficient to stimulate a change at the intensive margin as well as one from one type of production to another. The further inference (allowing for the fact that development must often be gradual) that a very small excess in gallonage was profitable and worth attempting to obtain on winter prices, is qualified by the need for the price incentive to be related not only to the ratio but to the actual gallonage produced, even if it is assumed that a distinction can be made between voluntary and involuntary change within such narrow limits.

These are figures for single, non-consecutive, years and as such are affected by accidental changes. A period average or a year-to-year sequence might have given different results. The first is not very applicable at a time when a series of deliberate incentives are being applied, but when a study was made of the sixty-three farms sending in returns in every year between 1934–5 and 1943–4 the way in which they varied from year to year between winter and summer production was very striking. This fluctuation on many of the farms was greater than any that would be expected from normal depressions of yield, &c. Only eighteen were more or less consistently level- and ten consistently seasonal-producing. The remainder were erratic, although by various tests they could be assigned to one group or the other; eighteen might be described as showing a definite trend, five towards level and thirteen towards seasonal production, but this trend was frequently lost when the period was extended to 1949–50. This is another factor to be remembered when the terms seasonal and level producer are used. Most measurements of seasonality made with a view to classifying particular herds are in fact open to criticism, and individual study of the farms is really necessary before they can be placed reliably in either category.

TABLE 6. *Year to Year Changes in Winter Production on Identical Farms*

	63 farms from 1934–5 to 1943–4: winter production			*32 farms from 1938–9 to 1949–50: winter production*		
	Increased	*Unchanged*	*Decreased*	*Increased*	*Unchanged*	*Decreased*
Between						
1934–5 and 1935–6	41 (24)	11	11 (2)	..	..	..
1935–6 „ 1936–7	29 (4)	11	23 (6)	..	..	..
1936–7 „ 1937–8	14 (2)	18	31 (6)	..	..	..
1937–8 „ 1938–9	27 (4)	13	23 (9)	..	..	..
1938–9 „ 1939–40	31 (8)	15	17 (4)	19 (4)	6	7 (1)
1939–40 „ 1940–1	23 (8)	9	31 (10)	9 (1)	5	18 (7)
1940–1 „ 1941–2	17 (4)	16	30 (16)	10 (2)	12	10 (6)
1941–2 „ 1942–3	26 (12)	9	28 (6)	14 (5)	5	13 (4)
1942–3 „ 1943–4	28 (15)	14	21 (3)	13 (5)	10	9 (2)
1943–4 „ 1944–5	..	..	..	17 (6)	4	11 (6)
1944–5 „ 1945–6	..	..	..	19 (4)	3	10 (5)
1945–6 „ 1946–7	..	..	..	20 (7)	6	6 (3)
1946–7 „ 1947–8	..	..	..	5 (2)	2	25 (12)
1947–8 „ 1948–9	..	..	..	20 (10)	5	7 (3)
1948–9 „ 1949–50	..	..	..	18 (9)	5	9 (4)

Figures in brackets are of farms which have changed production by 5 points or more

The year-to-year sequence for the very small number of farms for which it can be given is shown in Table 6. For the farms appearing in every year between 1934–5 and 1943–4 an increase in winter production is noticeable in 1939–40, in 1942–3, and in 1943–4; the two latter increases may be connected with the specially encouraging winter awards of 1940–1 and 1941–2, but there was an even greater intensification before the war, between 1934–5 and 1935–6, which cannot be accounted for in this way, and the influence of wholly natural factors would make interpretation precarious even for a larger sample. On the much smaller indentical sample extending from the commencement of the war up to the present there was no indication of a special reaction at any time, but the movement towards winter milk was steady except in 1946–7 which was a difficult year in which to judge progress.

Generalization from these figures would be improper but it is at least clear from them that there is considerable mobility in either direction and over the whole range of farms, and that the usual descriptions of a farmer, or an area, as 'seasonal producing' or 'level producing' should be accepted cautiously.

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A Review of Labour Economy in Machine-Milking in England and Wales[1]

MACHINE-MILKING has expanded very rapidly in England and Wales during the last decade, the number of machines having more than trebled. Even since 1950 there has been an increase of 17 per cent. There are now some 80,750 milking-machines in use, a figure which may be compared with the 157,000 herds which produce milk for sale, and it seems opportune, therefore, to provide a brief review of various systems of machine-milking and their labour economy.

The major systems are:

Type I. Conventional tie-up cowshed using bucket-type milker.

Type II. Milking shed, or parlour, with cows housed in open or covered yards,
- (*a*) milk-shed similar to small cowshed (bucket-type milking machine generally used);
- (*b*) walk-through parlour (usually has auto-recorder or releaser type milking-machine);
- (*c*) tandem two-level parlour (releaser or auto-recorder milker).

Type III. Mobile self-contained in-churn milker and cooler. (This system has only recently been introduced and may be used in the conventional tie-up cowshed or in a milking-parlour.)

Type IV. The bail system (movable bail).[2]

Milking-parlours (Type II) are increasing in popularity. They may be defined as sheds in which cows are *milked but not housed*, and they typically have stalls for from 4 to 8 cows. The cattle are usually housed in covered or partially covered yards and, generally, are not tied. The milk-shed and dairy are always close to

[1] Received 24 May 1952. The substance of a paper read before the Europäischer Landarbeitskongress, 1952.

[2] Some systems are found which are combinations of the types described, e.g. bails are fixed on concrete bases during the winter on some farms.

the yard. The first type noted (Type II*a*) is simply a small cowshed with a layout similar to the conventional tie-up cowshed except that it has stalls for a very small number of cows and is used only for milking purposes. Walk-through milking-parlours (Type II*b*) are usually fitted with releaser-type milking-machines in which the milk is carried directly by pipe-line from the cow to the cooler and finally to the churn or bottling-machine. Quite frequently milking-machines used in this type of parlour are also auto-recorders. After being milked the cows leave their standings through doors in front of them, the feature which gives the system its name.

The tandem two-level parlour (Type II*c*) is at present very rare. The essence of the system is that the cows stand at a level about two feet above that of the milker. This is achieved either by placing the cow stalls on a ramp or by excavating a pit in which the operator stands. A milking unit (releaser or auto-recorder machine) is installed for each cow-standing and the operator is able to apply and remove the milk cups without bending. This type is described as a tandem parlour, because the cows are stalled head to tail instead of side by side.

The mobile self-contained in-churn milker-and-cooler system (Type III) is available as a single- or two-unit machine, and its main feature, as its name suggests, is that the machine is taken to the cow instead of the cow to the machine. It has been designed primarily for the conventional cowshed.

The bail system (Type IV) is commonly operated for large herds, of sixty or seventy milking cows, which spend the whole year out in the open at pasture. The bail itself usually consists of either four or six stalls, is mounted on wheels or skids and is movable. It is fitted with a releaser or recorder-type of milking-machine and often the dairy accessories such as the sterilizing plant are contained in a separate movable shed attached to it. Twice a day the cows are driven into a temporary compound adjoining the bail. While being milked they receive their concentrated feed. In much the same way as in a walk-through milking-parlour the cows walk out of the bail through a trap-door at the head of the stall. The bail itself has no floor and little or no cleaning is involved; when the floor becomes muddy the bail is moved to a fresh plot of ground. Any roughage or bulk feed such as hay or silage is usually fed to the cattle on the pasture. This system is confined very largely to well-drained upland soil in the south of England, and the latest recorded data show 200 bails to be in operation.

Of the various systems which have been outlined, the conventional tie-up cowshed using the bucket-type machine is still the most common. In 1952 over 90 per cent. of the milking-machines in use were of the bucket type.

The labour economy of the systems. A good deal of research into the labour economy of the three more prevalent systems (I, II*a*, and II*b*) has been undertaken by the Farm Economics Branch of Cambridge University.[1] In addition, case studies of the general economy of various systems have been undertaken by the Agricultural Economics Research Institute, though the results have not yet been published. A summary of the sample of farms in the Cambridge study and the results are given in Table 1.

To eliminate variations in labour economy, herds of approximately equal size and yield were studied. The table indicates that man-hours per cow per year were highest in the conventional type of cowshed, and least in the walk-through parlour. Chart I illustrates how these differences in man-hours per cow arose between the three systems.

[1] *Labour Organization in Milk Production.* Farm Economics Branch Report No. 32, Department of Agriculture, University of Cambridge.

TABLE 1. *Comparison of Three Milking Systems*

System of milking	*Cowshed, bucket machine (Type I)*	*Yard-and-parlour, bucket machine (Type IIa)*	*Yard and walk-through parlour, releaser machine (Type IIb)*
Number of herds . . .	40	18	16
Average number of cows in herd .	37·8	33·4	39·1
Yield per cow (gals.) . . .	733	705	732
Total man-hours per cow per year	182	169	139

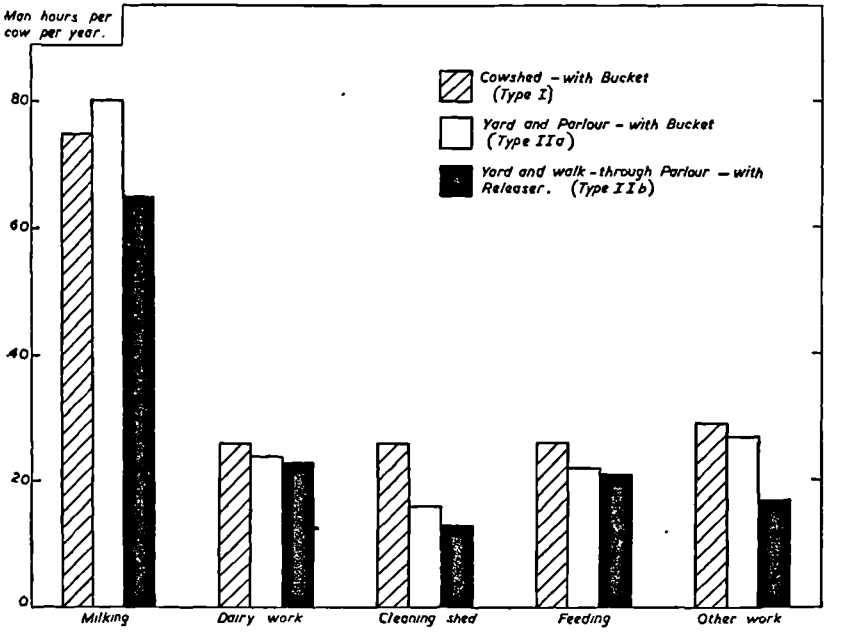


CHART I. Analysis of time spent on individual operations under Types of Milking, I, II*a*, and II*b*.

Milking took 75 man-hours in the cowshed herds and 80 in the yard-and-parlour type. Both used the bucket-type milking-machine, and the additional time taken in the latter was largely attributable to the time spent taking the cows to and from the yard in batches. Milking time was appreciably lower in the walk-through parlour. This was largely due to the saving of time through having the releaser-type milker situated in a small compact shed. Since the milk in this system is conveyed to the dairy by a pipe-line, all the time spent in carrying buckets to and from the dairy is saved. No appreciable difference existed in the times spent on dairy work, i.e. in sterilizing utensils and similar operations. Where cows were kept in yards as distinct from cowsheds there was found to be a considerable saving in the amount of time spent on cleaning. Since cows were in the parlour only during milking time, the need for cleaning was obviously reduced. Time devoted to feeding was also lower in the yard-and-parlour systems,

but the difference was not so marked as would be expected. It was believed that still further labour economy could be achieved on many of these farms if the feed stores were more conveniently sited and if wider gangways or feed passages were installed so that carts or trailers could be driven along them. Yearly man-hours per cow were almost 25 per cent. fewer in the walk-through parlour system using a releaser than in the conventional tie-up cowshed using a bucket milking-machine. This was largely the combined effect of economy in milking, cleaning, and feeding, the major economy arising in the cleaning operations.

A study of dairy systems in west Oxfordshire in the summer of 1951 undertaken by the Agricultural Economics Research Institute shows results similar to those of Cambridge. A number of cases were studied to discover the labour economy achieved by changing from the conventional type cowshed (with machine) to milking-parlour and yard. The results on two selected farms were as follows:

Case 1 consisted of a herd of fifty cows. The change-over to the parlour system has resulted in two men being able to manage the herd instead of three and at some periods four, a saving of somewhere between 33 and 50 per cent. in labour requirements.

Case 2. The change-over from cowsheds to parlour (cattle wintered out) enabled the herd to be increased from twenty to sixty-five cows with the same labour force of one man and girl.

Several case studies were made but these two have been chosen as representative of the economy in labour which may be achieved by the change. These cases serve also to illustrate that a farmer may take advantage of the economy achieved either by reducing the number of workers or by increasing the size of his herd.

Several authorities on this subject have claimed that a considerable amount of time can be saved in a year in the conventional cowshed using a bucket machine by improving the routine and changing the layout of the cowshed and related buildings. A change in the order of milking may sometimes lead to a saving in time and a reduction in the distance walked carrying buckets to and from the dairy. Again, this time and distance may be reduced by siting the dairy-shed or cooling-house near the centre of the cowshed. It was found that on eleven farms the dairies were situated from 30 to 70 yards away from the milking-place, on six they were between 70 and 100 yards, and on fifteen more than 100 yards from the milking-place. Indeed, one farmer had his dairy situated half a mile from his milk-shed. Walking distance in the conventional cowshed is found to be less in a double-row than in a single-row cowshed. Careful siting of feed stores and feed passage and even the careful positioning of doors may sometimes achieve an appreciable saving in time and toil in transporting feed and dairy appurtenances.

The mobile self-contained in-churn milker and cooler (Type III) which has been developed recently is an attempt to reduce time and energy spent walking and carrying buckets in the conventional tie-up cowshed. Under this system the milk need only be taken to the dairy when a ten-gallon churn is full. The short length of pipe-line to be sterilized and the ease with which the cooler may be sterilized suggest that this system might also result in a saving in time spent in dairy work. It heralds a trend towards simplification in milking-machines. While the system would appear to be admirably suited for the tie-up cowshed, some farmers are constructing small milking-parlours in which to use it. It is a type of machine which may make a special appeal to the dairy farmer with a small herd. The single-unit machine of this type is now available for less than £100.

The tandem two-level parlour (Type II*c*) is a very recent innovation and no data on labour requirements are available to enable it to be compared with other systems.[1] Perhaps one of its most desirable characteristics is that it reduces fatigue in milking.

The bail system is very characteristic of the chalk and relatively free-draining uplands of southern England. Despite the fact that no recent studies of labour requirements under this system are available, it is not too difficult to compare it with some of the systems already discussed. Time spent on milking would be very similar to that on the walk-through milking-parlour. Time spent on feeding would tend to be less than that incurred in the yard-and-parlour systems and it would certainly be less than under the conventional cowshed system. Little or no time is spent on cleaning the bail. Dairy work would perhaps be a little higher than under the yard-and-parlour systems because of the need in some cases to transport water to the bail. In total, it is certain that the labour required per cow per year in this system would be less than in most of the others, but its adoption would be conditioned in part by other factors, such as climatic and soil conditions, size and layout of farm.

Despite the fact that labour is one of the major items of expenditure in farming, no farmer should, nor indeed would he, normally choose a system of machine-milking purely on a basis of its labour economy. The ultimate criterion in judging any system should be its influence on net farm profits, and on this basis the various systems should be considered with respect to:

(*a*) Whether any labour which may be saved by a new system can be put to some other profitable use on the farm. Naturally the decision is quite a simple one where the introduction of a particular system replaces a man and the saving in wages exceeds the cost of interest and depreciation on the capital investment. More commonly, however, the saving in labour does not enable a worker to be dispensed with and it becomes essential that some use be made of the hours saved if any genuine economy is to be achieved. To realize a genuine saving in labour one of these adjustments must be made: (i) an increase in the size of herd, (ii) a decrease in the farm labour force, or (iii) the utilization of the labour saved on some other productive farm task. In practice a combination of two or more of these may be necessary. For example, to increase the size of herd it would probably be necessary to devote some additional man-hours to producing more home-grown feed.

(*b*) Capital cost of changing the system. In recent years many dairy farmers have been forced to rebuild or modify their milk-sheds because of stricter government regulations on the hygiene of milk production. The choice of system of milking in these circumstances has often been determined as much in relation to capital cost of establishing the various systems as to their labour economy.

(*c*) The relative adaptability of these systems to changes in scale of production. One of the characteristic features of the bail and milking-parlour is that they are economical to use with varying sizes of herd. The conventional cowshed is built for a specific number of cows, whereas the parlour has a wide range in the number that can economically be milked in it.

(*d*) Circumstances peculiar to the farm under review. The bail system has been adopted on some farms, for example, largely because it facilitated fuller utilization of pastures situated a long way from the farmstead.

[1] Description of suitable routines for milking under this system will be found in the Cambridge report referred to earlier.

An experiment in relief milking. One of the big drawbacks of dairy farming, and indeed of almost all types of livestock farming, is that animals have to be cared for every day of the year. A relief milking system has been developed in some counties in an attempt to overcome this difficulty.[1] This experiment was adopted in Oxfordshire in the late 1940's and is proving popular among the dairy farmers who have joined the scheme. In this county the relief milker—a woman—has usually six dairy farms in her rota which she visits regularly in order. The rotation is so worked that the dairyman on each of the six farms has one day free each week. Every six or seven weeks the dairyman on each of the farms has a week-end (two days) off in turn. The relief milker does not visit the same farm the same day each week, and enjoys one free day a week and a week-end every six or seven weeks. At present there are seventy-two dairy farms in this scheme in Oxfordshire, operated by twelve relief milkers.

Co-existing with and complementary to the scheme is another to provide emergency milkers. They are hired to any farmer who needs a milker because his own milker is ill or has met with an accident. Emergency milkers may spend from a day to three months on a particular farm, depending on the length of the emergency. There are some twenty-four emergency milkers in the scheme at present. The two schemes are under the same administration, and this is particularly valuable since the experience gained as emergency milkers ensures that new relief milkers are available as others leave. (Marriage appears to be one of the main causes for relief milkers leaving the scheme.) The relief milkers are highly trained and efficient dairywomen who are capable of taking over complete responsibility for the dairy herd during the day that they are on any particular farm, as they often have to do. The fact that they are in charge of any particular cowshed only once each week does not seem to depress milk yields, as was expected it might. On the contrary, yields have increased on some farms on the days that the relief milker was in attendance. The main problem appears to be obtaining and training relief milkers rather than attracting herd owners.

The personnel operating and administering these schemes are appointed by the County Agricultural Executive Committee.

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[1] The relief milking system was first developed, it is believed, in Sussex and was later adopted by Hampshire and Oxfordshire.

Profit Margins of Food Manufacturers and Distributors[1]

I. General Principles

BEFORE September 1939 the profit margins of food manufacturers, wholesalers, and retailers were determined by the interplay of innumerable forces of both supply and demand, and by the internal organization and efficiency of the trade. On the outbreak of war, however, they were fixed by Government.

In general, the basis was the pre-war average costs and profits of the whole of each trade and not of one or more groups of traders, a method which, if left to itself, would have eliminated businesses with small turnovers and high cost and profit margins, and favoured the large or multiple traders with their large turnovers and low cost and profit margins. In war-time, however, devices were used for keeping the small trader in business, mainly by granting additional payments. Corresponding devices were not used, however, to reduce profits which exceeded pre-war profits as determined by the Government's calculations of the average trade margin.[2]

The problem of fixing profit margins, and the influence in this respect of former business men who were temporary civil servants, occupied the Select Committee on National Expenditure in the first year of the war. The Ministry of Food informed the Committee that the ultimate decision on such matters did not in any case rest with the 'trade' directors concerned, that arrangements about purchase and selling prices or operating margins had to be approved not only by the Financial Secretary and the Secretary to the Department but by the Treasury also, and that in all important cases negotiations with traders were personally handled by the Permanent Secretary and the Financial Secretary. However, the Select Committee felt bound to record the impression that in some cases the trade directors, by virtue of their special knowledge and personality, might have had a strong influence. In at least one case an important trade official had, simultaneously with performing his official duties in the Ministry, been engaged as a trade representative in negotiating with the Ministry the operating margins to be allowed to his own trade. The Committee stated that it was particularly important that no suspicion should be created that individuals interested in a particular trade were able to exert an influence inside the Ministry on the profit margins to be allowed to that trade.

The Select Committee saw certain disadvantages in the method of fixing the margins to be allowed for various operations by a process of bargaining with the trade interests concerned. There was a risk that these methods might fail to provide a foundation for confidence in business circles that there was equality of treatment in all cases, and might rather tend to create suspicions that powerful trade interests or skilful and hard bargainers were likely to obtain more consideration than others. The Committee discussed with the officials of the Ministry of Food a suggestion that there should be set up a quasi-judicial tribunal which should finally adjudicate margins in each case, in accordance with uniform

[1] Received 7 May 1952.

[2] Excess profits were, of course, subject to special taxation. This point will be dealt with in a subsequent article.

principles to be laid down by the Government, and on the basis of a statement of facts agreed in each case between the Ministry and the trade interests concerned. The practical objections taken to this suggestion by the Ministry were (*a*) that it was impossible to prescribe principles with sufficient precision to afford guidance to such a tribunal, as each case was considered by the Ministry to be a complex business matter which had to be regulated in a practical way according to the actual conditions; (*b*) that the suggestion would not have relieved the Ministry officials of any work, because the preliminary discussions for agreement of the case to be stated to the tribunal would be no shorter than those already involved at the time; and (*c*) that in any case the suggestion came too late because terms had actually been settled in most cases already and that in those still outstanding the stage of bargaining and negotiation was almost completed.

The Committee recognized the force of these objections but recommended that consideration should be given to the setting up of a special tribunal which, while the provisional settlements were running, should review the terms in all cases and then give its approval before the terms were confirmed for further continuation or modification. This proposal was in fact a compromise between the Ministry's practice and the suggestion of the Committee.

The Committee also considered whether actual reductions were possible in the cost and profit margins allowed in all stages of manufacture, trading, and transport. This, in their opinion, raised very difficult questions. Was the standard for settling such margins to be set by the costs of the most efficient concerns, leaving the less efficient to be squeezed out of existence? Alternatively, was it to be set so as to allow the less efficient to survive, leaving the more efficient to earn margins greater than they normally required, or to be artificially penalized so that they would not earn too much? It also had to be asked whether there were not great possibilities of economy in a wide scheme for rationalizing the manufacture, storage, transport, and selling of food. It was obvious to the Committee that very large sums of money as well as far-reaching social effects were involved. An inquiry conducted at the instance of the National Expenditure Committee in the war of 1914–18 had revealed, for example, the enormous difference between the costs of the most and the least efficient organizations for the baking and distribution of bread. The inquiries of the Ministry's Costing Branch in 1940 had also shown great differences in the costs of distribution as between various classes of organization, while the Committee was informed by the Director of Transport that he saw possibilities of saving many millions if the whole system of transporting and warehousing foodstuffs were rationalized.

The Committee did not underestimate the objections—social and other—to drastic measures of reorganization and interference with existing channels, nor did they recommend hasty action; but what they did say was that if the war was to last for three years as expected by the Government, it was necessary to take advantage of every opportunity to avoid waste of effort and money in all parts of the economic mechanism of the country. They felt, therefore, that it would be wise to be prepared with the information necessary to deal with the question in an effective and equitable manner. The problem itself not only involved highly complex technical issues, but required the collection of information on a scale beyond the scope of the Committee. They therefore recommended the setting up of a special committee, composed of persons whose findings would carry great weight, to study the war-time methods and costs of food manufacture, processing, storage, transport, and distribution, and to make recommendations as to possible economies. The fundamental importance of the issues

raised—affecting as they did, not only the war-time problem of the cost of living, but the permanent position of producers, such as the farmers—justified something more than a departmental inquiry. It appeared to the Committee, moreover, to be essential that this problem should be studied by an authoritative body whose findings would be made public.[1]

The Ministry of Food did not accept these proposals. Their view was that a special tribunal, which would presumably have to adopt a semi-legal method of procedure, would constitute a complex form of machinery which would not lighten the duties of the Ministry of Food and for which no need was felt within the Ministry and no demand had been made by food traders generally. The circumstances of each trade were so varied that it was impracticable to lay down an exact formula for remuneration which could be applied throughout. The only basis on which the Ministry had found it possible to work was that payment should be made for services rendered and that its amount should be ascertained by reference to pre-war experience modified where necessary to provide for exceptional factors. Although there were many different margins and processing fees concerned, the Ministry on the whole had experienced no great difficulty in arriving at agreement by negotiation with the appropriate trade interests, and the work involved, so far from being reduced, would, it was felt, be increased by reference to a tribunal. It was stressed also that food subsidies were constantly under review by the Interdepartmental Committee on Food Prices, by the Commodity Divisions concerned, and by a special Margins Committee in the Ministry of Food. Investigations were being carried out by the Director of Costings into the cost structure of particular commodities and this information, as it became available, was taken into account by the Ministry's Orders Committee before maximum price orders were made.

The Ministry also declined to appoint a special committee to consider the costs of food manufacture, since in their opinion this would have duplicated the work already done within the Ministry. A special committee was, however, appointed to investigate and advise upon the cost of milk distribution.[2] Similar committees were not appointed with regard to other commodities, although in 1948 another committee investigated the distribution of milk.[3] The Select Committee on National Expenditure of 1940–1 was informed by the Ministry of Food that in their view the distribution of milk had certain very special features which were held to justify a special inquiry, but that they considered there was no parallel need or justification for a similar inquiry, say, about meat.[4]

The Select Committee on National Expenditure did not pursue the matter of distributive margins in later years. This became, however, the continuous concern of the Committee of Public Accounts and of the Comptroller and Auditor General.

In 1940–1 the Committee of Public Accounts heard the views of the Permanent Secretary to the Ministry of Food who said that there was nothing in the Ministry that presented more difficulty than the question of fixing margins for wholesale and retail distribution. At the outbreak of war they were based, as far as they could be, on the margins that were normally in operation in peace-time, but, as time went on, the situation underwent a considerable change, because the

[1] Fourth Report from the Select Committee on National Expenditure, H.C. No. 121, 1939–40.

[2] Eleventh Report from the Select Committee on National Expenditure, H.C. No. 156, 1939–40. Ministry of Food, *Cost of Milk Distribution*, 1940.

[3] Cmd. 7414.

[4] Sixth Report from the Select Committee on National Expenditure, H.C. No. 59, 1940–1.

quantities handled were in many cases greatly reduced. The result was that there was practically no time when some issue with regard to the remuneration of a trade was not outstanding. There were two forms of margins to be fixed: first, the margins which the Ministry had to pay for foodstuffs which it owned, such, for instance, as payments to the Wholesale Meat Supply Associations for handling government meat; secondly, the amounts that had to be provided in the Ministry of Food's Maximum Price Orders for the distribution of commodites which might not be owned by the Ministry of Food. The Ministry's normal procedure was to communicate to representatives of the trade that it was proposed to fix a maximum price order for some commodity. The Ministry proceeded always on the basis of prior consultation, which meant a meeting with representatives of the trade—different representatives from different branches of a trade: for instance, a private grocer, a multiple store, and a co-operative society —and a duplicate meeting for the corresponding organizations in Scotland. The Permanent Secretary thought he could say without exaggeration that there was never any margin which the Ministry suggested to such a meeting which was regarded as sufficient. He himself frequently followed up some of these discussions and at a later date went over the arguments with the Director of Costings, whose opinion, on the other hand, was that the Ministry had never yet fixed any margin which was not remunerative for the trade. On the contrary, there were times when the Ministry had fixed excessive margins, because the circumstances in which business was carried on since the war were not always identical with those existing before the war and they had no basis to guide them; for instance, the centralizing of slaughter-houses completely changed the whole character of the distribution of meat. Therefore, the Ministry were not always able to base themselves on pre-war experience. It was a subject of immense difficulty. The Permanent Secretary stated that the margins were flat rates which meant, of course, that the efficient firms made a great deal more money than the inefficient firms did. Sometimes, however, the margins were not completely retained by the trade. For instance, butter was fixed at one time at 1*s.* 7*d.* retail, and grocers were selling it at 1*s.* 6*d.* or even 1*s.* 5*d.* That meant that the maximum margin was not being retained by the grocer but in part was being passed on to the consumer. The threat of that sort of competition had a beneficial effect on the attitude of other retailers and the Ministry had welcomed it. But in 1941, after the reduction in the amount of butter that was being handled, there were few shops selling below the maximum. In fixing the margin the Ministry of Food, according to the Permanent Secretary, had to pay heed not only to the least efficient form of distribution but also to the most expensive circumstances; for instance, it was much more difficult to sell small quantities of butter in a small village, where it was not locally produced, than it was in a large town. That factor was bound to mean that there was an element of excess remuneration to certain branches of a trade. It was a question of weighing advantages with disadvantages. In a trade such as that of butcher in which practically only one commodity was handled, the Ministry's broad aim was to enable any butcher, who had only a small number of registered customers, to continue to exist. But where the Ministry was fixing a margin for an individual commodity, such as oatmeal or butter or flour, they could not, of course, think in terms of whether or not a particular grocer was going to exist on it, because that commodity would be only a very small part of his turnover.

Before the war the Ministry appointed local members of the accounting profession to go straight in and work out costings investigations in different localities.

They did that for two reasons: first, because they wanted the information and, secondly, because they thought it would have a good psychological effect if everybody knew they were basing themselves on cost investigations. That process had continued after the war broke out. Although they had a central costing organization within the Ministry of Food, they made their local inquiries through local firms (carrying out the Ministry's instructions) and, whenever they had to make an inquiry into any particular commodity or any particular branch of the food trade, they had an investigation covering a very considerable sample of the trade. The Ministry were not successful in reducing margins, but they were able to hold them during the war when costs of distribution, of wages, and so forth were going up, whereas, without a basis of real knowledge of costs, the Ministry, in the view of the Permanent Secretary, would probably have been driven from one increase to another.

The margins for the remuneration of manufacturers and distributors, whether related directly to the Ministry's trading or provided under statutory control orders limiting trade prices at successive stages, were in general flat rates which were usually fixed in terms of weight or quantity rather than as percentages of cash turnover, so that traders would not benefit from increased profits by reason merely of a rise in prices. In the earlier days of the war the margins were based, so far as possible, on those normally operating in peace-time. In some cases, however, where the circumstances in which business had been carried on had changed since the outbreak of war, this basis of assessment proved subsequently to be unreliable and the margins were found to be excessive. On the other hand, as time went on representations were received from some traders that they were now handling considerably reduced quantities of foodstuffs and that, as their overheads remained the same or approximately the same, their existing margins were insufficient.

The Problem of Efficiency

The Committee of Public Accounts of 1940–1 attached considerable importance to efficiency, as in those cases in which foodstuffs were handled on behalf of the Ministry a slight variation in the margins given to individual traders had a substantial effect on the public purse, owing to the huge aggregate volume of the transactions. It was clear to the Committee that the task of fixing margins in such a way as to safeguard the interests of the Exchequer and at the same time to give a fair rate of profit to traders generally was one of great difficulty, and they were glad to note that the Ministry had the question under constant review. The Committee recognized that in the majority of cases a uniform margin was an administrative convenience. However, in view of the necessity of ensuring equitable distribution to the whole community, the rates had to be adequate for the remuneration of unfavourably placed traders, and it followed that they were likely to provide an element of excess profit for the more efficient and those more favourably placed. In the circumstances the Committee trusted that the Ministry would direct their closest attention to the question of reducing the costs of distribution.[1] The Treasury stated that the remarks of the Committee would be noted and that no doubt the possibility of some degree of differentiation would be kept in mind, but the Ministry of Food found it impracticable, except for fixing smaller rates of profit for multiple shops, i.e. shops which did both wholesaling and retailing within one legal entity.

A year later the Permanent Secretary to the Ministry of Food stated that the

[1] Report from the Committee of Public Accounts, H.C. No. 105, 1940–1.

problem was really not that of the least efficient trader but of the most unfavourably placed. His Ministry had to keep the distribution of food going in every village in the country where, often, there was only a little general shop with a comparatively small turnover on which quite a considerable number of people depended. Various attempts were being made to meet that difficulty. In the case for bread, for instance, the Ministry had a *sliding* scale of subsidy and the larger factory bakers took less and the small ones took more; they also had a system of giving special allowances for distributing bread—i.e. delivered bread as distinct from bread sold over the counter—in sparsely populated areas. He would not say that they fixed the bread margins so as to enable the least efficient distributing unit to remain in business. What they did try to do was to fix the margins so that, taking one commodity with another, a reasonably efficient trader could remain in business even though it might be in a very difficult area. In a great number of maximum price orders the Ministry set out larger margins for distributing food in sparsely populated areas, as for instance the west of Scotland.

The Ministry had not found a means, and, indeed, they thought they would never find a means, of having a graduated margin based on the various costs of distribution in different areas. They could deal with a particular commodity, with the areas north of the Caledonian Canal or with bread deliveries in particular sparsely populated areas, but they had no universal system. With this the Treasury concurred. As a result, the Chairman of the Committee of Public Accounts of 1941–2 declared that it must be accepted as impossible to do anything but fix the margin at a point that would carry the most inefficient.[1]

The Comptroller and Auditor General was informed by the Ministry of Food in 1946–7 that each trade association of brokers, importers, and wholesalers which acted as agent for the Ministry of Food for the handling and distribution of foodstuffs received a global remuneration which was paid either as a lump sum fixed annually or at rates per unit handled, while the margins for the remuneration and expenses of manufacturers and distributors were in general flat rates, based on the pre-war margins of the industry, negotiated in the light of cost investigations. The Ministry of Food recalled that the Public Accounts Committee of 1941–2 had considered these arrangements and had referred to the possibility that uniform rates of margins might provide an element of excess profit for the more favourably placed and efficient traders. Each year since then, details of the Ministry's payments to distributors and manufacturers of particular commodities were furnished to Public Account Committees who caused further inquiries to be made in certain cases as to the relation of profits to capital employed and the possibility of providing further incentives to economy in distribution expenses. But no differential margins were introduced.

In view of changes in circumstances following the end of the war, and in the light of the Government's long-term food policy, the Ministry stated that they had set up a committee in June 1946, on which other departments were represented, to inquire into and report upon margins policy generally.[2]

Further light on the technique of fixing retail prices and margins was thrown by the Ministry of Food in 1947. According to a statement to the Committee of Public Accounts, the procedure for fixing a food price was that the desired retail price, in accordance with the stabilization policy, was determined after discussion with the Treasury, and the distributive margins were then deducted

[1] Second Report from the Committee of Public Accounts, H.C. No. 127, 1941–2.
[2] Vote of Credit Appropriation Account, H.C. No. 72, 1946–7.

from it. The first-hand sale price was the result of that sum. The Ministry fixed retail prices for a large number of foods which were not on the subsidy list, and in those cases the costs of production were taken largely into account.

As far as distributive margins to grocers were concerned it was, of course, a constant question whether or not the Ministry of Food were both treating the traders reasonably and protecting the public. It became difficult for the Ministry where there was a trader who was handling a large number of items. They tried to check their judgement against his overall trading results, and they were generally shown not to have been too high. But there was a great variation in efficiency among the different retailers and it was the policy of the Ministry, while they were relying on traders for distribution during the war, to fix a margin which would keep less efficient traders in action who might otherwise have gone out. After the war the general policy was that if there were classes of inefficient traders who could not live with a reasonable margin, then they had to find other occupations. The Ministry was prepared to squeeze out the inefficient trader so long as they could keep the distributive supply going on the scale needed to keep the population supplied.[1]

The Select Committee on Estimates of 1948–9 reviewed the position and formed the opinion that these margins should be carefully re-examined by the Ministry of Food. While the common basis for determining margins appeared to be pre-war earnings, the application of this principle varied widely, and little advantage seemed to have been taken of the experience gained on the relative merits of the different schemes. The actual remuneration, whether in the form of a fixed management fee or a unit margin, had sometimes remained unchanged since its introduction at the beginning of the war. Costs had unquestionably increased since 1939, so that either the original basis was too generous in view of the services rendered or alternatively the representations for an increase made by the associations and rejected by the Ministry had not been adequately and fairly considered. The Committee believed that some effort should be made to introduce a competitive element wherever it was clear that controls were likely to persist for some time. Though there may well have been justification in wartime for the introduction of systems of fixed management fees and unit margins, negotiated with and often paid through trade associations, it was time they were reconsidered. The Select Committee therefore recommended that a comprehensive and critical review of the operation of the systems of determining margins should be held forthwith.[2] There the matter rests.

A second article will discuss the actual margins paid for selected commodities and offer certain conclusions.

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The Farm Economist's Library

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J. TRUMAN

The Farm Economist's Diary

(1 February–30 April 1952)

UNITED KINGDOM

GENERAL ECONOMIC

1 Feb. Textile trade suffering from slump in sales. Stocks a little smaller, however.

Production in 1951, all industries, some 3 per cent. higher than in 1950, cp. 8½ per cent. increase 1949–50.

5 March *Bulletin of the London and Cambridge Economic Service* published as section of *The Times Review of Industry.*

7 March Report of Cost of Living Advisory Committee published—concluded that present figure about showed the change in prices since 1947 but recommended certain changes (e.g. to a 1950 pattern of consumption judged on national figures) temporarily till permanent index evolved in about two years.

11 March *Preliminary National Income and Expenditure Estimates, 1948 to 1951* published as Cmd. 8486.

Budget. Some easing of income tax rates. Bank rate increased from 2½ to 4 per cent., higher social benefits, changes in profits taxes, £160 million to be saved on food subsidies, further cut of £100 million in imports.

EXTERNAL TRADE

GENERAL

11 March — Overseas trade in February gave some hint that November cuts having some effect, but March returns indicated disappointingly slow rate of improvement.

4 April — Review by Chancellor of gold and dollar position indicated some recent improvement. 6 April, second half of 1951 showed external deficit, allowing for all 'invisibles', of £428 million (*United Kingdom Balance of Payments, 1948 to 1951, No. 2*, Cmd. 8505). Deterioration partly due to rise in imports, part to loss of 'invisibles', especially from sale of Iranian oil, partly to services on U.S. and Canadian loans.

16 April — Now clear that of the food items affected by import cuts canned ham and cheese among most important.

25 April — Figures for prices of imports and exports now available for March showed continued small improvement in terms of trade—export prices 7 per cent., import prices 3 per cent., above 1951 (but textiles down by 4 points since January).

Europe

8 April — Bacon agreement with Netherlands covering Oct. 1951–Dec. 1952. 25,000 tons at 262*s.* 5*d.* a cwt. f.o.b. and next 10,000 tons at 300*s.*

12 April — Unofficial trade conference in Moscow of delegates from forty-eight countries. Deals covering £30 million reported but circumstances so far obscure. U.K. trade with Russia, China, East European countries some £140 million in 1951.

U.S.A.

18 April — Memo presented to U.S. State Department and released by B.O.P. refers to increase in number of applications by U.S. industries for higher tariffs on any British goods making headway in U.S. market.

Argentina

1 Feb. — General Peron indicated that he would ask much higher prices for meat when agreement with U.K. expired 23 April. Reason for his sudden change of policy in pardoning socialists formerly bitter enemies not yet clear.

5 March — Preliminaries of trade talks begun. Argentina making great effort to meet her commitments of 200,000 tons meat to U.K. before 23 April. No headway in talks by that date.

Australia

22 Feb. — U.K. to pay more for currants and somewhat less than last year for sultanas of 1952 crop. U.K. not prepared to review prices for pigmeat until after discussions with New Zealand. 24 April, Australian government pressing U.K. to pay higher prices for butter and cheese in 1953. Australia estimated loss of 7*d.* a lb. on butter which will rise to 1*s.* when Australian domestic retail price rises soon.

8 March — Drastic cut in Australian imports announced, aimed to stop rapid drain of Australian sterling balances. Wide range of goods to be cut by 80 per cent., rest by 40 per cent. on 1951 fiscal year—cut of about £144 million on imports from U.K. Abruptness requiring cancelling of contracts caused wide uneasiness though some concessions made later (see Australia, below).

New Zealand

1 Feb. — M.o.F. announced agreement with New Zealand Government on higher prices for meat. Will bring beef price into line with that for Australia. Took account of need to expand exports to U.K. Pigmeat prices being considered.

17 Feb. — U.K. to buy, or permit to be sold here, exportable surplus of New Zealand beef, veal, mutton, and lamb for 15 years from next October. N.Z. to expand production. Now biggest supplier to U.K. 25 Feb., N.Z. Prime Minister announced prospective resumption of chilled beef shipments (actually probably will not arrive till late summer) at prices about £23 a ton above frozen.

3 March — Restrictions on exchange allocation to importers in New Zealand to conserve overseas funds announced—cut to 80 per cent. of 1950 level.

AGRICULTURE

General

3 March — Survey of Economic Commission for Europe showed that Britain and Switzerland with 1 tractor for 23–25 hectares arable land and New Zealand with 1 to 29 hectares most highly mechanized countries—e.g. cp. U.S. 1 to 48, Netherlands 1 to 58 hectares.

20 March — Minister of Agriculture said in Commons that 70 farmers had been dispossessed for bad husbandry in 1951 and 1,588 farmers were under supervision at end Feb. 1952, 1,014 for more than one year. System being reviewed.

4 April — Debate in Commons on motion calling for announcement of long-term policy for agriculture. Announcement of concession in call-up of young men workers on pigs, sugar beet, potato harvesting, &c.

16 April — Announcement that import of fertilizers and fertilizer materials would be returned to private trade on 30 June. Statutory control of most prices to continue.

Economic

24 Feb. — Agricultural Mortgage Corporation raised interest on loans from 4¾–5½ per cent. (4 per cent. a year ago). In year to end March mortgage loans of £4,935,000 made, cp. £4,121,000 previous year.

26 Feb. — Annual Review begun. Delayed by Budget. Interim prices announced 28 March. 24 April, agreed settlement announced. About 40 per cent. of the increased income to be as direct grants towards reducing costs. Schedule agreed by Government and N.F.U. to be properly related both to the economic condition of the industry and to the task before it. Minimum livestock prices for 1954–5 and 1955–6 to be discussed later. Feed prices to be held unchanged, £4·5 million for subsidy on rearing steer calves, ploughing grants to continue, and fertilizer subsidy to be extended. Additions to existing prices, wheat 1*s.* 3*d.*, barley (minimum) 1*s.* 6*d.*, oats (minimum) 1*s.* 0*d.* a cwt. Sugar-beet 4*s.* 6*d.*, potatoes 5*s.* 0*d.* a ton. Milk, 1·54*d.* a gal., fat cattle 3*s.* 6*d.* a cwt., fat sheep 1*d.* a lb., pigs 1*s.* 6*d.* a score, hen and duck eggs 2½*d.* a dozen. Wool decrease of 1*s.* 6½*d.* a lb. Output may rise to 60 per cent. above the pre-war level by 1956.

10 March — Chancellor of Exchequer said in Commons that banks had been instructed to give full weight to the importance of agricultural production in applying their policy of advances, especially when increased tillage area or meat production concerned.

27 March — Agricultural workers to press for 'substantial increase' in national minimum wages, arguing that recent increase was absorbed by rising prices before it was granted.

Crops

7 Feb. — Announced that special steps would be taken to secure labour for lifting a potato crop that it was hoped would be at least 50,000 acres above last year.

30 April — Spring proved much more favourable than last year. Work well ahead. Lambing returns good.

Livestock

12 Feb. Announced that egg prices to producers 13–27 Feb. 4*s.* 1*d.* a dozen, 28 Feb. until further notice 3*s.* 7*d.* a dozen (first quality). Minimum is 7*d.* a dozen above last year which may limit spring slaughter of laying birds.

28 March Standstill order on farm livestock in south of England to control spread of foot-and-mouth disease. However, U.K. still relatively well placed with 150 outbreaks in this epidemic compared with 300,000 farms affected in western Europe.

21 April Parliamentary Secretary to M.o.F. told National Federation of Meat Traders that M.o.F. studying problem of setting aside part of home kill for freezing. Recent paper to Farmers' Club urged higher prices for autumn cattle with expansion of cold storage to spread over the peak.

FOOD

Prices

5 Feb. M.o.F. announced decision to increase retail margins on some price controlled foods.

15 March Bread price increased by 1½*d.* a 1¼ lb. loaf, flour by 1½*d.* a lb. 21 April, M.o.F. announced decrease in wholesale prices of certain oils and fats. 22 April, Minister of Food forecast price increases over fairly wide range. He said policy was to return purchase to private trade as soon as possible but difficult to apply while ensuring fair shares of essential foods just now. 24 April, M.o.F. said that increases as result of higher farm prices should not exceed the 1*s.* 6*d.* a head forecast in the Budget.

27 March Weighting of food in cost-of-living index gone up from 348 out of 1,000 to 399 in Revised Index (see March *M.o.L. Gazette*) and *Report of Cost of Living Advisory Committee* (Cmd. 8481).

Supplies

21 March One of two experimental slaughter-houses to be operated by M.o.F. opened at Guildford. Designed to test system of 'line dressing'.

23 March Bacon ration increased from 4 to 5 oz.

31 March Minister of Food announced only two bonus issues of sugar would be made this summer—less than last year but equal to 1950.

9 April Announced that tea ration to increase from 2–2½ oz. a week from 10 Aug. Subsidy to be withdrawn 15 June.

20 April Cheese ration cut to 1 oz. (previously so low only when first introduced in May 1941). Buying none from Canada, little likely from Australia.

OVERSEAS

COLONIES AND COMMONWEALTH

19 Feb. Two committees set up at Commonwealth Finance Ministers' meeting completed first stage of work, one studying steps on road to convertability, the other the possibilities of 'matching available financial and technical resources with the enterprises (for increasing production) most likely to achieve them'.

EUROPE

14 Feb. U.K. and France in January remained almost sole debtor countries in E.P.U. Netherlands, a few months ago in deficit, achieved substantial surplus.

25 March Preparatory conference in Paris of representatives of fifteen governments to discuss French plan for pooling European agricultural resources. U.K. wished to find ways of associating as effectively as possible with any new institutions which might emerge. Meeting agreed to call summer conference to pursue the question further.

28 March Report of European Plant Protection Organization stated that 1951 was a bad year for the Colorado Beetle so that vigorous action in spring 1952 might bring it under control. No outbreak occurred in England and Wales at any point where colonies had been found in 1950.

30 March Council of O.E.E.C. arranged to explore means by which E.P.U. could be continued after end June (size of working capital and handling of persistent creditors, the main issues).

2 April Severity of terms of Irish Budget shocked most classes. Even so, Finance Minister found difficulty in balancing. 4 April, farm wages raised by 5*s.* to average for country of £3. 17*s.* 4*d.* a week.

WEST AFRICA

28 April New Gold Coast government stated that it planned to resume compulsory cutting out throughout the country as control for swollen-shoot disease of cocoa after very extensive publicity campaign.

U.S.A.

1 Feb. High food prices, high prices for certain other goods, heavy taxes, 4·2 per cent. unemployment, limiting hoped-for improvement in trade. Wage claim by steel workers threatened to set off either strike or round of wage increases—and the breakdown of the wage-stabilization machinery. Defence production moving slowly.

20 March Wage Stabilization Board (employers dissenting) recommended substantial increases in steel-workers wages. This and other factors strengthened workers' case but industry still firm; end April Government took over steel plants.

27 April U.S. Dept. of Agriculture announced that it would make direct purchases of cotton for the first time under its 1952 support programme.

CANADA

1 Feb. Volume of Canadian exports in 1951 was 10 per cent. (value 26 per cent.) above 1950, mostly by increased exports to overseas countries. Most of increase to U.K. was in wood, paper, and non-ferrous metals. Gross national product in 1951 also 7 per cent. above 1950. Newsprint, lumber, base metals, and wheat still main basis of export trade. By end 1951–2 fiscal year believed inflationary tendencies under control.

3 March An outbreak of foot-and-mouth disease in Saskatchewan led U.S. to prohibit import of Canadian meat, emergency embargo on meat imports to Canada (to secure markets for the former exports to U.S.). Cut in immigrants from countries with f. and m. and complex N.Z., Canada–U.S.–U.K. deal on meat.

AUSTRALIA

1 Feb. First half of 1951–2 financial year showed record external trade deficit of £A215 million cp. with favourable balance of £A54 million in first half of previous year. 7 March. Restrictions imposed on finance for imports preliminary to imposition of far-reaching cuts in imports on 8 March. Butter shortage acute, aggravated by bush fires and drought. Drought causing very heavy losses of cattle in Northern Territory, Queensland—reports speak of 1 million head dying, and 10 years for recovery.

25 Feb. Australian Minister for Commerce and Agriculture announced programme for giving agriculture same priority as defence and coal—loans, adjustments of income tax, assistance to get fertilizer, agricultural immigrants, priorities on credit. 26 Feb. he said butter, cheese, lamb, mutton, and beef exports would decline in near future.

10 March In broadcasting about import cuts Prime Minister stressed importance of wheat exports. (Loss of rural manpower critical, 1939–52 40,000 fewer rural workers, 300,000 more factory workers.) 20 March, licences already issued for dollar-area goods to be reviewed.

14 March Fourth Report of Queensland Food Farms Project disappointing. Drought cut yields. Quantities produced not a significant contribution to U.K. supplies and not yet proved economic.

28 March Prime Minister announced new tax allowances to help rural production, abolition of export tax on wheat, and statement of first advance payment on wheat sales.

7 April Rain ended worst drought for 50 years in Queensland.

21 April Five-year expansion programme for agriculture proposed to state Minister of Agriculture by the Federal Minister.

FAR EAST

24 March Colombo Plan consultative committee meeting at Karachi. Exchanges on possibilities and difficulties. Substantial sums made available for 1951–2 by U.K., Canada, Australia, New Zealand, and U.S. Shortage of heavy equipment and technicians limiting.

INTERNATIONAL

23 Feb. U.S. Government announced that rubber trade would be handed back to private hands (after 14 months) and New York Rubber Market be working by 1 July—but many strings attached. Did not greatly affect downward trend in rubber prices—more than one-fifth below last year, important to sterling area since rubber is her biggest single dollar-earner.

1 April U.K. Dominion Wool Disposals Ltd. (Joint Organization) wound up at 30 June 1951 (*Report and Accounts*, Cmd. 8499).

17 April International Wheat Council began 8th session in London to discuss extension of wheat agreement now in force.

28 April Wool market at Sydney closed firm.

K. E. HUNT

Supplies and Prices: Notes and Statistics

PRE-WAR about 32 million people in Britain were fed from abroad, probably 30 million still are. For a nation so placed only the broadest approach to food problems can be realistic. This is not merely an argument for expanding home agriculture, rather it stresses the need to study the whole pattern of food supply and demand. In brief, a bird in the hand is worth two in the bush—but only if one is enough for a meal! With given resources home agriculture may be able to feed more people with one pattern of production than another. If imports can be secured in fair volume then the home industry has a wide choice as to its pattern; the more nearly self-sufficient we become, the more will the needs for basic foods restrict the freedom of home producers—as witness the constraint on agriculture needed to raise self-sufficiency from 30 to 40 per cent. in the recent war. Since we need imports we must avoid paying too cheaply for them to be businesslike. The cost of the 1951–2 United Kingdom output of wheat, barley, oats, sugar, meats, and eggs was about £480 million; if they had been bought at the prices paid c.i.f. for imports they would have cost about £370 million,[1] the livestock products accounting for practically the whole

[1] Based on a reply in the House of Commons to a question by Mr. Osborne. 14 May 1952.

difference. Quality differentials, terms, and other factors affect the comparison. Table 4 gives a somewhat different comparison. We cannot rule out the possibility that there may be scope for helpful adjustment in the overseas sector. Similarly, it might be easier to balance demand with supply if the pattern of British food consumption could be regarded as flexible.

These notes continue the custom of the past few years of dealing in the August number with trends and interpretation of the agricultural output and food supply statistics in general.

TABLE 1. *Supplies and Exports of Cereals: Major Exporting Countries*

	Wheat					*Maize, barley, oats*		
	Canada	*U.S.A.*	*Argentine*	*Australia*	*Total*	*Canada*	*U.S.A.*	*Argentine*
Acreage sown	*million acres*					*million acres*		
1934–8	25	73	18	13	129	18	153	21
1946	26	71	13	13	123	20	143	17
1947	24	78	14	14	130	18	146	15
1948	24	78	14	13	129	18	144	14
1949	28	85	14	12	139	17	144	10
1950	27	72	16	12	127	18	144	12(*r*)
1951	25	78(*r*)	12	10	125	20	136(*r*)	11
1952(*p*)	26	78	19(*a*)	..	..	20	137	16
Production	*million tons*					*million tons*		
1934–8	7	19	6	4	36	7	63	9
1946	11	31	6	3	51	9	111	8
1947	9	37	7	6	59	7	83	7
1948	11	35	5	5	56	9	119	6
1949	10	31	5	6	52	7	110	4(*r*)
1950	12	27(*r*)	6	5	50(*r*)	10	105(*r*)	4(*r*)
1951	15	26	3(*p*)	4	48(*p*)	13	98	4(*p*)
Exports								
1934–8	5	8	3	3	19	*	*	7
1946–7	7	10	2	1	20	1	4	2
1947–8	5	13	3	3	24	0	1	4
1948–9	6	13	2	3	24	1	4	2
1949–50	6	8(*r*)	3	2(*r*)	19	1	3	2
1950–1	6	10(*r*)	3(*r*)	4(*r*)	23(*r*)	1	4	*
1951–2(*p*)	10	12	1	3	26	..	..	..

The stocks of wheat on 1 August in the four countries were 11 million tons in 1934–8, 9 million tons in 1946, 6 million tons in 1947, 11 million tons in 1948, 13 million tons in 1949, 18 million tons in 1950, and 18 million tons in 1951. * Less than 500,000 tons. (*a*) Target. (*p*) Preliminary. (*r*) Revised.

TABLE 2. *Index Numbers of Prices and Wages (a), Spring 1952*

1 *Country*	*2* *General level of wholesale prices*	*3* *General index of wage-rates*	*4* *Basic prices of farm produce*
	1926–8 = 100		
United Kingdom	276	226	273
Denmark	316	250	227
United States	315	436	342
Canada	320	442	297
Argentina	..	..	..
Australia	223	207	231
New Zealand	247	208	214

(*a*) Converted into U.K. £ sterling at official rates of exchange.

TABLE 3. *Index Numbers of Prices (a) of Five Representative Foodstuffs, Spring 1952*

1	2 Wheat	3 Oats (or maize)	4 Butter (or butter-fat)	5 Beef	6 Pigmeat
			1926–8 = 100		
Prices paid to farmers					
United Kingdom	265	300	281 (*d*)	267	348
Denmark	237	360	185	336	284
United States	311	363(*c*)	306	602	290
Canada	216	294	306	521	318
Argentina	150	232(*c*)	..	..	..
Australia (*b*)	220	..	235	357	..
New Zealand (*b*)	..	..	207	289	276
Costs (c.i.f.) of imports to United Kingdom from					
Denmark	..	..	178	..	259(*e*)
United States	278	432(*c*)	..	..	..
Canada	266	..	..	..	(*f*)
Argentina	..	592(*c*)	..	315	..
Australia	247	..	198	224	236
New Zealand	..	..	185	268	264

(*a*) Converted into sterling at official rates of exchange. (*b*) F.o.b. prices. (*c*) Maize. (*d*) Milk for liquid consumption and manufacture, sold in March. (*e*) Bacon. (*f*) Negligible.

The Food Problem

Population. A re-reading of Malthus, population statistics from improving statistical services in less developed countries, accounts of effective techniques for controlling malaria, surveys of soil erosion—these and the like subjects give immense material for argument about the prevailing tendencies in the 'world food situation' at large. The United Kingdom trend can, happily, be stated more firmly. In June 1939 the population was 47¾ million, in June 1952 it was 50½ million, an increase of 2¾ million, or a little over 0·2 million a year. Rather more than two acres of land per head were needed to produce the food for the pre-war British diet, so some 5 million acres more land than pre-war would be needed on the pre-war dietary to feed the increase in population since 1939.

Occasionally the possibilities of emigration are quoted in the context of food supplies. The maximum rate ever achieved from Great Britain was of the order of ¾ million in a 10-year intercensal period. Of late years (1946–50) some 130,000–170,000 a year have been leaving the United Kingdom. Of these some 10–15 per cent. have gone to the U.S.A. Over 80 per cent. have gone to Commonwealth countries—mainly Australia, New Zealand, and Canada, i.e. mainly food-exporting countries. The present rate of emigration is not, therefore, a very significant factor in controlling the size of the British population. Further, in so far as emigrants go into non-agricultural occupations in food-exporting countries (and many have done so, especially in Australia) their going has eased only the problem of transporting the food—they still draw it, in effect, from the same source.

The state of food supplies. A list of foods eaten in the United Kingdom, detailed enough to distinguish pork from bacon, or tomatoes from citrus fruit, runs to sixty or seventy items, and different groups of the population may have different preferences for each item. No straightforward simple summary of the changes in such a complex quantity is possible without using some such abstract common

TABLE 4. *Comparison of Prices for Home-produced and Imported Foodstuffs**

1	2	3	4	5	6	7	8
	Average prices					*Home produce price as per cent. of imported produce price*	
	1927–9	*1936–8*	*1946–7*	*1950–1(r)*	*1951–2(r)*	*1927–9*	*1951–2*
				£ per ton			
Wheat: English	10·4	10·1	18·2	27·8	28·6	..	..
Imported:							
All types	11·3	8·5	21·5	30·1	33·6	92	85
Canadian	11·1	8·9	19·7	29·3	31·8	93	90
Argentine	11·2	8·4	33·7	?	?	93	..
Barley: English	10·8	9·7	24·2	30·1	41·8	..	..
Imported	10·1	6·8	19·4	28·0	35·3	107	118
Oats: English	9·2	7·5	17·2	22·8	27·8	..	..
Maize: Imported	8·3	5·5	21·3	28·8	38·9	111(*c*)	71(*c*)
				d. per gallon			
Milk: English:							
May	10·9	9·1	18·0	23·1	24·6	..	..
December	15·6	15·1	38·2	44·6	47·5	..	..
Imported(*a*)	24·2	15·4	31·1	37·0	48·5	45 (May) 64 (Dec.)	51 98
				£ per ton			
Beef(*b*): G.B. fed	81·8	73·4	128·8	173·3	193·0	..	..
Argentine	49·6	37·4	77·7	108·6	137·6	165	140
Australian	42·6	29·0	55·6	82·1	89·6	192	215
Lamb(*b*)							
G.B. fed (Sept.–Nov.)	105·1	84·5	145·6	204·6	212·5	..	..
Argentine	68·7	55·5	78·7	125·9	142·7	153	149
New Zealand	83·8	64·1	96·8	127·7	139·4	125	152
Bacon(*b*): English	120·5	98·1	215·0	371·3	412·1	..	..
Imported	96·0	86·0	137·4	221·8	250·3	126	165
				s. per 120			
Eggs: English	18·2	14·9	36·2	42·5	46·8	..	..
Imported	13·6	8·5	22·3	26·1	31·7	134	148

* 'Subsidies' are included in the home produce prices. The prices for imported produce are the averages of c.i.f. values as declared. Differences during the 1927–9 period were due mainly to quality, or, in lesser degree, to differences in costs of marketing from the locations for which the respective quotations were made. During later periods, import regulations and other factors have brought about greater differences. The figures for crops during 1946–7 relate to September–August periods, 1950–1 and later years to July–June periods. The 1946–7 and later figures for livestock and livestock products relate to April–March periods.

(*a*) Whole-milk equivalent of full-cream condensed milk.

(*b*) In computing meat prices from fat-stock prices, the pre-war relationships have been assumed. Actual costs of home-produced meat, excluding subsidies, have not been published since 1939. Bacon curing costs may not have increased so much as baconer prices, and allowance has therefore been made for this.

(*c*) One ton of English oats compared to one ton of maize.

(*r*) Revised.

denominator as 'calories' or 'protein'. Broadly speaking, however, civilians in the United Kingdom in 1950–1 were eating within 10–12 per cent., either way, of their pre-war consumption of fish, poultry and game, eggs, oils and fats, pulses and nuts, fruit, vegetables, grains, and beverages. They were eating one-quarter less meat and sugar but some two-fifths more dairy products and potatoes.

TABLE 5. *Prices of the Main Agricultural Products, England and Wales**

1	2	3	4	5	6	7	8	9
	Units	*Average 1936–7 to 1938–9*	*1949–50*	*1950–1(r)*	*1951–2(r)*	*1952–3*	*1953–4*	*1954–5*
		s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Wheat:								
excl. acreage payment	per cwt.	7 4(*a*)	22 11	27 9	28 7	29 9		
incl. acreage payment	per cwt.	9 10(*b*)	24 4	27 9(*d*)	28 7(*d*)	29 9(*d*)		
Barley	per cwt.	10 4	26 1	30 1	41 9	43 5		
Oats	per cwt.	7 6	21 1	22 10	27 9	29 6		
Potatoes:								
excl. acreage payment	per ton	101 10	183 0	190 6	238 4	248 10		
incl. acreage payment	per ton	..	213 11	216 0	238 4	248 10		
Sugar-beet	per ton	42 5	104 11	112 6	114 0	117 8		
Milk	per gallon	12·8	33·1	34·2	36·6	38·3	(*c*) 22·0	
Fat cows	per live cwt.	25 9	57 8	60 2	68 3	74 5	..	
Fat steers and heifers	per live cwt.	45 3	102 11	104 5	116 3	122 5	95 0	
Fat ewes	per lb. d.w.	0 6	1 3	1 3½	1 5½	1 7	..	
Fat lambs (Sept.–Nov.)	per lb. d.w.	0 10½	2 1¾	2 2	2 3	2 4	..	
Fat sheep	per lb. d.w.	0 10	2 2½	2 3½	2 5½	2 7	1 10	
Fat baconers	per 20lb. d.w.	12 5	41 6	47 0	52 2	53 11	40 0(*e*)	
Fat porkers	per 20lb. d.w.	13 8	42 5	45 0	49 9	51 6	..	
Eggs	per 120	15 1	43 9	42 6	46 8	49 4	29 2(*e*)	

* Pre-war averages relate to September–August years. 1949–50 and later years are for July–June. The 1949–50 and later years' figures for livestock and livestock products relate to April–March periods.

(*a*) Excluding deficiency payments.

(*b*) Including deficiency payments.

(*c*) Minimum prices as guaranteed on 31 August 1950. The minima guaranteed for milk do not include the 'temporary war-time bonus' nor quality premiums. During 1951–2 the bonus amounted to an average of about 0·91*d.* per gallon and the quality premiums to about 1·69*d.* per gallon.

(*d*) Acreage payments discontinued with effect from the 1950–1 crop for wheat and 1951–2 crop for potatoes.

(*e*) Subject to a reduction of 6 per cent. for fat pigs and 5 per cent. for eggs for each 10 per cent. fall in feeding-stuffs prices below the current (i.e. August 1950) level.

(*r*) Revised.

In terms of nutrients (though not necessarily of satisfaction) the energy and the protein lost from the sugar and meat was made good from the milk, grain, and potatoes. The energy remained practically unchanged, the protein increased slightly, only the calcium increased markedly. It can fairly be assumed that the subsidy on milk and the redistribution of income, subsidy, and physical rationing affecting other foods has resulted in a smaller range of variation than pre-war between consumers about these averages.

Dependence on imports. The dependence of supplies of individual products on imports is indicated by the following table.

	Percentage of total supplies provided by home production		
	Pre-war	*1945*	*1951*
Wheat and flour (as wheat equivalent)	12	32	24
Oils and fats (crude oil equivalent)	16	6	11
Sugar (refined value)	16	31	23
Carcass meat and offal	50	50	65
Bacon and ham (including canned)	34	34	43
Fish (including canned and shell fish)	85	64	84
Butter	9	8	5
Cheese	24	10	18
Condensed milk	70	59	63
Dried milk (whole and skimmed)	59	49	43
Shell eggs	71	87	87
Milk (as liquid)	100	100	100
Potatoes for human consumption	94	100	97

Source: Reply to a question in the House of Commons by Mr. A. R. Hurd, 22 May 1952.

Several different measures of our total dependence on imports can be derived, depending first on the units used for comparison and second on the allowance made for imported materials used in agriculture. Ignoring this latter allowance, pre-war some 30 per cent. of the energy and 44 per cent. of the protein came from imported materials, in 1949–50 the figures were 39 and 53 per cent. respectively. Now they are somewhat higher. Allowance for imported feeding-stuffs, seeds, and store livestock used on farms in the United Kingdom would raise the dependence for energy pre-war from 70 to perhaps 75 or 80 per cent. Formally some allowance ought also to be made for imported fertilizer, fuel oil, and perhaps metals, but all such calculations are, of course, in large measure arbitrary and hypothetical since if imports totally ceased the whole fabric of the farming industry would need to change.

Efficiency of diet. Though it gives less satisfaction to many than the pre-war diet, the present one is probably more efficient in its use of resources. The main factor determining the amount of original crop products (food or fodder) needed to provide a given diet is the amount of animal products it contains. The pre-war average diet contained about 36–37 per cent. of its energy in livestock products, those of recent years perhaps, 30 per cent. There are no firm figures for some of the physical data which would be needed in order to translate these figures into terms of acreages and man hours of labour but some figures from U.S.A. provide a rough guide.[1] A diet with around 30 per cent. of its energy in livestock products would need only 80 per cent. of the acreage per person required to provide a diet with 36 per cent. of its energy in animal products. A liberal diet might require half as much land again a head as a '30 per cent.' diet.

Agricultural Production

Output. Recent trends in the net output of agriculture are indicated by the following figures.

[1] Christensen, R. P. (1948). 'Efficient use of food resources in the United States', *U.S.D.A. Tech. Bull.* 963, Table 12.

	Gross output	Net output	
		Excluding output of small producers	Including output of small producers
Pre-war	100(c)	100	100
1939–40	..	108	..
1940–1	..	111	..
1941–2	..	105	..
1942–3	..	120	..
1943–4	..	125	..
1944–5	..	120	..
1945–6	..	121	..
1946–7	98(c)	117(a)	121(a)
1947–8	103(c)	122(b)	127(b)
1948–9	113(c)	134	..
1949–50	119(c)	139	..
1950–1	..	140(a)	143(a)
1951–2	..	141(a)	144(a)

Source: (a) *Annual Review and Fixing of Farm Prices 1952.* Cmd. 8556.
(b) *Economic Survey for 1952.* Cmd. 8509.
(c) *Manchester Guardian Review of Industry Finance and Commerce, 1952.*

The gross output is computed by valuing each product sold off the national farm or used in farm households at the same value per ton throughout the period and summing the value so calculated for all the products sold each year to give the annual total. Net output is computed, broadly, by deducting from the value of gross output the value, also at constant prices throughout the period, of the imported store livestock, feedingstuffs and sowing seeds used on British farms. On this basis net output of agriculture in 1950–1 was 41 per cent. above pre-war.

This statement might be expanded somewhat. Net output derives, in one sense, from farmers' efforts combined with the product of British soil (as marketed in the form of cash crops or livestock products) plus the increment (or value added) to imported feed, store cattle, and seeds in the course of processing on British farms. Between pre-war and 1950–1 the quantities of these imported products used by British agriculture decreased but, as shown above, the net output increased. Sometime between the two periods, farmers must have been devoting effort to readjusting their systems of farming to working under the new conditions but by 1950–1 this presumably had largely been done. Thus farmers' efforts and the production of the soil in this latter period had to offset the increments which could have been added to the lost imports before an increase in net output was shown. After doing this, still sufficient produce was sent off farms to give a total 41 per cent. greater than 'production from the soil plus increment on imported raw materials' pre-war.

Source of expanded output. The origin of this increase is of some interest, both generally, and as a guide to possible future expansion. Originally, the product available for sale from the British soil is derived from the quantity of crop products harvested or grazed from the land, which in turn depends on the effect of crop breeding, fertilizer treatment, and other management practices on the yield of individual crops and the pattern of cropping as determining the proportion of high- to low-yielding (in physical terms) crops grown. At the next stage the product for sale depends on the proportion of the produce used for livestock feeding in contrast to being sold as cash crops. Proceeding still further, the output will depend on the standards of breeding and management affecting the efficiency of individual classes of livestock as producers of products for sale and on the proportions in which the crops are divided between the classes for they have differing efficiencies of conversion. One particularly important issue in this last choice is the amount being used by farm horses which, for the purposes of the present net income calculation, do not produce a sale product.

The origin of the rise in net output may, therefore, be looked for under the effects of

- weather, more fertilizer, improved management, better crop varieties — as shown by individual crop yields per acre;
- changes in the relative amounts of different crops—as affecting average crop product yield as a whole;
- changes in the contribution of cash crops;
- changes in the efficiency of livestock as feed converters;
- changes in the relative numbers of different classes of food producing livestock;
- changes in the number of horses.

Not all of these effects may, however, be capable of isolation, even tentatively. It must also be kept in mind that the importance of many of them in their effect on any single composite figure of output depends on criteria used to combine them. Thus in most physical terms 1 ton of wheat or barley or 4 tons potatoes are about equivalent but in money terms, at present prices, 1 ton of wheat is equivalent in value to perhaps ⅘ ton barley and 2 tons potatoes.

Crops and grass production. Since no estimates of the output of grass from grasslands are made the available supply of fodder can only be estimated indirectly—for example, by basing it on the number of livestock to be fed and their requirements. On this basis the broad pattern of crop supplies appears as follows:

	Pre-war average	1943–4	1946–7	1947–8	1948–9	1949–50	1950–1	1951–2
	million tons, starch equivalent							
Sales as crop product	2·8	5·5	4·5	4·0	4·8	4·5	4·7	4·1
Consumed by farm livestock	22·0	20·1	20·7	19·8	20·7	21·7	22·3	22·3
Total	24·8	25·6	25·2	23·8	25·5	26·2	27·0	26·4
Imported feed	5·9	1·0	1·0	1·9	2·0	2·2	2·5	2·4 (say)
Net United Kingdom crop (incl. grass) production	18·9 (100)	24·6 (130)	24·2 (128)	21·9 (116)	23·5 (124)	24·0 (127)	24·5 (130)	24·0 (127)

A picture drawn in this way is subject to many uncertainties but the broad pattern is probably a fair guide. The increase from pre-war to 1943–4 probably contains not only what might be called true increases in crop production but also an element of better 'gathering in' of what was grown, in the sense of having grass grazed right down, root tops fed instead of being ploughed in, and so on.

The general conclusion from this picture appears to be that the total of crop products from British farm land effectively used rose to 1943–4, was then maintained but has not risen greatly over the last four or five years. The present level is some one-third to one-quarter above the pre-war. This may be the result of widely differing tendencies induced by change in the balance of cropping, weather, fertilizer treatment, &c.

Trend in Average Yields—All Crops

Broadly the yield in starch equivalent per acre of wheat, barley, oats, sugar-beet, potatoes, mangels, turnips, swedes, and hay combined increased from about 0·60 tons per acre to about 0·64 tons in the peak of the war and later perhaps 0·65. A guide to the contribution of the weather can perhaps be looked for in the year to year variations. The exceptionally bad year 1947 gave a yield of only 0·54 tons but for the rest the difference between a good year and a bad one tended to be about 0·2 tons S.E. The grazed output may in fact compensate rather than accentuate the effect of weather on harvested crops.

Trend in crop yield—substitution of crops. In broad terms, wheat and barley grain yield, net of seed, about 0·6 ton starch equivalent per acre, and oats rather under 0·5 tons, but since oat straw is a good deal more useful as a feed than wheat or barley straw the effective yield of the three may not differ greatly. Potatoes, net of seed, probably yield somewhat over 1 ton and roots as a group probably 1¼ tons of starch equivalent an acre. Of grassland, the principal crop, very little is known. Hay provides little more than 0·35–0·4 tons starch equivalent per acre (but ideally it should stand or fall as a feed on its protein content). The yield of grazed pastures is very imperfectly known, but may be now over three-quarters of a ton starch equivalent. On the evidence of these national yields the total supply of crop materials would be increased by substitution of well-grazed grass, grains, or roots for hay or badly grazed grass and of roots for grains or grazed grass. The substitution of some 1 million acres under hay by higher yielding crops might have yielded an extra ¼ million acres of starch equivalent and the increase of some ½ million acres of roots a further ¼ million acres since pre-war—not perhaps a very large proportion of the 5 million tons increase in effective starch equivalent supply from British agriculture between pre-war and 1950. In addition there were presumably elements due to substituting rather more than 3 million acres of arable crops for badly grazed grass and to grazing well some 10 million acres of grass formerly badly grazed. Together these might be of the order of 1 million tons starch equivalent.

Trends in crop yields—effect of fertilizers. The contributions of fertilizers to changes in yields are very difficult to assess without details of their distribution and the rate of dressings. In 1950, 213,200 tons of N, 461,500 tons of P_2O_5, and 234,300 tons of K_2O were used in fertilizers in the United Kingdom.[1] Thus in broad terms about 160 thousand tons more N, 300 thousand tons more P_2O_5 and 160 thousand tons more K_2O were used in the United Kingdom in 1950 than pre-war. Applied to appropriate crops at low rates each of these could yield upwards of 10–15 times the weight of starch equivalent—say 6–9 million tons. Even at half this response most of the increase in production of crop products could be accounted for as response to fertilizer.

The discussion so far has sought to isolate the origin of the increased supply of crop products which is now available from British agriculture compared with pre-war. The probabilities appear to be that the effects of increased fertilizer followed, a rather bad second, by adjustments towards heavier yielding crops (including the substitution of close for extensive grazing) accounts for this increase. The second part of the discussion seeks to relate the increase of 37 per cent. in crop product output in 1951–2 over pre-war to the increase of 41 per cent. in net output quoted on p. 88. This involves consideration of the way the

[1] Comparable with the data for earlier years given in *Farm Economist*, vol. vi, no. 10, p. 329.

utilization of the crop products affects the level of net output and of any particular effects of the use of prices as weights in deriving a composite index.

Use of crop products. Here there are three main points of interest, the division of supplies between direct sale crops and use for fodder, the feed requirements of draught animals and the efficiency of the food-producing livestock as producers of food from crop products.

The rather small part played by cash crops has already been noted. Within the limitation it is well recognized that if livestock are being fed on crops which could be eaten by man then if the output of livestock products is cut by the equivalent of one man's energy requirement for a day, the feed saved would keep him for a week or more. Financially, however, the comparison may be rather different. It would not be unreasonable to assume that 1 cwt. of grain (suitably balanced) if fed to pigs would yield about 1¼ score dead weight, to hens about 12 dozen eggs and to cows (as production ration) perhaps 30 gallons of milk. At 1945–6 prices the grain would be worth some 18–25*s.*, the pigmeat 28*s.*, the eggs 43*s.*, and the milk about 67*s.* Thus if 1 unit of feed is diverted from cash crops to stock feeding the resulting output will contribute up to two, perhaps even three times as much towards output valued in money terms as would the original crop product. In this the composite index of output reflects not only the extra effort which farmers must put in to produce livestock products but also the greater marginal utility of livestock compared with crop products to consumers whose standards are those of a fairly prosperous economy. The generally higher level of crop sales later than pre-war has probably tended to depress output as measured by the official index but the easing off in cash crop sales since 1943–4 has probably contributed to the rise in the official index of net output in the last four or five years.

By substituting oil power in tractors for fodder power in horses some ½ million horses have been 'saved' between pre-war and 1951 equivalent to perhaps 1¼ million tons starch equivalent. This means that the part of the crop production of British soil capable of contributing to the output of food has been increased by 1¼ million tons in addition to any increments due to the factors already discussed. This in effect gives an increase in the United Kingdom's effective crop production of from about 16·7 million tons to 23·0 or 38 per cent.

The feeding of horses for power production may have improved in efficiency since 1939 but in the main this facet of improved technique is better looked for in the management of food-producing stock. Under British conditions this is a rather complex subject. Probably increasing yield per animal of cows and hens is an indicator of improved efficiency of feed conversion and economic efficiency, too.

A broad composite indication of the current efficiency of livestock production is given by a comparison for recent years of the feed which would be needed at pre-war rates per head of stock with that needed at pre-war rates per unit of output. This 'capacity index' after falling about 17 points from pre-war to 1943–4 had by 1951–2 risen to within 4 points of the base period. In broad terms this suggests that the improvement in milk, and perhaps some other sections, has not offset the reduced technical efficiency of the beef industry (e.g. see the 'output per head carried' in the tables in *Farm Economist*, vol. vi, nos. 11 and 12, p. 377), the reduction in part being due to the loss, compared with pre-war, of about ¼ million 'ready made' store cattle from Ireland.

Drawing all these considerations together gives a summary somewhat as follows. The increase of some 41 per cent. in the net output of agriculture valued

at constant prices contains diverse elements, which fall under two main headings, namely, those contributing to increased supplies of raw materials in the form of crop products for sale or feeding and those contributing to more efficient use of these supplies for producing goods which are highly valued in the calculation of net output; in so far as they are highly valued this is broadly in line with the effort required for their production and the value consumers place on them.

Comparing pre-war with 1951–2, under the heading of increased crop supplies there are the following factors:

Factor	*Direction of action (increase (−), decrease (−))*	*Size of effect*
Shift to higher yielding crops:		
poor to good grazing	+	considerable
other	?+	slight
Weather	?+	slight
Fertilizers	−	considerable

The total effect seems to have been an increase of around 30 per cent. Under the heading of more effective use are the following factors:

Factor	*Direction of action (increase (−), decrease (−))*	*Size of effect*
Change to output of valuable products	−	small
Reduction in horses	+	appreciable
Reduced efficiency of livestock production other than horses	−	small

In total it appears that the greater part of the increase in output has resulted from increases in crop production and the reduced requirements of farm horses.

	1937–8	*1946–7*	*1947–8*	*1948–9*	*1949–50*	*1950–1*	*1951–2*
	£ million						
Farm expenses							
Labour	66	208	223	235	237	242	255
Rent and interest	43	48	49	52	55	59	63
Machinery	15	56	68	71	82	115	127
Feedingstuffs	78	34	44	62	113	140	180
Fertilizers	9	30	36	40	45	54	60
Other expenses	38	94	104	115	123	126	142
Total	249	470	524	575	655	736	827
Net income	59	186	218	290	309	264	294
Gross receipts	308	656	742	865	964	1,000	1,121

Source: Expenses 1937–8 to 1950–1 from *Manchester Guardian Review of Industry, Finance and Commerce, 1952*. Rest from *Annual Review and Fixing of Farm Prices 1952* (Cmd. 8556).

Note: Notes on pp. 10 and 11 of Cmd. 8556 draw attention to the fact (i) that calculations of net income derived from a sample of farm accounts has given rather different figures, e.g. in 1950–1 some £50 million below the figure obtained from national statistics, (ii) from the figures for net income farmers should have appropriated certain sums (rising to £41 million in 1950–1) to cover the excess cost of replacements over cost of certain assets.

The Financial Pattern

All the above discussion is based on physical criteria or financial data used as convenient weighting factors. The outcome of the changes in terms of costs and returns at current prices cannot be set out precisely with the data so far published. However, by combining statistics derived from various sources a broad pattern can be drawn with at least the degree of precision of the physical data used above.

These figures almost certainly differ in detail from the figures currently in use within Government departments.[1] No significance should therefore be given to small margins between individual figures but the main comparisons should be sound.

Among the more interesting indications of this table are the ratios between some of the items. In 1937–8 the payments to labour compared with the net income of farmers was about 1·1:1, after falling well below unity in some of the intervening years, for the last two years it has been about 0·9:1. In 1937–8 farmers spent about 4*s.* 6*d.* on labour for every 1*s.* spent on machinery; lately it has been little more than 2*s.* Pre-war 1*s.* 6*d.* of labour was combined with 1*s.* of rent and interest; lately more than 4*s.* has gone on labour for every 1*s.* of of rent and interest. Lately nearly as much has been spent on fertilizers as is paid for the use of the land to apply them to, whereas in 1937–8 they cost less than one-quarter as much. The relative cheapness of land, now less than 8 per cent. of the total farm cost, whereas pre-war it was nearly 17 per cent., must be some discouragement to intensification.

Opportunities for 'Steering' Production

Since the pattern, as well as the intensity, of production has significance in valuing output the possibilities of 'steering' production have considerable interest. Each producer has his own opportunities of doing so, within the limits set by his costs and prices, but as many of his costs and practically all his prices

[1] Rather more up-to-date figures for certain items, supplied by the Ministry of Agriculture, are as follows:

	Average pre-war	*1946–7*	*1947–8*	*1948–9*	*1949–50*	*1950–1*	*Forecast 1951–2*
	£ million						
1. Gross output	292	615	719	831	907	927½	1,046½
2. Gross income	302	654	738½	862	962	996½	1,115
3. Farming costs (net)	244½	467½	521	572	653	732	821
4. Net income	57½	186½	217½	290	309	264½	294
	Average pre-war	*1947*	*1948*	*1949*	*1950*	*1951*	
Net Income	57½	204½	260	301	283	281½	

Notes:

1. Gross output consists of the sales off farms of agricultural produce plus produce consumed in the farmhouse and with an adjustment for a change in the quantities and value of work in progress and stocks awaiting sale.
2. Gross income consists of gross output plus sundry items of receipts and adjustments for changes in the value of stocks. Whereas for Gross output the latter are estimated at market value, for Income purposes, breeding stock are on a replacement cost basis, and slaughter stock, growing crops, &c., on a cost of production basis.
3. Farming costs (net) represent total farming costs less an allowance for items of a capital nature.

are determined by the Government it is in their hands where over a period the main opportunities for steering lie. Their tools for setting the course dictated by any particular policy have not, however, very great leverage. Perhaps the most powerful and direct acting are the subsidies on 'processes'—such as calf-rearing. However, a subsidy on the rearing of steer calves of, say, £5 million represents no more than 5·8 per cent. of the final selling price of steers. A subsidy of £20 million on feedingstuffs represents about 3 per cent. of the total sale value of livestock, though possibly 17 per cent. of the wholesale value of purchased feedingstuffs and thus helping appreciably those using mainly purchased feed. Again, if the whole of a £20 million award after an Annual Review were all given to milk it would represent only some 6–7 per cent. of the annual receipts for milk. This is not to say that such marginal changes do not constitute the mechanism by which adjustments are initiated but rather that in times when economic activity is by no means stable they may not be emphatic enough to convey their message except by reiteration.

The main physical control of the pattern of production still operated centrally is the rationing of feedingstuffs. The issues of rationed feed in 1950 and 1951 were as follows:

	1950			*1951*		
	Im-ported	*Home-grown or home-produced*	*Total*	*Im-ported*	*Home-grown or home-produced*	*Total*
	thousand long tons					
Wheat (unmillable)	19	53	72	189	65	254
Wheat offals . .	101	816	917	175	979	1,154
Barley . . .	1,107	485	1,592	1,181	24	1,205
Oats . . .	211	159	370	81	128	209
Maize . . .	709	..	709	874	..	874
Sorghum . .	..	..	..	71	..	71
Oilcakes and meal .	453	688	1,141	434	573	1,007
Other feedingstuffs	355	277	632	321	317	638
Total . .	2,955	2,478	5,433	3,326	2,086	5,412

Note: Source—replies to questions in the House of Commons by Mr. York (1 Feb. 1951) and Mr. Hurd (27 March 1952). The figures are directly comparable with those in the *Farm Economist*, vol. vi, no. 8, p. 255. In 1950 30 per cent. of millers grists were of home-grown wheat and in 1951 32 per cent. In 1950 about 1,210 thousand tons, and in 1951 about 830 thousand tons of the above supplies were of home origin.

These account for about one-seventh of the total feed consumed by livestock, and about one-third of the concentrated feed.

In the year to 30 September 1951 some 1,190,000 tons were allocated in respect of cows, 481,000 tons for calves, 2,963,000 tons for pigs and poultry, 135,000 tons for farm and urban horses, and 353 to discretionary reserves.[1] These represent about one-tenth of the feed of cows and one-third to one-half of that of pigs and poultry. However, taking into account the fact that the choice of feed is at the farmers' discretion, that pigs and poultry are rationed together and that, once

[1] Reply to a question in the House of Commons by Mr. Freeman on 4 Dec. 1951. A reply to Mr. G. A. Brown on 10 April 1952 indicated that 93,000 tons went to domestic poultry-keepers in Great Britain in the year ending 30 April 1952.

on the farm, producers can give purchased feed to whatever stock they like, the Government has only a light effective steering leverage.

University of Oxford, K. E. HUNT
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TABLE 6. *Some Indicators of General Price and Cost Movements affecting Agriculture in the United Kingdom*

1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*
	Prices of agricultural products:				*Retail prices of:*		*Full-time weekly wage-rates:*	
Calendar years	*All main products*	*Foodstuffs normally readily importable*	*Prices of imported foodstuffs*	*Prices of industrial raw materials*	*Foods*	*Other goods and services (excluding rents)*	*Farm-rates*	*General index including farm-rates*
	Index numbers 1911–13 = 100							
1920	292	297	300	302	256	258	233(*a*)	272(*a*)
1926	151	155	151	149	164	192	174	186
1932	117	106.	100	92	126	176	174	174
1936	120	112	98	106	130	174	179	180
1937	131	124	109	125	139	180	185	187
1938	130	122	110	109	141	183	192	194
1945	251	218	231	207	186	329	384	290
1946	265	233	234	235	189	332	412	314
1947	308	266	250	317	186	370	463	326
1948	318	294	265	371	198	404	500	342
1949	332	312	300	378	209	413	518	352
1950	344	328	320	446	225	424	527	358
1951	376(*p*)	359(*p*)	349	578	250	479	564	388
1951:								
Jan.	405	336	312	592	233	444	556	373
Feb.	400	342	310	621	234	453	556	376
Mar.	380	333	338	619	235	459	556	379
Apr.	364	361	306	625	239	467	556	382
May	335(*p*)	362(*p*)	351	611	248	478	556	382
June	341(*p*)	366(*p*)	357	577	249	481	556	386
July	352(*p*)	362(*p*)	351	549	256	485	556	389
1952:								
Jan.	445(*p*)	380(*p*)	375	561	274	507	600	412
Feb.	425(*p*)	370(*p*)	385	547	275(*b*)	507(*b*)	600	415
Mar.	403(*p*)	368(*p*)	390	525	277(*b*)	511(*b*)	600	415
Apr.	383(*p*)	379(*p*)	391	515	285(*b*)	514(*b*)	600	415
May	351(*p*)	383(*p*)	389	506	286(*b*)	512(*b*)	600	418
June	352(*p*)	379(*p*)	394	506	298(*b*)	511(*b*)	600	418
July	354(*p*)	374(*p*)	393	499	298(*b*)	510(*b*)	600	418

For sources and definitions see vol. vii, no. 1, p. 46.

(*a*) July rates.
(*b*) New series calculated with effect from February 1952, not strictly comparable with previous series owing to changes in weighting and list of items included.
(*p*) Subject to revision.

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Changes in the Sale Value of Farm Real Estate in England and Wales, 1937-9 to 1951[1]

THE purpose of this article is to continue a study of agricultural land values which was initiated by D. K. Britton[2] and to trace the effect of the Second World War upon the price of farm real estate.

An analysis of land values must be concerned not only with quantitative measurements of price changes, but must also seek to explain those changes in relation to prevailing conditions of demand and supply in the real estate market. The economist dealing with frequency distributions and averages may be in danger of overlooking important casual factors ruling in the market; the professional

[1] Received 31 January 1953.

[2] Britton, D. K. (1949), 'The Sale Value of Farm Land between the Wars', *Farm Economist*, vol. vi, no. 5, pp. 125–33.

auctioneer or land agent, though appreciating general trends and their underlying causes, may yet be unable to express them accurately in quantitative terms. Thus a co-ordination of the two approaches is required. For this reason the present work sets out the factual changes which took place in farm prices during the period 1937–9 to 1951, and seeks to analyse them in the light of professional opinion on the general conditions of the land market during that period. The analyses are based on the annual reports of estate agents throughout the country published in the *Estates Gazette*.

The sources of the data used were the *Estate Exchange Year Book*[1] and the *Estates Gazette*,[2] both of which publish results of auction sales held in London, the provinces, and Wales. The details recorded usually include the place and date of sale; a description (including the area and location of the property); whether it was sold freehold or leasehold, and whether with or without possession, and the price realized. For some sales, details of rent and certain statutory charges are also given. Britton used the *Year Book*, which in the earlier years reported sales from all over the country, and this source was found to be satisfactory until 1946. After this its reports were limited to properties sold within a radius of 30 miles from Charing Cross, while in 1949 and subsequent years they were restricted to an area south of a line drawn approximately from the Wash to the Bristol Channel. The data used for 1946 onwards were obtained from the *Estates Gazette*, which publishes weekly results of auction sales in similar detail to that in the *Year Book*. Both the *Year Book*, before the area limitation of 1946, and the *Estates Gazette* contained reports of sales of agricultural property in every county in England and Wales, and although the data published were not necessarily identical, they tended to be very similar because the two organizations worked together in close agreement and drew most of their material from the same auctioneers. A test comparison made for earlier years indicated that the trend in sale values was not disturbed by this change in the source of statistics.

The most serious criticism of the material is that it relates only to farms sold at auction and does not include those sold by private treaty. It is not known what proportion of farms is offered by auction, nor whether it is the better or the worse type of property that is disposed of by this means, but it is known that many of the larger agricultural estates are sold for investment by private treaty and that such estates, though relatively few in number, comprise an appreciable proportion of the total agricultural land of the country. This class of property was not covered by the present study, although a number of farms which were sold by auction as separate lots when large estates were broken up were included.

Farms specializing in fruit, hops, poultry, and market gardening were also excluded, as were parcels of agricultural land which were not classified as farms on the grounds that they did not support a residence or farm buildings.

The simplest method of calculating an annual average price would be to divide the total amount of money paid out by the total number of farms or acreage sold, but this procedure would be unreliable because the composition of the recorded

[1] The *Estate Exchange Year Book of Auction Sales*, published by the Estate Exchange, 155 Queen Victoria Street, E.C.4. I am indebted to the Secretary of the Exchange for permission to consult the *Year Books* as circulation is restricted to members.

[2] The *Estates Gazette*, published by the Estates Gazette, Ltd., 47 Museum Street, Bloomsbury, W.C.1, is a weekly paper devoted to matters of interest to land and estate agents, auctioneers, surveyors, and valuers. Thanks are due to the Council and Secretary of the Royal Institution of Chartered Surveyors for permission to consult back numbers of the *Estates Gazette* in their library at Westminster.

sales varied from year to year. Nothing is known about the relative quality of farms sold. This is, of course, a fundamental factor affecting sale values and its influence may be seen in the wide variation in prices which is particularly noticeable in the sales of smaller farms. During the early war years all classes of farms found a ready market but in later years demand became far more selective. While it remained keen for good farms, which did not change hands as frequently as the remainder, it eased slightly for less fertile or less well-equipped farms, and for many the condition of farmhouse and buildings was the principal factor determining price. This was particularly marked for dairy farms; well-equipped holdings fetched very high prices, but those below T.T. standard, or incapable of modernization with a reasonable outlay of capital, were more difficult to sell, especially after the Government had announced its intention of establishing tuberculosis-free areas.

Further, without knowing how prices varied according to region and type of farming, it is impossible to tell how the differing completeness of the record in different regions affected the results. A large number of sales were recorded in the West Midlands and Home Counties and a much smaller number in the north and in Wales, due, in part, to the varying degree in which auctioneers made their results available for publication.

The influence of these factors cannot be ascertained without data more comprehensive than is at present available, but a comparison of regional reports from auctioneers suggests that variations between regions and between different types of farms were small in comparison with those due to period of sale, size of farm, and type of possession offered. Each of these latter factors has a strong influence on price, so that in order to make possible reliable comparisons between yearly averages the data had to be standardized for farm size and type of possession.

The importance of the size factor is indicated in Tables 1 and 2 where it will

TABLE 1. *Changes in the Sale Values of Farms sold with Vacant Possession, by Size of Farm, England and Wales, 1937 to 1951*

3-year period	*No. of farms*	*5 and under 50 acres*	*50 and under 100 acres*	*100 and under 150 acres*	*150 and under 300 acres*	*300 acres and over*
		£ per acre				
1937–9	387	49·1	34·8	28·7	22·1	12·9
1938–40	443	58·2	35·0	28·9	23·6	14·9
1939–41	514	69·1	36·5	29·4	27·9	17·3
1940–2	691	76·7	41·8	34·1	29·8	22·5
1941–3	754	85·4	48·9	37·2	34·0	28·2
1942–4	755	90·3	53·1	44·2	33·9	29·4
1943–5	780	95·4	58·4	45·4	36·4	29·2
1944–6	939	117·0	61·6	49·8	36·6	29·4
1945–7	1,182	133·6	71·5	56·4	44·2	35·7
1946–8	1,438	160·9	84·7	66·0	52·5	43·8
1947–9	1,497	166·9	95·9	73·8	60·6	44·3
1948–50	1,508	176·1	98·9	74·5	63·2	47·4
1949–51	1,412	172·4	100·3	77·3	65·9	53·5

be seen that an increase in farm size is associated with a fall in price per acre. This is very marked for farms sold with vacant possession but a similar, though

less extreme relationship, is also found for those sold without possession. In order to standardize the data in respect of this factor the annual median prices of farms sold with vacant possession were weighted in proportion to the contribution each size group made to the total area of owner-occupied farms, and weights for farms sold without possession were based on proportionate areas of tenanted farms.[1] Farms of 300 acres and over were excluded because so few of them were recorded as sold each year that their average prices were unreliable and would have distorted the indexes. If reliable figures for this group of farms

TABLE 2. *Changes in the Sale Values of Farms sold Without Possession, by Size of Farm, England and Wales, 1937 to 1951*

3-year period	*No. of farms*	*5 and under 50 acres*	*50 and under 100 acres*	*100 and under 150 acres*	*150 and under 300 acres*	*300 acres and over*
		£ per acre				
1937–9	341	34·0	28·9	19·4	18·0	18·3*
1938–40	369	36·2	27·5	18·0	17·2	11·9
1939–41	476	40·3	30·6	22·8	19·3	14·0
1940–2	582	50·9	31·1	27·2	19·2	14·3
1941–3	718	54·4	34·5	29·9	22·6	15·7
1942–4	678	52·7	35·6	30·9	22·3	17·6
1943–5	741	48·7	37·1	30·5	24·7	20·8
1944–6	677	55·6	38·7	31·9	24·3	21·8
1945–7	590	64·5	41·6	30·7	26·3	21·1
1946–8	446	80·9	48·2	36·8	28·2	22·7
1947–9	433	79·1	50·5	38·2	30·4	26·8
1948–50	441	77·3	49·1	48·0	33·8	26·0
1949–51	422	62·5	49·1	46·5	37·3	29·1

* If the exceptional median value for 1937 is omitted this figure becomes £12·8.

could have been included it is probable that the combined sale values for each year would have been lower although the general trend would have remained broadly similar.

The influence of the second factor, the type of possession, became of increasing importance during the period under review. As shown in Table 3 the price of farms sold with vacant possession rose from £31·1 per acre in 1937–9 to £94·9 in 1949–51, an increase of 205 per cent., whereas farms sold without possession

[1] The weights used were:

Size group	*Vacant possession*	*Without possession*
5 and under 50 acres	18	15
50 „ „ 100 „	22	22
100 „ „ 150 „	20	21
150 „ „ 300 „	40	42

These data, which are for England and Wales, 1950, show little change in proportion from year to year. *Source*: Ministry of Agriculture and Fisheries, *Press Notice*, M.A.F. 3088, 18 July 1952.

TABLE 3. *Sale Values, Indexes, and Premiums for Vacant Possession of Farm Real Estate, England and Wales, 1937 to 1951*

3-year period	*Vacant possession*		*Without possession*		*Weighted average**		*Premium for vacant possession*	
	Average price	*Index no.*	*Average price*	*Index no.*	*Average price*	*Index no.*		
	£ per acre	*1937–9 = 100*	*£ per acre*	*1937–9 = 100*	*£ per acre*	*1937–9 = 100*	*£ per acre*	*per cent.*
1937–9	31·1	100	23·1	100	26·1	100	8·0	35
1938–40	33·4	107	22·5	97	26·6	102	10·9	48
1939–41	37·5	121	25·7	111	30·2	116	11·8	46
1940–2	41·8	134	28·3	123	33·1	127	13·5	48
1941–3	47·2	152	31·5	136	37·5	144	15·7	50
1942–4	50·4	162	31·6	137	38·7	148	18·8	59
1943–5	53·7	173	32·2	139	40·4	155	21·5	67
1944–6	59·2	190	33·7	146	43·4	166	25·5	76
1945–7	68·7	221	36·3	157	48·6	186	32·4	89
1946–8	81·8	263	42·3	183	57·3	220	39·5	93
1947–9	90·1	290	43·7	189	61·4	235	46·4	106
1948–50	93·6	301	46·7	202	64·5	247	46·9	100
1949–51	94·9	305	45·6	197	64·3	246	49·3	108

* Weights used: vacant possession, 38; without possession, 62.

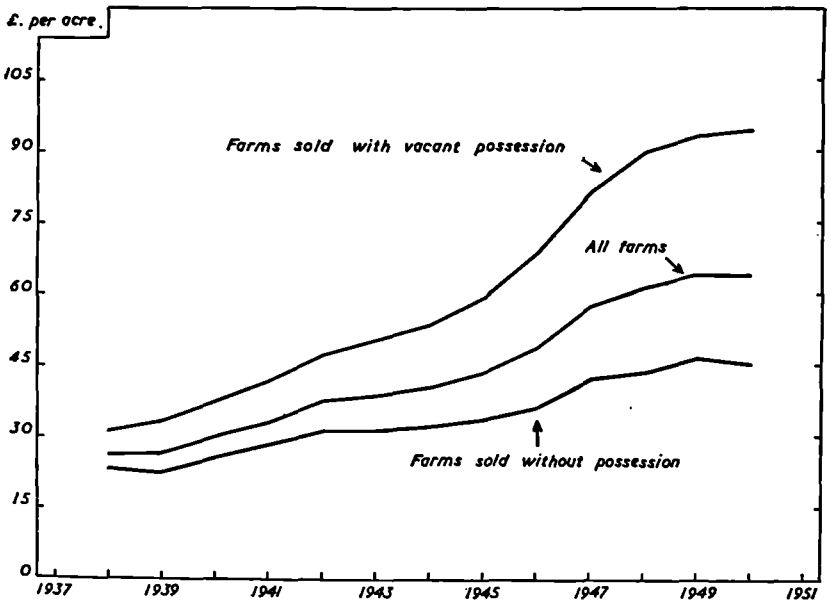


CHART 1. The sale value of farm real estate in England and Wales, 1937–9 to 1949–51.

rose from £23·1 per acre in 1937–9 to £45·6 in 1949–51, an increase of only 97 per cent. In general terms the price of farms sold with possession had trebled while that of tenanted farms had doubled.

It is customary to call the price differential offered for an unoccupied farm the 'vacant possession premium', and to express it as a percentage of the price paid for a tenanted farm.[1] Before the war this premium amounted to some 30 per cent., which was probably equivalent to the average tenant right claim of sitting tenants, but it rose rapidly during and after the war and stood at a little over 100 per cent. in the late 1940's. The reason for this increase was that the two classes of property yielded very different returns. The purchaser of a farm with vacant possession bought the right to farm the land himself or put in a tenant of his own choice at a market rent; in contrast, the man who bought a farm without possession received the right to annual rents which were generally far below the market level and difficult to increase. The distinction was not of great importance before the war, when a landowner could, if he wished, obtain possession within a year and farm rents were more or less on a comparable level with farm incomes. It became very significant, however, in later years when provisions against land speculation, introduced by Defence Regulation in November 1941 and consolidated in the Agricultural Holdings Act of 1948, made it virtually impossible to gain vacant possession except as a condition of sale. At the same time, rents lagged considerably behind farm incomes, due in some measure to the traditional conservatism of landlords and their agents, who were slow to raise rents and most unwilling to submit disputed increases to arbitration.

The divergence between the price of tenanted and unoccupied farms complicated the construction of a general index of farm real estate values. Britton's index for pre-war days was not standardized with respect to the possession factor, but after 1939 the rise in the premium induced landlords to sell with vacant possession whenever possible, with the result that there was a large increase in the proportion of farms offered in this way. To eliminate the dual effect that this would have had upon averages based on non-standardized data, the separate indexes calculated each year for farms sold with and without possession were combined by fixed weights to form the general index. The weights chosen were based on the proportions of land which were owner-occupied and tenanted in England and Wales in 1950, although it may be pointed out that this ratio need bear no direct relationship to that between farms sold with vacant possession and those sold without it, because the existing status of a farm does not necessarily determine the conditions of sale. A landlord selling a tenanted farm is obliged to offer it subject to the existing tenancy, unless he sells to the sitting tenant, but if his tenant quits the holding then it can be offered with vacant possession; and on the other hand, while one owner-occupier may sell to another it is possible that he will sell to a landlord. Despite these objections, the system of weighting adopted makes possible a study of changes in the sale value of a representative cross-section of the national estate.

A system of fixed weighting[2] was adopted in order to provide a degree of stabi-

[1] Strictly speaking the term 'premium' refers to that additional amount realized for a farm offered with vacant possession over the price it would fetch if offered without possession. Such a premium cannot be determined objectively as no farm can be sold with and without possession in the same market and at the same time. It was therefore calculated as the difference between the average price of farms sold with vacant possession and that of farms sold without possession, expressed as a percentage of the latter.

[2] The methods of weighting used in this study have been adapted to conform to those used by Dr. O. T. W. Price, of the Agricultural Economics Research Institute, Oxford, in his

lity to the index which otherwise would have been distorted by changes in the tenure of agricultural land which began during the early years of the Second World War and are continuing at the present time. The National Farm Survey showed that 66 per cent. of our farms were tenanted and 34 per cent. owner-occupied in 1941, but the latest data available indicate that these proportions had altered to 61·6 per cent. and 38·4 per cent. by 1950.[1] This increase in owner occupation has been due more to a desire on the part of landlords to sell than a demand for ownership from tenants. Many estate owners seized the opportunity to realize capital gains by selling with vacant possession whenever a farm fell vacant. Otherwise, they usually gave their tenants the option of buying their farms or staying on under a new landlord but, even when properties were placed on the

TABLE 4. *Changes in the Sale Value of Farm Real Estate, England and Wales, 1918 to 1951**

Year	*Average price £ per acre*	*Index no. 1937–9 = 100*	*Year*	*Average price £ per acre*	*Index no. 1937–9 = 100*
1918	29·6	113	1935	24·7	95
1919	30·2	116	1936	27·3	105
1920	35·1	134	1937	26·7	102
1921	28·6	110	1938	26·0	100
1922	28·7	110	1939	25·7	98
1923	30·3	116	1940	28·3	108
1924	30·6	117	1941	36·7	141
1925	30·9	118	1942	35·3	135
1926	28·9	111	1943	40·4	155
1927	27·6	106	1944	40·5	155
1928	27·4	105	1945	40·3	154
1929	21·3	82	1946	49·5	190
1930	22·4	86	1947	56·0	215
1931	23·6	90	1948	66·4	254
1932	22·8	87	1949	61·7	236
1933	24·8	95	1950	65·4	251
1934	27·1	104	1951	65·9	252

* The averages were standardized for size of farm in each year but the weights employed were altered slightly for 1937 and later years which were also standardized in respect of type of possession.

open market, sitting tenants frequently outbid investors in the sale-room. They were in the enviable position of being able to secure 'vacant possession' at a minimum premium, just sufficient to outbid investors who would be unwilling to offer inflated prices for farms sold subject to tenancies. Many tenants purchased their farms in this way, the majority of them with the intention of staying on as owner-occupiers rather than reselling at a profit.

Britton showed that land prices passed through several main phases in the inter-war years. The boom following the First World War collapsed in 1921. Then, after a short period of stability, prices fell steeply until 1929–30 before rallying slightly in the thirties. The recovery in the late thirties from the lowest prices of the depression years was due mainly to the improvement in the general economic condition of the country, to the introduction by the Government of specific agricultural subsidies, and to controls imposed on imported and home-grown produce. It is difficult to estimate how far the recovery would have been

continuation of the indexes. Dr. Price was responsible for the calculation of sale values for 1950 and 1951.

[1] *Source:* Ministry of Agriculture and Fisheries, *Press Notice*, M.A.F. 3088, 18 July 1952.

maintained if there had been no outbreak of war, as prices had already begun to drop slightly during 1938 and many economists have suggested that a further business depression would have set in during that year but for the impact of the rearmament drive on the national economy. The threat of war severely disturbed the property market, but towards the end of 1939 there was a marked revival of interest in agricultural land and in many areas demand began to exceed supply, although prices did not rise appreciably. In the following two years a great deal of farm land changed hands and by 1941 the farm real estate market had assumed typical features of a 'sellers' market'—incessant demand far outreaching supply and consequent rising prices—which persisted, but for a break towards the end of the war, until 1948. The end of the period witnessed a process of consolidation in the market and prices tended to become stabilized during 1950 and 1951 when the general index stood approximately 150 per cent. above its pre-war level.

The period after 1939 was one of constant inflation but there were two factors of particular significance to agriculture. First, the fundamental importance of agriculture in the national economy received due recognition in state policy and constant emphasis was placed on the need for an increase in home food production, particularly during the early war years when the country faced the threat of starvation. In 1939 guaranteed prices and assured markets were introduced for agricultural products, with the result that the general level of farm incomes improved rapidly, the demand for farms became very keen, and prices rose accordingly.

Towards the end of the war, however, there was evidence of far greater caution in the market and the rate of increase in land prices slowed down considerably. The Coalition Government had announced that the system of guaranteed prices would be continued for at least one year after the end of the war, and assurances were given by all three political parties that agriculture would not be allowed to fall back into its pre-war state, but a feeling of uncertainty about the future of the industry persisted. Members of the agricultural community remembered that similar guarantees incorporated in the Agriculture Act of 1920 were swept overboard by the Corn Production (Repeal) Act passed during the following year when world food prices collapsed.

These fears were largely set at rest soon after the end of the war when it appeared that the change which had taken place in Britain's role in the world economy was of a long-term nature. It seemed that the chronic balance-of-payments problem would prevent the import of cheap food for many years ahead, so that a high level of agricultural production would have to be maintained. In the light of this situation the Government continued the wartime system of guaranteed prices and assured markets until 1947, when a similar system was introduced as a long-term feature of policy under Part I of the Agriculture Act, 1947. The initiation of the expansion programme in August of the same year gave further emphasis to the need for increased supplies of home-grown food. The prospect of continuing prosperity and security led to renewed confidence in agriculture and increased activity in the farm real estate market with further sharp rises in land values.

The second general factor which must be stressed was the flow of capital into agriculture from sources outside the industry. This was in part a cause and in part an effect of the increase of land values. Large land-owning bodies and investment trusts, which are traditionally interested in agricultural land, showed increasing confidence in it throughout the period. In addition other sources such as financial and industrial interests and private businessmen, who had previously held aloof from this class of security, also invested large amounts of capital,

mainly because farm real estate was regarded as a tangible security to be held against the threat of inflation. This was strikingly evident in 1947 when the introduction of the cheap-money policy, which resulted in a fall in yields on 'gilt-edged' and 'equities' and the fear of further serious inflation, led to renewed investment in agriculture on a heavy scale. This was in spite of the fact that the average net yield on landed property bought at prevailing prices would tend to be considerably lower than the 2·8 per cent. yielded by Consols.

There were other financial inducements to invest in agricultural land, notably the maintenance claim and the capital expenditure claim introduced in the Income Tax Act of 1945. Under Section 32 of the Act allowance for the repairing liability of the owner, equal to one-eighth on farmhouses and one-quarter for cottages, is made on gross assessment for income-tax and in addition a refund of tax may be claimed for any expenditure beyond this amount. Claims have to be based on records of income and expenditure for the preceding five tax years.

Under the capital expenditure claim (Section 33 of the Act) which has been called the most far-reaching income-tax and surtax relief ever granted to landlords,[1] a refund on tax, payable in ten equal annual instalments, can be claimed on that proportion of gross income diverted to improvements. The result of 'ploughing back' capital into the land in this manner is an increase in capital values which is not subject to taxation and therefore provides a strong investment incentive to the landlord or owner-occupier paying a high rate of income-tax or surtax.

Further, agricultural properties are subjected to a preferential rate of estate duty on the grounds that their capital values are high relative to their net earning capacity, that expenses of realization are relatively heavy, and that the method of valuation for probate, based on the estimated price which a property would fetch if sold in the open market under the most favourable conditions at the time of death, is particularly unfavourable to this class of property. This concession was introduced by the Finance Act of 1925 which increased the scale of rates of estate duty from that laid down in 1919 but exempted agricultural properties from the increase. During the next twenty-four years several further increases were made, but the rates applicable to agricultural properties were retained at their 1919 level so that eventually they came to be approximately 50 per cent. lower than the general rates. By the Finance Act of 1949 the abatement was fixed at 45 per cent. of the duty chargeable. Due to the progressive nature of estate duty this relief is particularly significant to owners of large estates. It has encouraged a large number of transfers of capital—including a number of death-bed transactions—from personalty and other forms of realty to agricultural land.

In addition there are the many personal amenities attached to owning country estates. Social prestige is traditionally associated with landed property, and 'country living', always keenly sought after, acquired a special attraction during a period of austerity and food rationing, while the relative immunity of the countryside from air raids was a further personal factor during the war.

The demand for residential holdings and 'hobby farms' was particularly strong in the Home Counties and in the neighbourhood of the large industrial towns, especially during the post-war housing shortage, and often the residence was the predominant feature governing demand, the land being frequently hired out to neighbouring farmers at good rents. This form of investment has led to a certain

[1] Read, H. E. G., 'The Finance of Estate Management', *Journal of the Land Agents' Society*, Vol. L, no. 4, April 1951, pp. 148–56.

amount of ill feeling and criticism on the grounds that it frequently prevents genuine farmers with limited capital from buying a farm, but it has the economic advantage that wealthy purchasers are usually willing to let farms to sound tenants and can provide adequate capital resources for maintenance and improvements.

The last two years have seen the disappearance of the 'sellers' market' and prices appear to have become stabilized. The level at which farm-product prices were fixed during the war years and at the outset of the Expansion Programme was high enough to absorb increasing costs of production, and at the same time to improve farm incomes, which were further increased by direct government grants and subsidies, but in more recent years government policy has been directed towards maintaining rather than increasing the general level of incomes. There are indications that farmers are now paying far greater attention to the adverse effect of rising costs and this factor has undoubtedly exerted a moderating influence upon farm values.

Other factors which must be stressed are the increases in farm mortgage rates and general interest charges and the tightening of credit for purchasing and operating farms. At the same time the yield on government securities has increased considerably, so that investors have an incentive to transfer capital back to the money market, while the prospect of more stable price conditions has reduced the attraction of agricultural property as a hedge against inflation. It is probable that the intensification of deflationary measures will lead to a fall in land values in the near future though the demand for home food production may prevent their falling very far.

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J. T. WARD

A Study of Farming Change[1]

I. *Introduction*

THE purpose of this study is to examine in some detail the general structure and business organization of a Wiltshire Downland farm during two very different periods in the financial fortunes of farmers. An attempt is also made to analyse the correctness of the farm policy with respect to both type and intensity of production. The two periods are 1925 to 1932 and 1947 to 1951. The economic atmosphere affecting farming in these two periods is well known and no further description is needed here, beyond stating that the first period was one of falling prices and farming depression, while the second was one of rising prices and farming prosperity.

The effect of the depression was not felt to the same degree throughout the whole agricultural industry. A survey carried out in 1929[2] revealed that farms of different sizes and types were affected differently and the large Downland farms appear to have been among those which felt the adverse effects of the depression most keenly.

[1] Received 28 February 1953.

[2] Skilbeck, D., and Messer, M., *The Incidence of Farming Prosperity and Depression*, Agricultural Economics Research Institute, Oxford, 1929.

The second period for which financial accounts are available is from 1947 to 1951. The economic picture here is very different. It had been expected that the wartime boom would be followed by a recession similar to that which followed the 1914–18 war. This has not so far occurred although minor recessions have been observed in some parts of the nation's general economy. In agriculture the general level of farm prices has shown a consistent increase since 1938 with all the resulting financial benefits to farmers.

The general effect on cropping and stocking of the very different economic conditions in these two periods is well known, and changes in Wiltshire farming are illustrated for cropping in Chart I and for stocking in Table 1. The fall in farm-product prices was accompanied by a decline in the arable acreage and much

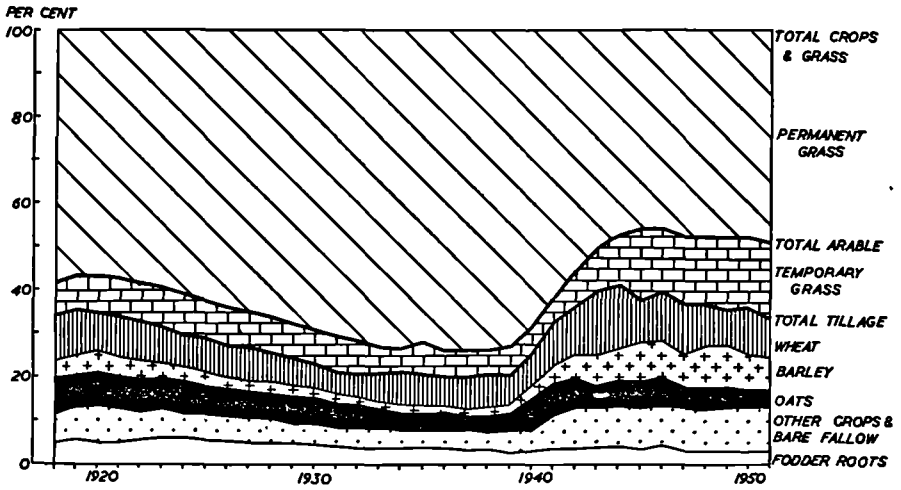


CHART I. Pattern of cropping in Wiltshire, 1918 to 1951.

crop land was allowed to tumble down to grass. In Wiltshire at the close of the 1914–18 war nearly 42 per cent. of the total area of crops and grass[1] was arable and over 10 per cent. was in wheat alone. By 1931 the wheat acreage had shrunk by half and the arable had declined from 289,469 to 179,056 acres and was to decline still further until by 1938 it represented only 26 per cent. of the total area of crops and grass. The decline in cropping was accompanied by changes in stocking. Between 1918 and 1931 the population of cows and heifers in milk was increased by over 17 per cent. The position of sheep was rather different. Sheep numbers had declined throughout the 1914–18 war but had increased afterwards and remained fairly steady until 1939. It must, however, be remembered that on many farms the type of sheep husbandry altered. Formerly a large part of Wiltshire farming revolved round a flock of sheep folded on arable fodder crops. The high cost of this method of farming militated against its continuance in a period of agricultural depression. Many farmers still kept sheep but changed from arable to grass flocks. An indication of this is given by changes in the area of fodder roots. For example, the 25,000-odd acres of turnips and swedes in 1918 had fallen to 11,798 acres in 1931, a decrease of more than half.

[1] Excluding rough grazings.

Changes in the pattern of farming during and after the 1939–45 war might superficially be considered to be a reversal of those just described. From 1938 to 1951 the acreage of arable land in Wiltshire increased from 155,764 to 316,632 acres. In 1951 arable land constituted 51 per cent. of the total area of crops and grass, compared with 26 per cent. in 1938. But it was in this respect only that Wiltshire farming had reverted to its pre-depression form. With respect to cropping the position is made clear in Chart I where it can be seen that, as far as total

TABLE 1. *Numbers of Selected Classes of Livestock in Wiltshire, 1920–50*

Year	*Cows and heifers in milk*	*Total sheep and lambs*	*Agricultural horses*
1920	64,941	182,122	15,831
1925	74,109	258,895	15,722
1930	76,837	211,966	13,833
1935	86,211	203,721	11,486
1940	83,210	214,053	9,319
1945	80,071	109,289	7,434
1950	85,281	67,592	4,337

arable goes, the years 1920 and 1951 were not too dissimilar; but the proportion of land in temporary grass had almost doubled and more land was in barley. On the other hand the acreage in fodder roots was much reduced and that in oats cut by more than half. These two reductions reflect the decreased importance of sheep in the farm economy, and the substitution of tractors for horses as the main source of farm power. The numbers of cows and heifers in milk kept fairly constant after 1938, although a small decline in numbers occurred during the war.

II. *The Farm*

The farm with which this study is concerned is situated on Salisbury Plain, just to the south of the Vale of Pewsey. This area of rolling chalk downland is characterized by its open expanses and by its large farms. Cobbet visited the district in 1826 and described it as 'real Down country. Here you see miles and miles square without a tree, or hedge, or bush.' Many downland farms run from a stream at the bottom of a valley intersecting the chalk, up through a range of different soils to the chalk down itself; but this farm consists almost entirely of true downland at an altitude of between 500 and 600 feet above sea-level. Rainfall is usually below 30 inches per annum and this, combined with light soil, makes arable cultivations fairly straightforward.

The farming typical of this area had until recently been closely associated with sheep. In his *General View of the Agriculture of Wiltshire* in 1794, Thomas Davis states that originally the principal object for which sheep were kept on this type of land was their dung. Wool was the secondary object, and the carcass was of even less importance. The sheep were kept on the grass downs by day and folded on the arable land at night; in this way the fertility necessary for the growth of cash crops of wheat and barley was maintained. As economic conditions changed meat production became the major objective, and both sheep and corn contributed interdependently to farm profits. In this way a system of farming was evolved, and in time became traditional, whereby the whole farm economy revolved around the sheepfold. As competition from overseas producers began to affect the market for British mutton and lamb, sheep became increasingly unprofitable and, although they took pride of place on the farm, it was the corn

enterprise which carried it financially. Downland farming appeared to be inseparably bound up with sheep and although there were notable pioneers such as George Baylis and A. J. Hosier, it took a major depression followed by a world war to convince farmers that arable farming could be successfully carried on without the help of the 'golden hoof'. This farm was no exception to the general rule.

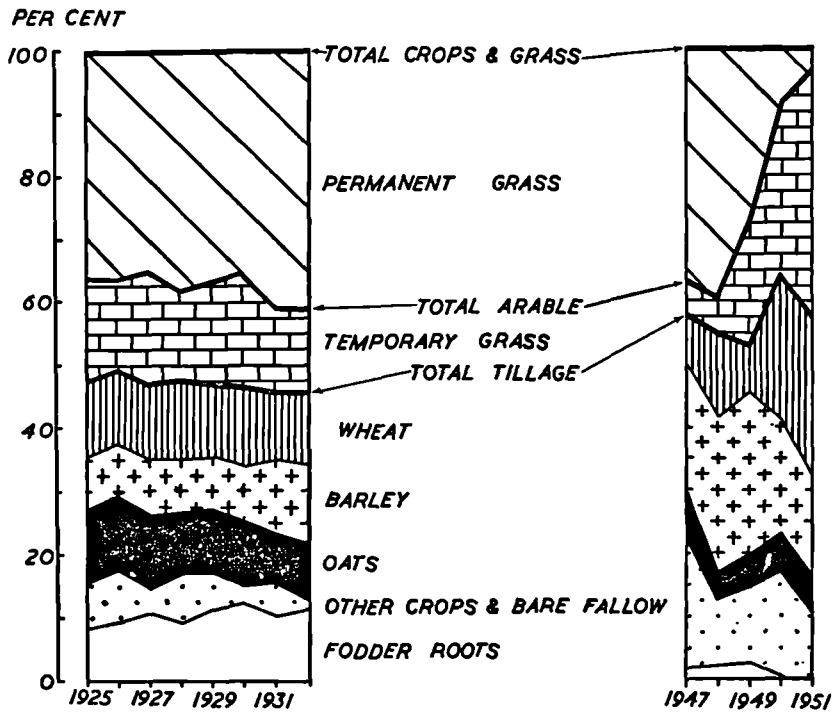


CHART II. Pattern of cropping on the farm, 1925–32 and 1947–51.

Changes in the farming pattern are illustrated in Chart II and Table 2. Cropping showed little change during the first period of study, that is to say from 1925 to 1932. The total acreage remained fairly constant at around 2,400 acres, which is not unduly large for the district. Permanent grass made up from 35 to 41 per cent. of the total, the smaller figure being for the years before 1931 when more land was under the plough. About one-third of the total acreage was on corn, and another tenth in fodder roots, and these together with other crops gave a total proportion under tillage of about 47 per cent. The difference between this figure and the total arable figure was temporary grass which made up about 14 per cent. of the total. The various arable crops were combined into a complicated but fairly rigid seven- or eight-course rotation as follows:

Seeds (hay)
Seeds and Fallow (seeds folded then bastard fallow)
Wheat
Barley or Oats
Roots
Wheat or Roots
Barley or Wheat or Oats
Oats or Barley

During this period a flock of about 700 breeding ewes was kept, the size of the sheep enterprise being maintained at a pretty constant level throughout the period. With respect to dairying, it had been the practice of the farmer to buy Irish heifers, get them in calf, and sell them when they came into milk. In 1926, owing

TABLE 2. *Farm Livestock Numbers and Livestock Units per 100 acres (a)*

Year	*Dairy cows*	*Other cattle*	*Sheep*	*Pigs*	*Poultry*	*Livestock units per 100 acres (d)*
			(as at Michaelmas)			
1924	6	78	1,059	56	..	9·2
1925	7	120	1,029	45	..	10·2
1926	67	107	1,038	55	..	12·3
1927	66	99	1,242	40 (*b*)	..	13·0
1928	66	72	1,028	35 (*b*)	400 (*b*)	11·4
1929	63	60 (*b*)	1,175 (*b*)	30 (*b*)	400 (*b*)	11·7
1930	66	46	1,123	54	400 (*b*)	11·4
1931	67	67	1,152	79	400 (*b*)	12·4
1932	65	66	955	98	400 (*b*)	11·4
			(as at 28 February)			
1947	142	224	364	..	..	17·2
1948	144	204	402	..	..	13·7
1949	161	227	..	..	1,240	12·5 (*c*)
1950	193	233	..	..	3,110	15·2
1951	210	280	..	..	3,150	17·2
1952	194	314	..	..	590	16·0

(*a*) Including horses.
(*b*) Estimated.
(*c*) At this date a considerable area of land had just been taken in hand but not yet stocked.
(*d*) Basis of calculation: 1 livestock unit = 1 cow, 1·5 other cattle, 5 pigs, 100 poultry, 1 horse, 7 breeding sheep, 14 other sheep.

to restrictions on cattle movements caused by foot-and-mouth disease, he was left with about sixty of these on his hands and thus, more or less by accident, he took up milk production as a major enterprise. The head cowman was remunerated at a fixed rate per cow, and out of this he had to pay all the labour involved. Power was provided by a stable of about 30 horses, together with two tractors and a set of steam tackle.

No detailed information about the farm is available from 1933 to 1946, but in 1947 the present farmer started the records which provide information for a study of the farm from that date to 1951. In 1947 the farm only contained about 1,800 acres but in the following year it was enlarged to a size comparable to that of the first period. If 1929 is taken as typical of that period and compared with 1951, the most noticeable change in the pattern of cropping is the great decrease in the acreage of permanent grass. In 1929 36 per cent. of the land was in permanent grass compared with only 3 per cent. in 1951. The great increase in arable, from 64 to 97 per cent. of the total area, was due to an increase in the acreage of both crops and temporary grass. The proportion of the total area under temporary grass in 1951 was 39 per cent. compared with only 17 per cent. in 1929 while the proportion under corn had increased from 34 to 47 per cent. Another important change was the almost complete disappearance by 1951 of fodder roots, which in 1929 had occupied 11 per cent. of the total area of crops and grass.

Sheep had disappeared from the farm economy by 1949 but dairying was assuming an increasing importance. Not only had the dairy herd more than trebled between 1929 and 1951, but a policy of raising replacements and heifers for sale as down-calvers was introduced at the beginning of the second period, and thus many more young cattle were on the farm. Despite the increased acreage of cash crops in this period, the intensity of stocking per 100 acres of crops and grass was in fact considerably higher (Table 2).

An indication of changes in the power available for cultivation and transport is given by the numbers of horses, tractors, &c., in Table 3. In the final column of

TABLE 3. *Forms and Amount of Power Providers*

Year	*Working horses*	*Tractors*	*Combines*	*Lorries*	*Units of ploughing capacity per 100 acres tillage (a)*
(as at Michaelmas)					
1924	28		..	..	2·3
1925	28		..	..	2·3
1926	28	Two	..	..	2·1
1927	28	tractors	..	..	2·2
1928	31	and one	..	..	2·3
1929	30	set of	..	..	2·3
1930	30	steam	..	1	2·3
1931	30	tackle	..	1	2·3
1932	30		..	1	2·3
(as at 28 Feb.)					
1947	10	11	2	1	4·4
1948	12	11	2	1	4·9
1949	12	16	3	2	4·9
1950	9	16	3	2	4·5
1951	8	18	5	2	4·5
1952	6	26 (18) (*b*)	5	2	4·9

(*a*) 1 unit = 1 two-horse team.

(*b*) On 28 Feb. 1952, 26 tractors were on the books but only 18 were actually in use. This was because new tractors had been bought and the old ones not yet sold.

this table, tractors, horses, and steam tackle are brought to a common basis as units of ploughing capacity, where one unit is equivalent to the capacity of a two-horse team. Approximately double the amount of power was effectively available per 100 acres of tillage in the second period.

So much for the changes in the physical pattern. Changes in the structure of receipts and expenses must now be considered. Chart III illustrates changes which took place in the composition of farm expenditure. During the first period wages remained fairly constant while the prices of some other farm inputs fell. In Wiltshire, for example, the adult minimum rate for 'ordinary' male workers remained at 30*s.* throughout the period 1926–32. Labour expenses could thus be expected to become relatively more important, unless the farmer had taken steps to combat this condition by some reorganization towards more economical use of labour. In fact no such steps were taken and from 1926 to 1932 the importance of labour as a proportion of total costs increased. From 1947 to 1951 wages rose steeply and yet their relative importance in total costs declined.

The difference between the two periods in the importance of livestock purchases is due to the dealing activities of the farmer in the first period. This has already been referred to and also explains the corresponding difference in the importance of livestock sales. The relative importance of purchased feeding-stuffs in the two periods is not dissimilar, but in the case of fertilizers and seed the difference is very great. The greater importance of fertilizers in the second period cannot be due to increased prices as until 1950 fertilizer prices remained

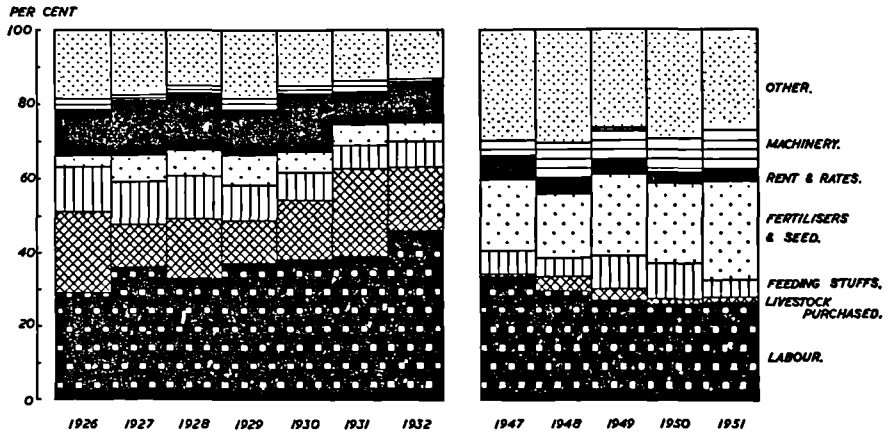


CHART III. Composition of expenditure on the farm, 1926–32 and 1947–51.

comparatively steady. The annual fertilizer cost at constant prices per 100 acres is given in Table 4 and their use in the second period is outstandingly greater. This fact must be linked with the increase in crop yields to which reference is made later.

Table 4. *Fertilizer Expense per 100 acres of Crops and Grass at 1927–9 Prices*

Year	*Cost per 100 acres*
	£
1926	16
1927	20
1928	22
1929	21
1930	17
1931	11
1932	8
1947	149
1948	177
1949	246
1950	261
1951	249

Another item of expenditure whose importance in total costs has undergone a major change is rent and rates. In 1929, for example, rent and rates made up 16·3 per cent. of total expenditure, whereas in 1951 the figure was 3·4 per cent. This change has, of course, occurred over the whole country because increases in rent and rates have not kept pace with increases in other items of farm ex-

penditure. For example, taking 1927–9 as 100, the index of average gross rent per acre for the whole country in 1950 was 128 compared with an index of 301 for agricultural wages. On this farm the change in the relationship between rent and the prices of other farm inputs is only one reason for the decreased importance of rent. The other reason is that in the second period the land was used much more intensively and so even at 1929 prices rent would still have been of less importance. The increase in mechanization and the greater area under the plough is reflected in the increased importance of machinery expenses in the second period.

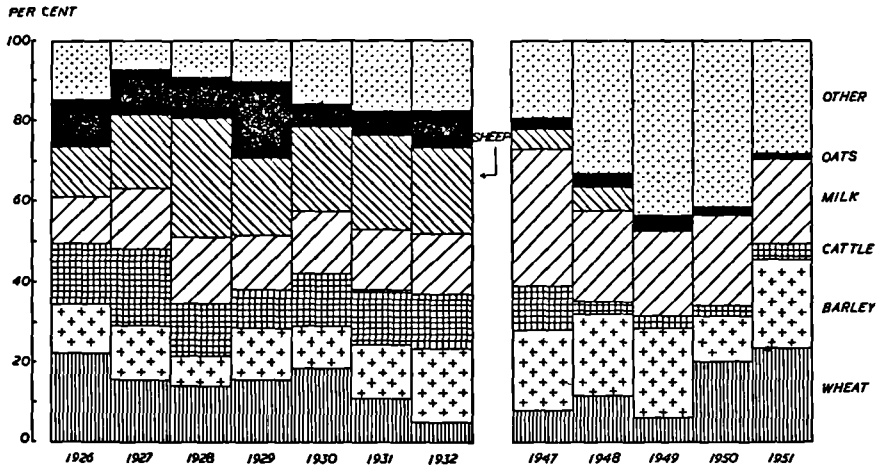


CHART IV. Changes in composition of revenue on the farm, 1926–32 and 1947–51.

Changes in the composition of farm revenue are illustrated in Chart IV. Many of the changes here are the direct outcome of changes in the physical pattern of cropping and stocking, which have already been dealt with. In the second period the importance of crop sales had increased from about 50 per cent. to about 65 per cent. of total revenue, with a corresponding decline in the importance of livestock and livestock product sales. Part of this change can be explained by price changes which in general have affected crops more favourably than stock (although milk prices must be excepted from this generalization); but the farming emphasis has also shifted in favour of cropping. This is not to say that the farm is less heavily stocked than formerly. It has been shown that in fact the reverse is the case. More stock are being kept on a smaller acreage, leaving more land available for cash crops.

III. *Some Production Costs and Returns*

So far changes have been considered which relate to the general structure of the whole farm business. The nature of the accounts is such that deeper penetration is possible and changes in the structure of some individual product costs may be examined. The forms of production selected, as marking an appreciable contribution to total farm revenue in both periods, are wheat, barley, and milk which together constitute about half the total revenue. The information on cost

structure is presented for four selected years: 1926[1] and 1929 for the first period, and 1949 and 1951 for the second.

Wheat

Table 5 shows the percentage structure of wheat costs. Changes in methods

TABLE 5. *Structure of Wheat Costs*

	Proportion of total cost (per cent.)			
	1926	*1929*	*1949*	*1951*
Labour:				
manual	29·4	30·2	20·7	16·3
horse	8·2	8·4	0·5	1·0
tractor	4·1	5·1	12·0	11·5
steam	10·4	10·3	..	..
combine	..	..	4·9	5·6
Total labour	52·1	54·0	38·1	34·4
Seed	10·3	11·6	15·9	10·6
Fertilizer	3·9	10·7	22·1	23·8
Rent	14·2	12·5	6·7	4·9
Other	19·5	11·2	17·2	26·3
Total cost	100·0	100·0	100·0	100·0
Cost per acre	£5·98	£5·36	£10·98	£15·61
Cost per cwt.	9·57*s.*	6·42*s.*	8·00*s.*	9·04*s.*

of cultivation and harvesting are reflected in changes in the various labour items, which include mechanical and horse labour. Manual labour costs increased per acre but decreased per hundredweight, and the importance of labour in total costs declined from 29 per cent. in 1926 to 16 per cent. in 1951. Horse labour costs decreased both per acre and per hundredweight. With respect to mechanical labour, tractor costs increased both per acre and per hundredweight, while steam, which was the most important source of mechanical power in the first period, was unrepresented in the second. In both periods mechanical power, that is tractor and steam or tractor and combine, made up about 15 per cent. of total costs, while the decline in the importance of manual and horse labour resulted in a drop in the importance of total labour from 52 per cent. in 1926 to 34 per cent. in 1951. Of the other cost items, seed and fertilizer showed considerable increases both per acre and per hundredweight and in 1951 these two items accounted for over one-third of the total cost of wheat production. The decline in the importance of rent has already been mentioned.

Financial returns and cost figures per acre and per hundredweight for the years 1926 to 1931 and 1947 to 1951 together with wheat yields for the farm and for Wiltshire are given in Table 6. Changes in the relationship between cost per acre and cost per hundredweight can be explained in part by the very much higher yields in the second period. It can be seen that whereas in the first period farm yields were generally below the county average, in the second period they were consistently very much higher. Taking the average yield in each period, wheat yield on the farm increased by 78 per cent., compared with a 17 per cent. increase in Wiltshire as a whole. At least a partial explanation of this must be the

[1] 1928 in the case of milk.

much greater use of fertilizers in the second period. The effect of these higher yields has been to offset a part of the increased expense per acre so that on this farm the average cost per hundredweight in the second period was greater than the cost in the first period by less than 1*s.* 6*d.* and in 1951 the cost of growing a hundredweight of wheat was actually less than it was in 1926. Nevertheless it must be remembered that if full advantage had not been taken of mechanization and improved techniques this would have been impossible, as the total cost figure would have been very much higher. The general effect of changes in price, practices, and yield is summarized in the figures at the foot of Table 6. Between the two periods the average cost and return per acre increased by 112 per cent. and 370 per cent. respectively, while the average cost per hundredweight increased by only 18 per cent. compared with a price increase of 172 per cent.

TABLE 6. *Wheat Costs, Returns, and Yields*

	Per acre		*Per cwt.*		*Yield per acre*	
	Cost	*Return*	*Cost*	*Price*	*Farm*	*Wiltshire*
	£	£	*s.*	*s.*	*cwt.*	*cwt.*
1926 . . .	5·98	7·31	9·57	12·00	12·5	14·3
1927 . . .	5·31	6·13	8·83	10·50	12·0	15·6
1928 . . .	7·38	8·04	8·25	9·00	17·9	17·7
1929 . . .	5·36	7·80	6·42	9·58	16·9	18·1
1930 . . .	5·48	4·28	7·75	6·00	14·1	15·9
1931 . . .	5·29	4·53	7·08	5·92	15·0	13·2
Average 1926–31	5·80	6·35	7·98	8·83	14·7	15·8
1947 . . .	9·27	17·81	8·50	17·83	21·4	15·1
1948 . . .	11·34	26·61	9·42	23·00	23·9	17·6
1949 . . .	10·98	28·03	8·00	24·17	26·9	21·5
1950 . . .	14·18	32·10	12·00	28·33	23·6	17·3
1951 . . .	15·61	44·62	9·04	26·65	34·6	21·0
Average 1947–51 .	12·27	29·83	9·39	24·00	26·1	18·5
Increase (per cent.) 1926–31 to 1947–51	+112	+370	+18	+172	+78	+17

Barley

It will be noticed in Table 7 that changes in the structure of barley costs between the two periods have followed a pattern very similar to those already described for wheat.

It is worthy of note, however, that in the first period greater use was made of fertilizers on barley than on wheat. Similar changes also occurred in the relationship between cost per acre and cost per hundredweight. In Table 8 the average farm yields year to year are contrasted with the average county yields and whereas in the first period the farm yields were generally lower than the county average, in the second period they were consistently above. The average yield of barley on the farm for the second period was 62 per cent. greater than for the first, while a similar comparison for the whole county showed an increase of only 29 per cent. The effect of this, and other factors which have tended to make total costs lower than they would otherwise have been, has been that in the second period the average cost of growing a hundredweight of barley was only about 1*s.* 6*d.* more than in the first period. The position is summarized by the figures at the foot of

Table 8. The fact that between the two periods the average cost per acre only increased by 93 per cent. can be attributed very largely to the effects of mechanization. The price per hundredweight increased by 147 per cent. and the effect of

TABLE 7. *Structure of Barley Costs*

	Proportion of total cost (per cent.)			
	1926	*1929*	*1949*	*1951*
Labour:				
manual	27·4	30·5	17·9	16·0
horse	6·8	8·8	0·8	0·5
tractor	3·3	2·5	12·9	11·2
steam	8·1	8·3	..	..
combine	..	..	5·3	8·6
Total labour	45·6	50·1	36·9	36·3
Seed	12·2	10·6	10·5	9·9
Fertilizer	11·9	15·9	22·1	21·3
Rent	13·7	11·0	12·2	6·1
Other	16·6	12·4	18·3	26·4
Total	100·0	100·0	100·0	100·0
Cost per acre	£6·23	£6·11	£10·65	£16·30
Cost per cwt.	9·84*s.*	8·73*s.*	9·17*s.*	10·10*s.*

increased yield was to increase the return per acre by 318 per cent. and to reduce the effect of increased cost per acre to such an extent that the cost per hundredweight increased by only 16 per cent.

TABLE 8. *Barley Costs, Returns, and Yields*

	Per acre		*Per cwt.*		*Yield per acre*	
	Cost	*Return*	*Cost*	*Price*	*Farm*	*Wiltshire*
	£	£	*s.*	*s.*	*cwt.*	*cwt.*
1926	6·23	7·46	9·84	12·17	12·7	14·1
1927	6·50	6·12	11·92	11·00	10·9	14·1
1928	6·62	10·03	8·58	13·25	15·7	15·9
1929	6·11	7·05	8·73	10·75	14·0	15·5
1930	5·95	7·25	8·08	10·17	14·7	12·5
1931	6·22	6·94	8·33	9·42	14·9	13·2
Average 1926–31	6·27	7·48	9·25	11·13	13·8	14·2
1947	10·03	19·36	10·58	21·25	18·8	16·8
1948	11·40	25·27	11·17	25·92	20·2	18·4
1949	10·65	28·24	9·17	24·83	22·9	20·5
1950	12·15	22·43	12·58	23·83	19·3	14·4
1951	16·30	61·14	10·10	41·79	30·4	21·5
Average 1947–51	12·11	31·29	10·72	27·52	23·2	18·3
Increase (per cent.) 1926–31 to 1947–51	+93	+318	+16	+147	+62	+29

Milk

In Table 9 it will be noticed that fundamental changes have taken place between the two periods in the relative importance of purchased and home-grown food.

In 1928, for example, purchased and home-grown[1] foods were of about equal importance and purchased food represented 43 per cent. of the total food cost, compared with only 7 per cent. in 1951. The importance of food in total costs has shown a small decline from about 64 per cent. in the first period to about 56 per cent. in the second. This change may be due in part to greater use of home-grown foods in the second period and to economies which should result from their large-scale production. Changes in the importance of grazing will be noticed as between 1949 and 1951. Between these two years the cost of grazing

TABLE 9. *Structure of Milk Costs*

	Proportion of total costs (per cent.)			
	1928	*1929*	*1949*	*1951*
Foods:				
purchased	27·4	24·9	1·0	3·8
home-grown	26·3	32·1	18·4	36·0
mixtures*	..	..	27·8	..
grazing	10·4	7·2	8·6	16·6
Total foods	64·1	64·2	55·8	56·4
Labour:				
manual	22·4	22·8	22·0	20·4
horse	0·3	0·3	0·9	0·3
tractor	..	..	1·4	2·7
Vet. and medicines	6·8	5·8	2·3	1·5
Dep. and repairs to equipment	0·2	0·3	3·2	3·9
Other	6·2	6·6	14·4	14·8
Production cost	100·0	100·0	100·0	100·0
Cost per cow	£24·83	£27·09	£68·29	£72·02
Cost per gallon	12·05*d.*	12·69*d.*	23·71*d.*	24·96*d.*

* In 1949 home-grown concentrates were sent to the mill to be combined with other concentrates to result in 'mixtures'.

per gallon increased from 2·04*d.* to 4·15*d.* and the cost of other foods decreased from 11·8*d.* to 9·91*d.*

There appears to be little difference between the two periods in the importance of manual labour in total costs, although, of course, there have been absolute increases in manual labour costs both per cow and per gallon.

Another expense which must be taken into account and which is not shown in Table 9 is the maintenance of the dairy herd as a going concern. This cost can be obtained by subtracting the herd value at the end of the year plus stock sales and transfers out from the value at the beginning of the year plus stock purchases and transfers in. It is quite possible, therefore, for this item either to add to or to subtract from the total of other costs. Such being the case, it is not included in Table 9 but is taken account of in the total cost figures shown in Table 10, where costs, returns, and yields in the dairy enterprise are summarized.

Changes in average costs, returns, and yields between the two periods are summarized at the foot of Table 10. Cost per cow increased by 140 per cent. but cost per gallon only by 63 per cent., due to a 49 per cent. increase in yield per

[1] Excluding grazing.

cow. For the same reason, while the price per gallon increased by 179 per cent., return per cow increased by as much as 314 per cent.

TABLE 10. *Milk Costs, Returns, and Yields*

	Per cow		*Per gallon*		*Yield per cow per annum*
	Cost	*Return*	*Cost*	*Price*	
	£	£	*d.*	*d.*	*gallons*
1928 . . .	23·72	25·16	11·51	12·20	494
1929 . . .	28·20	26·92	13·20	12·60	513
1930 . . .	24·40	26·41	11·57	12·53	506
1931 . . .	24·40	21·44	13·83	12·15	424
1932 . . .	23·52	18·97	12·89	11·37	400
Average 1928–32 .	24·85	23·78	12·60	12·17	467
1947 . . .	55·56	86·13	19·82	30·75	673
1948 . . .	55·01	103·54	17·11	32·20	772
1949 . . .	64·50	98·02	22·40	34·04	691
1950 . . .	54·82	96·60	19·90	35·06	661
1951 . . .	68·33	108·26	23·68	37·52	693
Average 1947–51 .	59·64	98·51	20·58	33·91	698
Increase (per cent.) 1928–32 to 1947–51	+140	+314	+63	+179	+49

Changes in Costs, Returns, and Yields of Wheat, Barley, and Milk

These changes are summarized and compared in Table 11. It will be noted that the greatest increase in cost per unit of production (per acre or per cow) was for milk. This difference may be partly attributed to the greater difficulties of securing economies through mechanization in the milk enterprise than in cereal crop production. For example, in 1926 manual labour made up 29 per cent. of the cost

TABLE 11. *Increases in Costs, Returns, and Yields, 1928–32 to 1947–51*

Enterprise	*Per acre or cow*		*Per cwt. or gallon*		*Per acre or cow*
	Cost	*Return*	*Cost*	*Price*	*Yield*
	per cent.				
Wheat . . .	+112	+370	+18	+172	+78
Barley . . .	+ 93	+318	+16	+147	+62
Milk . . .	+140	+314	+63	+179	+49

of wheat production and 22 per cent. of the cost of milk production; in 1951 the importance of manual labour cost was only 16 per cent. for wheat but was still 20 per cent. for milk. Mechanization, in the form of milking-machines and mechanical devices for handling bulky feedingstuffs and manure, together with other labour-saving devices, such as milking parlours and improved layout generally, has been applied to the dairy enterprise on this farm. As might be expected, the results show that the use of these improved techniques has not produced such large labour economies as have been obtained by the use of similar methods in corn production.

Yields have been improved in all three enterprises, with the result that the increases in cost per unit of product have been less than the increases in cost per unit of production. For example, the 93 per cent. increase in the cost of producing

an acre of barley was mitigated by an increased yield of 62 per cent., so that the actual cost per hundredweight only increased by 16 per cent. Of the three enterprises the smallest yield increase occurred in milk, and it was in this enterprise also that there was greatest increase in cost per unit of production. Nevertheless, the cost per gallon was only 63 per cent. greater in the second period than in the first, compared with an increased cost per cow of 140 per cent. Yields also affect the return per unit of production, because this is the result of the multiplication of product price by the number of units produced. Between the two periods the price of wheat, for example, increased by 172 per cent., but the 78 per cent. increase in yield per acre meant that the return per acre increased by 370 per cent. These three enterprises thus demonstrate very clearly the effect on costs and returns of increases in physical productivity.

IV. *Integration of Enterprises*

The selection and combination of enterprises on a farm depends on many factors which may for convenience be considered under three main headings. Firstly, there are the prices of farm products and farm resources. These prices take into account marketing and transport costs borne by the farmer. All farm resources come under this heading before the farm business is started, but once it is running many of them become fixed and the physical characteristics of these fixed resources constitute the second group of factors. Their degree of fixity will, of course, vary. In the short run many farm resources are fixed, but in the long run the majority can be modified. Thirdly, there are the relationships between enterprises and the competitive, supplementary, and complementary aspects which have to be taken into account.

In commercial farming the factors which cause production are the influences of economic demand as reflected in the relative prices of farm products. Other factors may modify their influence but these external demand factors are the basic causes of production. Within the country the influence of economic location on farm prices, which is commonly felt in the form of transport costs (either directly or indirectly through prices at the farm), has declined in recent years. This has been due to various factors, the institutional ones probably being of greatest importance. For example, the effect of Milk Marketing Board policy has been to spread transport costs over all producers so that the distance from market has only a small effect on the net price received at the farm. Movements in farm prices for the period under study were described in Section I.

The physical and biological characteristics of farm resources will be of the utmost importance in determining selection and combination of enterprises. Mention has already been made in Section II of the main physical factors affecting this farm. Other characteristics associated with the land factor, such as type of building, can be modified; but in the short run or when capital is difficult to obtain, these characteristics will play an important role in determining the forms of production. The nature of soil and climate on this farm is such that, if satisfactory crops are to be produced, it is probably necessary to have some combination of livestock with crops in order to maintain fertility.

It was stated above that farm enterprises might be competitive, supplementary, or complementary. These categories are not mutually exclusive. For example, two enterprises, say winter wheat and spring barley, might in any one year compete for the use of land but supplement each other in their use of labour and machinery. Where the relationship is entirely competitive, such as between

spring wheat and spring barley, the choice is comparatively simple as it will depend entirely on relative costs and returns. In this situation the results of cost accounts may be directly employed towards a solution of the problem, assuming, perhaps without full justification, that costs which cannot be directly allocated to specific enterprises are spread over all enterprises in a manner which does not penalize one enterprise or set of enterprises more than another. They may also be employed when the enterprises have similar supplementary and complementary relationships with other enterprises on the farm. When enterprises with different supplementary or complementary features have to be compared the situation is much more complex. Even if costs have been fairly apportioned between enterprises, cost accounts cannot forecast precisely results of change in farming systems which possess features of this kind. One enterprise may be more profitable than another according to the accounts, but the less profitable one might have certain supplementary or complementary features not possessed by the enterprise which appears to be more profitable. For example, wheat may appear to be more profitable than potatoes, but the removal of the latter crop from the farming system and its replacement by wheat might in fact decrease the profit from the farm as a whole. The reason for this might be that potatoes supplement wheat production. That is to say, by growing potatoes certain resources are utilized at a time when they are not needed for wheat production and without some supplementary enterprise they would be lying idle. It is also probable that there is a complementary feature here as well, in that growing potatoes allows cleaning operations to be carried out which will benefit future wheat crops. This is not to say that another enterprise might not have similar supplementary and complementary features to potatoes and yet be more profitable. In such a case, as pointed out above, the use of cost accounts is quite legitimate.

The theory behind optimum enterprise combination is that the marginal return from each unit of resources shall be equal irrespective of the enterprise on which the unit is expended. In other words, the optimum combination of, say, pigs and poultry will occur when the additional output obtained from the last input unit of a particular resource is the same in both the pig and the poultry enterprise. When this condition is satisfied enterprise combination will be at an optimum and the profit from the whole farm will be at a maximum. Farm records are of a nature which does not usually allow this type of marginal analysis. The problem is therefore approached from another angle, and instead of aiming for equi-marginal returns as a means of obtaining maximum profit the aim is to increase profit and thus obtain a closer approach to equi-marginal returns and a better allocation of resources between enterprises. If as a result of the application of various methods of analysis, of which cost accounting is one, farm profit were to be maximized, then it would follow that the conditions of the principle of equi-marginal returns had been fulfilled. But this cannot be claimed for any method. All that can be said is that if farm profit is increased, the conditions required by the principle of equi-marginal returns have been approached or partially fulfilled.

While the presence of supplementary and complementary relationships reduces the value of cost accounts as an aid in enterprise selection and combination, they are still very useful as indicators of the contribution of enterprises towards the success of the whole farm business. It follows that the less important the supplementary and complementary aspects of enterprises on a particular farm, the more valuable are the results of cost accounting. On the large farm, which is departmentalized rather than diversified, supplementary considerations are of less importance between departments, although, of course, they still exist within

departments. On the smaller farm, for example, the crop enterprises and the stock enterprises may supplement each other for use of labour. Labour requirements for stock will be higher in the winter than in the summer, crop requirements will be the reverse, and together they will have a fairly constant labour requirement. On the larger farm labour will be specialized in the form of pigmen, cowmen, shepherds, tractor-drivers, &c., and except in times of emergency they will not work outside their own particular fields of specialization. The larger farm will have larger enterprises which may be large enough to give full-time employment not only to men but also to machines. For example, on a large farm the dairy

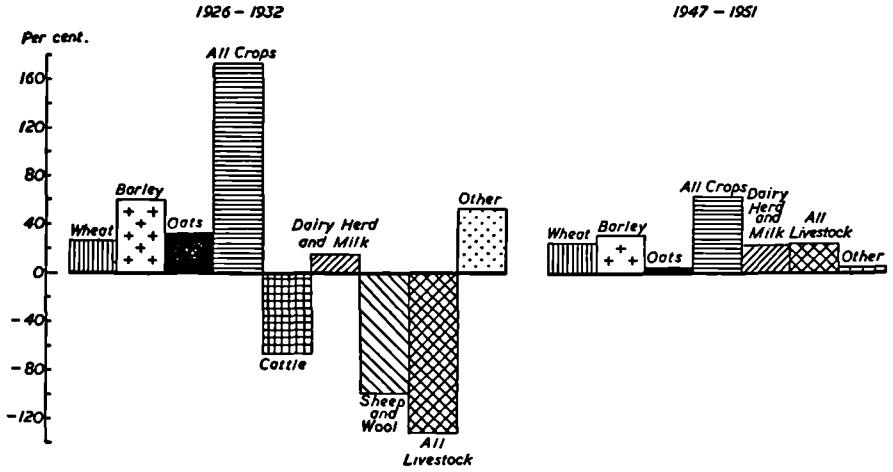


CHART V. Contribution of various enterprises to total profit of the farm, 1926–32 and 1947–51.

enterprise may be large enough to give full-time employment to a tractor for haulage, manure distribution, &c. On a small farm this will be uneconomical and dairying and other enterprises will supplement each other in their use of this item of equipment. It seems likely, then, that on a farm such as the one under consideration the importance of supplementary relationships between enterprises will be less than on a similar farm of smaller size, and the value of cost accounts will be correspondingly greater.

While the importance of supplementary relationships is likely to be less on the larger farm, complementary relationships between enterprises are likely to remain unchanged. On this farm it is likely that the most important complementary relationship is that between certain crop and livestock enterprises. The crops provide feed for the stock and the stock maintains the fertility of the land through their manure and through the ley system of farming associated with them. A direct comparison of enterprise costs and returns ignores these complementary relationships and calculations based only on costings, and fails to take adequate account of the effects of enterprise change on the farm as a whole, although they may give useful *indications* of the probable results of such change.

The contribution of various enterprises to total profit in 1926–32 and 1947–51 is shown in Chart V. It will be noted that in the first period losses were made on

all the major livestock enterprises except dairying. For every £100 profit from the whole farm, a loss of over £130 on the livestock enterprises had to be made up by a profit of over £170 on the crop enterprises, plus profit from other sources, such as contracting and rabbiting. In the second period all the major enterprises were profitable; but the crop enterprises made a greater contribution to total profit than the stock enterprises. Contribution to total profit is an inadequate measure to use as the basis for choosing between enterprises, as profit is the product of the rate of profit and the size of the enterprise. Two enterprises may have

TABLE 12. *Profit Rates of the Major Enterprises, 1926–31 and 1947–51*

Year	*Profit per £100 expenses*						
	Wheat	*Barley*	*Oats*	*Cattle*	*Dairy herd and milk*	*Sheep and wool*	*Whole farm*
	£	£	£	£	£	£	£
1926 . . .	22	23	21	−13	26	−51	14
1927 . . .	13	4	15	−70	10	−20	6
1928 . . .	21	55	23	−5	12	−5	7
1929 . . .	26	23	9	−41	0	4	25
1930 . . .	−21	30	−3	−33	12	−26	6
1931 . .	−13	16	15	−16	−9	−42	−10
Average 1926–31* .	9	24	14	−23	8	−22	5
1947 . . .	141	93	36	..	31	2	34
1948 . . .	137	121	52	..	82	101†	65
1949 . . .	159	164	121	..	49	..	56
1950 . . .	122	83	7	..	76	..	46
1951 . . .	186	275	73	..	50	..	70
Average 1947–51* .	153	154	58	..	57	..	56

* Weighted average (total profit ÷ total expense × 100).

† Profit from sheep in 1948 was unduly high due to disposal of the breeding flock at prices well above its book value.

the same profit, even if the rate of profit of one is half that of the other, so long as it is double in size. The rate of profit can be measured by the relation between profit and expense, which is also a measure of the efficiency of the enterprise. The profit rates of the major enterprises are shown in Table 12, where they can be compared with each other and with the over-all profit rate of the whole farm. It can be seen that in both periods barley gave a greater profit in relation to costs than any of the other major enterprises. It was also the only enterprise which yielded a profit in each year of the two periods studied. For the first period the rate of profit for the whole farm was £5 per £100 expense. The major crop enterprises—that is, wheat, barley, and oats—showed a greater rate of profit than this, as did the dairying enterprise. The other major stock enterprises apart from dairying —that is, cattle and sheep—showed a lower rate of profit, and indeed actually returned a loss of £23 and £22 respectively for every £100 expended on them. For the second period the rate of profit for the whole farm was £56 per £100 expense. The wheat and barley enterprises showed a profit rate considerably above this, while the major stock enterprise, dairying, had a profit rate of £57 for every £100 expended.

So far only the average profit rate for each period has been considered. Some attention must be paid to annual changes in the profit rate of various enterprises, and in connexion with this it is useful to consider also the changes in cropping

and stocking already presented in Chart II and Table 2. In the case of wheat and barley, which within certain limits can be substituted for each other fairly easily, the profit rate for barley towards the end of the first period was established as being definitely higher than that for wheat. The farmer apparently realized this, as in 1931 and 1932 the barley acreage was increased and the wheat acreage somewhat reduced. In the second period up to 1950 the rate of profit for wheat was generally higher than for barley and the barley acreage was reduced and the wheat acreage increased. This, of course, is a gross oversimplification of a problem in enterprise combination and its solution, but although it ignores many factors which have also to be taken into account it presents the essence of the situation.

In the first period the farmer's policy with respect to the relative importance of his two major crop enterprises may be regarded as a reasonable one, but the same cannot be said with respect to the livestock enterprises. The cattle enterprise, which was described above as a dealing enterprise, showed a consistent loss and, while the sheep enterprise showed a profit in 1929, in every other year in the first period a loss was incurred. Such consistently poor results might have prompted the farmer to wonder if the resources employed on these two enterprises might not have been employed more profitably elsewhere. Whether such changes were considered or not, they were not made. It may be that the cattle and sheep enterprises possessed such important supplementary and complementary relationships with other enterprises that their removal would have meant a smaller profit from the whole farm. But dairying possesses many of the same supplementary and complementary features, and it appears likely that if resources had been diverted to dairying from cattle and sheep, a greater profit from the whole farm would have resulted. By the second period this appears to have largely taken place, the enterprises which were expanded being wheat, barley, and dairying. As will be shown in Section V, the productivity of the enterprise combination in this second period was considerably higher than in the first period.

V. *Intensity of Operation*

In farming it is usual to think of the intensity of operation in terms of the intensity of land use. This attitude has probably arisen because in the long run land is the only factor whose supply is limited and, although individual farmers can and do increase their farm acreages, the process is often a very difficult one, and the easier, and in many cases the only way to increase the size of farm business is to increase the intensity with which a given area of land is used. Nevertheless, experience tells us that there are quite definite limits beyond which this intensification will be unprofitable. This experience is contained in the principle of increasing and diminishing returns, and although in its essential nature it is physical, it is its economic application which is important, as through it the most profitable level of intensity can be determined. This point is where marginal revenue equals marginal expense or where the last unit of the variable factor just pays for itself. Given the physical input-output ratios and appropriate price information, this principle can be applied for the solution of such problems as the most profitable level of fertilizer application. It can also be applied in more general problems of intensity of operation where the input and output units will be composites of many different items of farm expenses and farm revenue, although here the answer will be much less precise and can only indicate very generally what farm policy should be.

In Chart VI revenue per hundred acres is plotted against expense per hundred

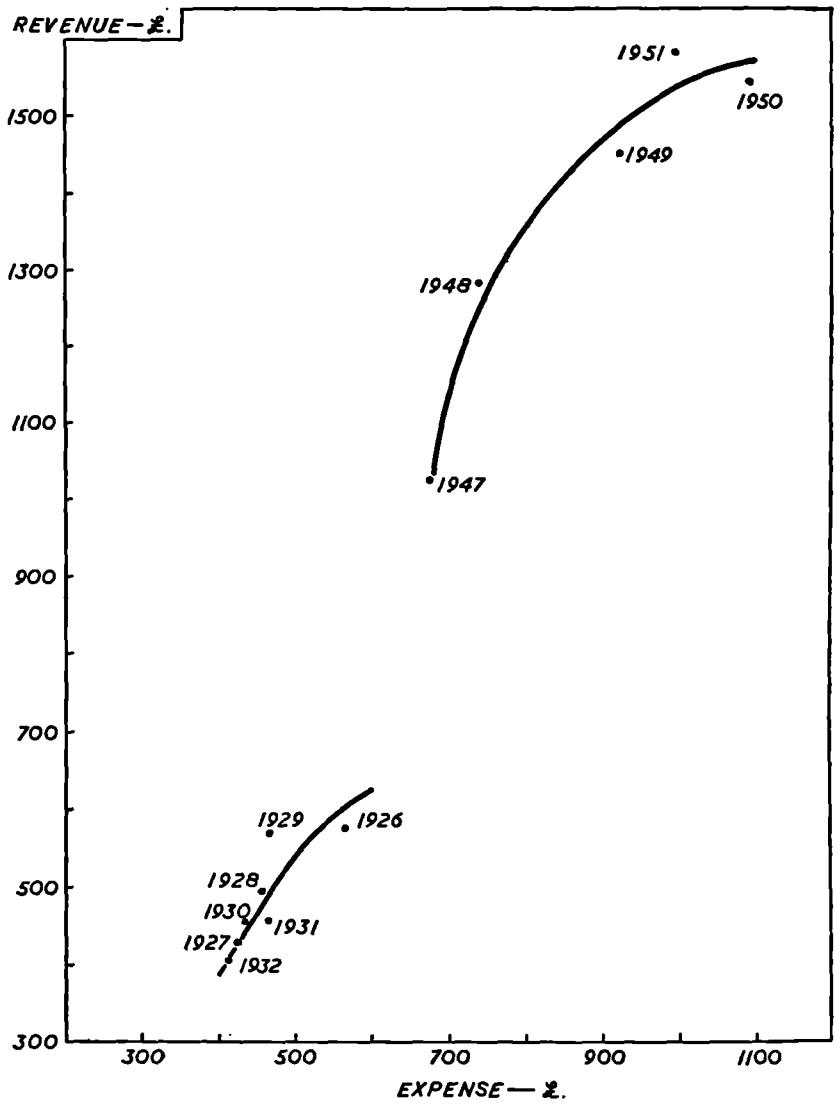


CHART VI. Farm Production Functions 1926–32 and 1947–51: revenue and expense per 100 acres at constant (1927–9) prices.

acres for each year for which this information is available. The calculation of revenue and expense was on a receivable and payable basis and changes in valuation were taken into account. In order to allow for the effect of price changes, the figures for both revenue and expenses were adjusted to the 1927–9 price level. It was observed that in each period there appeared to be a tendency towards diminishing returns and the material seemed suitable for use as an exposition of the practical application of the principle just described. The fitted

curves demonstrate that two different production functions or input-output relationships were followed in the two periods. The pattern of farming in the second period was a much more productive one, the average revenue per £100 expense being £157 compared with £105 in the first period. In Chart VII the total revenue curve in each period (from Chart VI) is translated into its respective

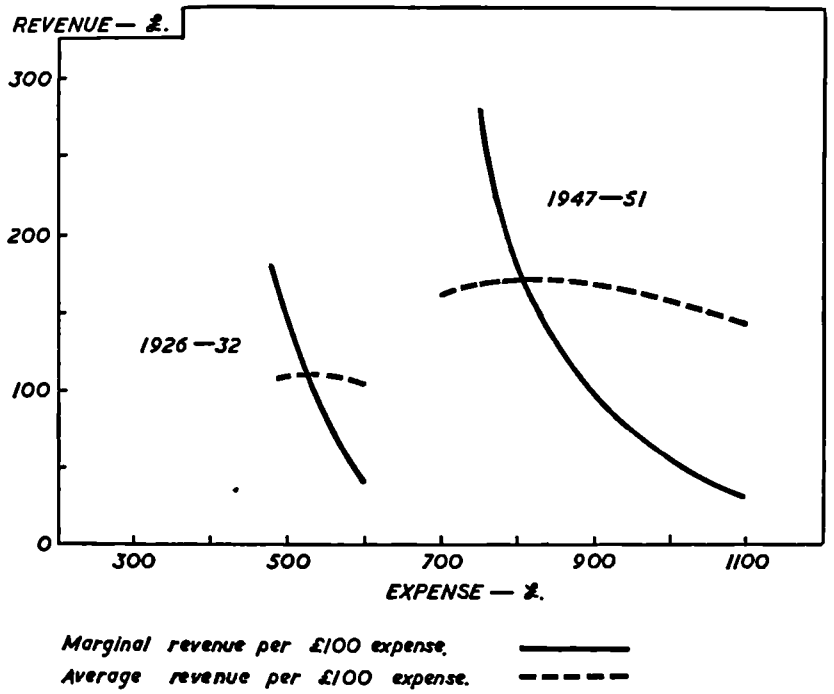


CHART VII. Farm Production Functions 1926–32 and 1947–51: marginal and average revenue curves.

marginal and average revenue curves. The optimum level of intensity of operation will be where the cost of the marginal unit of input just pays for itself. At 1927–9 prices this is the point where the marginal revenue curve crosses the £100 revenue per £100 expense line. A change in price of inputs or outputs will mean that some adjustment is necessary. For example, a rise in output prices means that an increase in the intensity of operation is necessary if maximum profit is to be obtained. Given the relationship shown in Charts VI and VII the actual point of maximum profit for a particular year will vary according to the prevailing relationship between the prices of inputs and the prices of outputs. For this farm these price relationships are shown in Table 13. In 1951, for example, the point of optimum operation would have been where the appropriate marginal revenue curve crosses the £93 line in Chart VII; in 1932 it would have been where the appropriate curve crosses the £118 line.

A comparison may now be made between the actual degree of intensity of operation and that which theoretically is most profitable. This comparison is shown in Table 14 for the five years 1947 to 1951 and the seven years 1926 to 1932. It can be seen that during the first period, except in 1926, the level of

intensity of operation was below the optimum. In 1931 and 1932 the relationship between the prices of expense and revenue items was such that it was impossible to make a profit under this pattern of farming except as a result of abnormally

TABLE 13. *Indexes of Expense and Revenue Prices and their Ratios, 1927–9 = 100*

Year	*A Index of expense prices*	*B Index of revenue prices*	$\frac{A}{B} \times 100$
1926	97·9	110·0	89
1927	99·4	104·1	95
1928	103·6	101·7	102
1929	99·9	102·1	98
1930	97·8	97·8	100
1931	95·6	87·2	110
1932	96·5	82·1	118
1947	229·3	203·2	113
1948	238·5	227·0	105
1949	236·4	233·3	101
1950	248·5	256·7	97
1951	281·6	299·4	93

favourable weather conditions. The optimum expense figures for these two years relate to least loss rather than maximum profit. In the first two years of the second period the level of intensity was also below the optimum, although 1948 showed an improvement over 1947. In 1949 the level of intensity was very near the optimum but just above, and in 1950 it was considerably above. This was apparently

TABLE 14. *Comparison between Actual and Optimum Intensity of Operation*

Year	*Expense per 100 acres at 1927–9 prices*	
	Actual	*Optimum*
1926	564	540
1927	426	535
1928	455	528
1929	466	532
1930	433	530
1931	466	524 (least loss)
1932	413	516 (least loss)
1947	677	872
1948	740	885
1949	919	892
1950	1,094	897
1951	992	905

realized, as in 1951 the level of intensity was reduced although it was still above the optimum.

Knowing the optimum level of intensity of operation for each year, it was possible to calculate the maximum theoretical profit per 100 acres. This figure is compared with the actual profit in Table 15. The actual profit will, of course, vary from the profit assumed when the curves in Chart VI were fitted. The reason for this is that other factors, such as climate, disease, accident, cause annual divergencies from the relationship between expense and return which is appropriate to a period of operation. In 1951, for example, the actual profit was greater than the maximum theoretical profit. One reason for this was that the weather

in 1951 was exceptionally favourable and yields were considerably higher than average.

What conclusions can be drawn from this evidence? The first is that a pattern and intensity of farming such as is now followed would have been profitable even in the depths of the depression. That this was possible even without some of

TABLE 15. *Comparison between Maximum Attainable Profit, Assumed Actual Profit, and Actual Profit*

Year	*Profit per 100 acres at actual prices*		
	Maximum theoretical profit	*Assumed actual profit*	*Actual profit*
	£	£	£
1926	112	110	76
1927	70	24	24
1928	35	17	35
1929	56	39	117
1930	42	10	24
1931	0	−13	−44
1932	−38	−61	−69
1947	953	535	535
1948	1,215	1,063	1,156
1949	1,321	1,306	1,217
1950	1,557	1,319	1,251
1951	1,886	1,803	1,949

the benefits of formal new technology was shown by pioneer farmers such as A. J. Hosier. The second has to do with the optimum level of intensity of operation. Bearing in mind the kind of data available and the treatment which it has undergone, the curves in Charts IV and VII can only indicate relationships in a very general way. But they do indicate, for example, that in the last two years of operation the level of intensity probably exceeded the optimum and that the farmer should be wary of undertaking any expansion within the existing pattern of farming.

VI. *Summary and Conclusions*

In the preceding sections an attempt has been made to examine in some detail the changes which have taken place on a large downland farm since 1925. First of all the economic conditions of the period were broadly outlined with the object of showing the farm's economic environment, changes in which will cause changes in types and methods of production (pp. 154–6). Next the physical environment of the farm was described and changes in cropping and stocking and in the composition of total expense and total revenue were studied by comparing two periods, 1926 to 1932 and 1947 to 1951 (pp. 156–61). The third section was concerned with the costs and returns involved in the production of three commodities, wheat, barley, and milk, which were of major importance in both periods. Changes in individual items of cost were examined and these and changes in returns were explained to some extent by reference to other evidence available (pp. 161–7). These three sections were mainly descriptive, on the one hand, of external economic forces inducing change, on the other, of the results of change on the individual farm. The link between these two is management and the last two sections of the study were devoted to some consideration of the soundness of

farm policy with respect to two important problems, selection and combination of enterprises and intensity of production.

In the fourth section (pp. 167–71) some consideration was given to the competitive, supplementary, and complementary relationships between enterprises and the effect of these relationships on the value of cost accounting as an aid towards effective enterprise selection and combination. It was argued that supplementary relationships were of less importance on the large farm and that cost accounting was correspondingly of greater value. The contribution to total profit and the rate of profit of the major enterprises were presented for the two periods under discussion and their significance discussed. It appeared that during the first period the farmer's decisions with regard to the relative importance of the crop enterprises followed a logical course, but the same cannot be said for the livestock enterprises. By the second period rational changes appeared to have been made and during the second period changes in cropping were made which were in conformity with evidence provided by the cost accounts.

The last section (pp. 171–5) was devoted to a study of intensity of operation based on the relationship between input and output per acre at constant prices. This provides in effect a physical production function, financial terms being used merely to convert all inputs and outputs to a common denomination. The production function for the second period was found to be at a much higher level than for the first. Optimum intensity of production will vary with the prices of both inputs and outputs, the point of maximum profit being where the last unit of input just pays for itself. This marginal analysis was applied to these two production functions and the optimum intensity level calculated for each year. During the first period except in 1926, the level of intensity was below optimum; but in 1931 and 1932 the relationship between prices of inputs and outputs was such that it was impossible to make a profit while following a production function of that kind. During the second period, from 1947 to 1951, the actual level of intensity moved around the optimum, being sometimes below and sometimes above. The nature of the material prevents the results of such analyses being taken too precisely, but they indicate firstly the soundness of farm policy in moving from a pattern of farming with a production function like that of the first period, to the more productive pattern of the second period. Secondly, within a farming pattern, they indicate the rationality of farm policy with respect to intensity of production, and so far as immediate policy is concerned they show that the level of intensity is probably slightly above its economic limit.

Organizers and managers in farming are concerned with the synthesis of the factors of production with the object of securing efficient and profitable use. This study has been concerned with analysing the causes, results, and processes of this synthesis. The purpose of all such analyses is towards clarifying and assisting the activities of synthesis.

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Reviews of Books

Output and Expenses of Agriculture in some European Countries, E.C.E., F.A.O. Geneva, January 1953.

Changes in British Agriculture, K. E. Hunt. Institute for Research in Agricultural Economics. Oxford, 1952.

Marginal Land in Britain, W. Ellison. Geoffrey Bles, 1953.

THE expansion of food production is the aim of official agricultural policies in most European countries, and often this involves extensive modifications of the established routine of farm management. These needs arise partly from increases in population and partly from the necessities of a country's commerce and industry considered as a whole. Difficulties in connexion with the balance of payments dictate the limitation of imports, and the control and direction of the output from the land is the obvious corollary. Increase of output should demand international co-operation in a high degree, but this may arouse the fear of competition in communities amongst which the business of food production is carried on, for one reason or another, less efficiently than in others. More knowledge is needed on the make-up of farm income in those countries concerned in a common marketing policy and in pooling their resources, but this has been beyond the scope of international statistics in the past. Accordingly, the Economic Commission for Europe and the Food and Agriculture Organization have combined to assemble the available data on the composition of the receipts and expenses of agriculture in fourteen European countries on this side of the Iron Curtain. (Austria and Turkey are not yet included.) The present study admits to being more descriptive than analytical. Its sponsors hope to secure the co-operation of experts studying its problems in the various countries, so that 'the possibility of comparison between countries will be progressively improved and developed'.

Some of the points emerging from this study are summarized as follows: (1) The past decade has seen the steady development in the statistical offices of many governments of annual estimates of the value of farm output and farmers' expenses. (2) These estimates are not uniform either in method or the degree of reliability, but they provide material for an international comparative study and for discussion of statistical problems. (3) In twelve of the fourteen countries, 60 to 80 per cent. of farm incomes were derived from livestock products; income from crop production predominated only in Greece and Italy. There was little difference between the year 1950 and pre-war in the distribution of receipts from crops and livestock products. (4) The value of net output per head of farm workers shows an extraordinary spread between the United Kingdom, at 1,550 dollars, and Finland and Italy, at 350 dollars per head. In comparisons of production per hectare, the United Kingdom ranks a good deal lower. (5) The value of the available surplus, after providing for consumption on the farm, differs widely from country to country, being affected by the output per person, the size of holdings, and other factors. (6) Similarly, the bill for hired labour varies very much; in general, the use of paid workers is declining, but the effect of this tends to be offset by substantial rises in wage rates.

Turning from European to British agriculture, Mr. K. E. Hunt has presented the changes in farming practice of modern times, and the circumstances which have occasioned them, as material for a study of present conditions. British agriculture has long been based on the mixed production of livestock and crops. Definite crop rotations have been evolved, dictated by varying soil conditions and an equable climate. On the other hand, the experience of the present generation in two world wars has shown the flexibility of the country's farming systems, and the speed with which the emphasis on production can be adapted to meet sudden changes in national needs. Mr. Hunt's study is presented in the form of charts drawn to illustrate the sequence of changes in everything concerning the land and its utilization. Many of the series, such as the agricultural population and the stocking of the land, trace from 1870; others, such as progress in the mechanization of farming, production and output, changes in wages and prices, &c., are limited to more recent years. Imports of food and feedingstuffs, and Britain's dependence on them, are also included.

The author considers that the most striking changes in home agriculture, as for example the general decline in the tillage area since the 1870s, or the increase of direct food crops, wheat, and potatoes, during the last war, have been changes in the composition rather than in the volume of output; in this he confirms the conclusions of the late Sir Henry Rew in his study of the effects of the great agricultural depression at the end of last century. Mr. Hunt makes an important comment affecting the direct interpretation of his figures. For nearly a hundred years after the repeal of the Corn Laws, farmers' prices fluctuated freely with supply and demand. The consequences of the world

economic crisis round about 1930, however, led to the imposition of tariffs and quota restrictions on imports, causing departures from long-standing relationships between the prices of products from different sources, a situation which was affected still further when subsidies and price-fixing were introduced after 1939. Mr. Hunt's statistical study of farming fortune during the past three-quarters of a century will be a permanent work of reference for agricultural economists and students of national agricultural policy.

Professor Ellison's publication applies only to farming in Great Britain, and to one only of its problems—the utilization of marginal land. Of this there are many types, marshlands and bogs, where the problem mainly is the removal of surplus water; light lowlands, where the problem is mainly soil poverty; low-lying heavy lands, wet, and costly of cultivation; and most extensive of all, the many million acres of mountain and heath lands where the problems are soil poverty, high rainfall, and, for the most part, bad access and the lack of equipment for any sort of farming. Indeed, on this last account, there are those who think that capital available for land improvement can be employed more profitably on the inferior lowland areas than on the far greater field for investment represented by the natural grazings of the mountains and moorlands. However, there need be no conflict; while it may be true that there is much scope in the older settled areas of the plains, the needs of the country for more home-grown food, and particularly for the intensification of store-stock production, are so great as to bring the upland areas, the hillsides and moorlands, prominently into the picture when land reclamation and improvement are under consideration. Professor Ellison's work has been concerned, perhaps, mainly with the Welsh hills, but his experience has been general and extensive. With all the resources of modern farming technique, the problem today is very different from that which Mr. S. M. Bligh had to face at Cilmery, in Breconshire, at the end of last century, where by the process of trial and error and unaided by State subsidies, he blazed the trail of grassland improvement along his native hillsides.

Economics of Agricultural Production and Resource Use, Earl O. Heady. New York, Prentice-Hall, Inc., 1952.

Agricultural Policy of the United States, Harold G. Halcrow, Ph.D. New York, Prentice-Hall, Inc., 1953.

Two books from the United States call for mention. In the first-named, Earl O. Heady, Professor of Economics in the Iowa State College, deals comprehensively, in a volume of more than 800 pages, with production economics as 'a skeleton of basic principles upon which problems in agricultural production and resource use can be analysed'. This is the textbook dealing with the approach to production economics associated especially with the Iowa School which has been eagerly awaited. The author mentions that this field of applied economics is unsurpassed in its accomplishment, its breadth, and its interesting history. It is obviously impossible to do justice here to a work of this magnitude. Suffice it to say that it is a work of scholarship, with an appeal mainly to an advanced student of production economics.

Dr. Harold Halcrow, Professor of Agriculture Economics in the University of Connecticut, writes on the agricultural policy of the United States. Part I deals with fundamental principles, such as the population basis for agricultural policy, supply and demand, elasticity of demand, the stability of agricultural income, and so forth. Part II covers the objectives of agricultural policy, including matters such as efficiency standards, the improvement and stabilizing of farm incomes, and social welfare—a subject of particular importance in communities consisting mainly of family farmers. Part III deals with the means for attaining the foregoing objectives. It is concerned largely with government intervention to assist agriculture and to direct its development.

Dr. Halcrow may be assumed to be catering mainly for the university student. Each of his chapters ends with a reading list and a set of questions and exercises. But his book should make a limited appeal, also, to the general reader interested in the land policy of the U.S.A. The statistics are simply stated, many of them in graphic form.

C. S. ORWIN

The Farm Economist's Library

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The Farm Economist's Diary

(1 October 1952–31 January 1953)

UNITED KINGDOM

GENERAL ECONOMIC

7 Oct. White Paper (Cmd. 8666). The United Kingdom had a surplus of £24 million in its balance of payments on current account with the rest of the world for the first half of 1952. On 11 Nov. Chancellor of Exchequer stated that target of overall balance had been achieved half a year ahead of time.

25 Nov. The first relaxation of import restrictions imposed in November 1951 and March 1952 announced by Board of Trade in a statement setting out the import quotas fixed for first half of 1953. Estimated the changes would allow value of imports concerned to increase by about £76 million in a full year. Cheese and nuts the only important foodstuffs affected.

6 Dec. In October the value of non-food sales by large retailers was back on the 1950 level. It was about 6 per cent. above the level of October 1951.

20 Dec. Terms of trade improved in November after being steady for the two preceding months. The ratio declined from 90 (average 1951 = 100) to 89. This improvement was due to reduction in import prices.

24 Dec. Wage increases in the U.K. in November were greater than in any month since November of last year, showing an aggregate increase estimated at £986,000 in the weekly full-time wages of about 2,905,000 workers. For 1952 as a whole average wages rose about 6 per cent. and retail prices by a similar proportion.

2 Jan. The sterling area had a gold and dollar deficit of £17·5 million in December, the gold and dollar reserves accordingly fell to £660 million.

12 Jan. Provisional figures of overseas trade in 1952 show a decrease of 11 per cent. in imports and 1 per cent. in U.K. exports.

EXTERNAL TRADE

GENERAL

17 Jan. The freight rate index for 1952 was 110·6 (1948 = 100) compared with 173·7 for 1951.

Commonwealth

25 Nov. The price for sugar bought under the Commonwealth sugar agreement agreed at £42. 6*s.* 8*d.* a ton for 1953. At the request of the Commonwealth representatives, the agreement extended for a further year, up to end of 1960.

Europe

9 Nov. New contract for Dutch bacon to follow the four-year contract expiring on 31 Dec. The U.K. to take up to 35,000 tons of bacon up to 2 Jan. 1954 at 252*s.* 6*d.* a cwt. f.o.b.—the current price for Danish bacon. The price paid for Dutch bacon since September 1951 averaged about 272*s.* 6*d.* a cwt. f.o.b.

U.S.S.R.

15 Oct. A further contract with Russia providing for the delivery of 150,000 tons of barley, 30,000 tons of oats, and 20,000 tons of maize. Shipments to commence immediately.

South America

4 Nov. Anglo-Argentine trade talk resumed, chief stumbling-block being the Argentine Government's request for a reciprocal credit or owing balance which Britain has been unwilling to grant.

31 Dec. One-year protocol signed covering 1953, to supplement the five-year Anglo-Argentine trade and payments agreement of 1949. Britain will purchase 255,800 tons of Argentine meat, including pig meat and canned corned meat (compared with 230,000 tons previously). Of the 238,000 tons of carcass meat, the biggest increase is to be in beef of ration quality; no mutton will be sent. The price for chilled quality beef shipped frozen to be £161 per ton compared with £126 per ton under the 1951 Protocol. The price of lamb to be £148 compared with £130 for the previous agreement.

20 Jan. Anglo-Uruguayan talks opened on the price and quality of meat imports to Britain.

Australia

4 Nov. U.K. to pay to Australia an increase of 20 per cent. or an average of A2½*d.* per lb. for ox and heifer beef, and 10 per cent. for cow beef for contract year 1952–3. This meant beef contract prices increased by approximately 60 per cent. over those ruling in 1950–1. Present indications that this year there will be substantially larger quantities of meat exported to Britain than last year. This increase in the U.K. beef contract price will result in the Australian Meat Board ceasing to pay a subsidy of 1½*d.* per lb. for contract meat. The Government's purchase schedule now to be based on the British M.O.F. prices.

20 Nov. Britain decided to prolong for two years until 30 Sept. 1954 the arrangement with Australia under which she buys certain classes of pig meats. For first year of extension the prices of frozen porker sides to be increased by 15 per cent. and those of offals by 7½ per cent., frozen baconer sides remaining unchanged.

8 Dec. Minister of Food announced he had agreed to buy surplus of dried vine fruit from the Australian 1953 crop. Estimated that, subject to climatic conditions during harvesting, shipments will be about 40,000 tons.

New Zealand

21 Nov. The N.Z. Meat Producers' Board reopened negotiations with M.O.F. in effort to get Britain to buy more manufactured meat. A bulk purchase agreement concluded in London a few months ago limited imports from N.Z. to 20,000 tons.

3 Dec. The N.Z. Meat Producers' Board to make five or six more trial shipments of beef to Britain to decide whether chilling, fast freezing, or the present slower freezing process best for the export market.

AGRICULTURE

General

17 Oct. In the speech at Saffron Walden the Chancellor of the Exchequer stated that when present plans matured, in 1955–6, the net output of U.K. farms could be 12½ per cent. higher than last year, that is 60 per cent. above pre-war. We require a million more acres tillage, mainly producing coarse grains, and 15 per cent. more grass production from the reduced grass acreage. Between mid-1949 and mid-1951 some 43,000 regular workers left the land.

28 Jan. The question of a return to complete deferment from National Service for farm workers to be examined by the N.F.U.

2 Feb. The December 1952 returns for U.K. showed that the numbers of cattle, sheep, and pigs are increasing, the most remarkable increase being in pigs, the total now 4,158,000 against 3,561,000 in 1938.

Crops

22 Jan. The Government announced that controls on the prices and supplies of cereals and feedingstuffs will end at the next harvest. The subsidy on feeding-

stuffs, running at the rate of £30 million in the current financial year, is to be withdrawn on 1 Apr. This decision will mean the removal of the existing subsidy on flour and on restrictions on the type of flour which may be produced. The bread subsidy to remain.

Forestry

12 Jan. A report by the Forestry Commission stated that the total area of woodland in G.B. on 30 Sept. 1947 (excluding woods under 5 acres) was 3,448,362 acres, representing 6·1 per cent. of the land surface of Britain.

Livestock

15 Oct. Price to producers for hen eggs of first quality sold to packing stations in the U.K. from 16 Oct., 6*s.* 1*d.* per doz.; 15 Jan. 1953, 5*s.* 6*d.*; 12 Feb., 5*s.* 0*d.*; 26 Feb., 4*s.* 6*d.*; 19 Mar., 3*s.* 9*d.*

20 Oct. Appointment of a committee to investigate the slaughter of horses.

11 Dec. The Calf Subsidies Scheme, 1952, approved by Parliament. The subsidy to be £5 a head for any steer or heifer calf born in U.K. on or after 1 Oct. 1951, and not later than 29 Oct. 1955, which has been reasonably well reared and is suitable for further rearing for beef production, or, if a heifer calf, for breeding from for beef.

Marketing

28 Oct. Proposals published by N.F.U. for a producers' marketing scheme to take charge of cattle, sheep, and pigs from farms through to the abattoir stage. Recommended that producers should be paid on a dead weight and grade basis, carcasses being graded under the National Mark or some similar system, and that a producers' board should allocate supplies to the distributive trade as required by M.O.F. Eventually board would sell graded meat direct to trade.

14 Nov. The Government have formally indicated that they are prepared to consider sympathetically schemes promoted under the Agricultural Marketing Acts, 1931–49, designed to meet current needs and requirements for the efficient and economic marketing of home produce. Discussions are to start immediately on individual aspects of marketing problems. First scheme to be dealt with—apples and pears; second—herbage seed. Milk, potatoes, and threshed peas also to be discussed.

3 Dec. Minister of Agriculture and Fisheries laid draft Apple and Pear Marketing Scheme before both Houses of Parliament. Three main points relate to terms of sale, fixing of minimum prices, and description of grades. 26 Jan. N.F.U. announced steps being taken to obtain the approval of fruit growers for the producer-controlled marketing scheme for apples and pears.

FOOD

General

1 Oct. Licensing of retailers by the Ministry of Food abolished. No longer necessary for retailers to hold a licence to sell meat, chocolate, chocolate confectionery, and sugar confectionery. 5 Oct. Rationing and price control of tea ended. 1 Jan. Manufacture and sale of all meat products (except uncooked beef and pork sausages, sausage meat, and canned corned meat) freed from control.

5 Nov. A national siting plan for slaughter-houses is to be prepared as the basis of a policy of concentrating the slaughter of animals into 300 or 400 places in Britain.

26 Nov. The Ministry of Food stated that as system of egg allocation was not well suited to current conditions, the Government had decided that the allocation and price control of eggs shall cease next spring. As a consequence, the subsidy of £20 million a year must be eliminated. Arrangements for the orderly

marketing of eggs would proceed by stages. At the first stage the Ministry would continue to be the sole importer of eggs. Packing stations will still be maintained and eggs going to the shops will still be graded and stamped there.

15 Dec. *Domestic Food Consumption and Expenditure, 1950*, report by National Food Survey Committee. An improvement was shown in the household diet, to which the greatest contributions were increases of 67 per cent. in bacon, 29 per cent. in butter, 21 per cent. in fresh rationed meat, and 13 per cent. in eggs. Fish consumption fell by 19 per cent., vegetables by 10 per cent., and potatoes by 3 per cent.

The most marked change in the diet was an increase in the fat content by 7 per cent. and protein content by 1 per cent., although the energy value remained almost unchanged.

15 Dec. The Minister of Food stated that the value to an adult of food subsidies on the weekly rations, together with milk and bread, and including eggs, was about 11*d.* at current levels of distribution. This figure took no account of the subsidies on animal feedingstuffs or fertilizers, all of which had the effect of reducing the prices of home-produced foods to the consumer.

20 Dec. The M.O.F. Trading account stated that the total cost of food subsidies for 1951–2 was £414,200,000 compared with £400,300,000 for 1950–1. The cost of milk in schools' scheme was shown as £9,456,638 for 1951–2.

1 Jan. Importation of bananas from all sterling area countries, except Jamaica and British Honduras, returned to the trade.

1 Jan. Ministry of Food now responsible for control of slaughter-houses, taken over from the Ministry of Housing and Local Government.

9 Jan. Public coffee auctions restarted in Mincing Lane for the first time since 1941.

Supplies

30 Nov. Butter ration increased from 2 oz. to 3 oz., margarine reduced from 5 oz. to 4 oz.

30 Nov. Meat ration reduced to 1*s.* 8*d.* from 2*s.* 0*d.* but hoped this level might be maintained throughout the winter. 25 Jan., increased to 1*s.* 9*d.* (M.O.F. statement, 1 Jan., put the prospect for the coming year the best since the war.)

25 Jan. Bacon ration reduced from 5 oz. to 4 oz. a week.

28 Jan. Bonus issue of 1 lb. sugar and ¼ lb. margarine announced for Coronation.

OVERSEAS

Colonies and Commonwealth

3 Dec. The need for more stable commodity prices, and an expression of support for the principle of international agreements to bring this about, was emphasized at the Commonwealth Economic Conference. Agreed to seek co-operation of U.S.A. and European countries to make possible expansion world trade and production.

PAKISTAN

14 Dec. To encourage further the export of Pakistan tea the Government has decided to continue the suspension of the export duty on tea until 31 Mar. 1953.

INDIA

17 Nov. The new food policy to ease food controls so far as was practicable without incurring the risk of having to increase food imports or of an undue rise in prices. India's first five-year plan was presented to both Houses of Parliament. 8 Dec. Higher production as initial aim.

18 Nov. Slump in Indian Tea Industry, many gardens closed, and more expected to close by end of December. Slump in tea prices and contraction of bank credit facilities concerned. The Government announced immediate relief measures.

U.S.A. AND CANADA

5 Nov. General Eisenhower elected President of U.S.A.

14 Nov. The Canadian wheat crop for 1952 is officially estimated at the unprecedented level of 688 million bushels. This is 121 million bushels more than the previous record crop in 1928.

AUSTRALIA

19 Oct. Average basic wage increased by 4*s.* to £11. 11*s.* 0*d.* a week.

14 Nov. Australian Government announced an alleviation of the restrictions on imports from non-dollar and non-Japanese areas as from 1 Jan. 1953, quota debits cancelled; 17 Nov. announced export controls on more than fifty types of commodities had been cancelled. Further easing later in November in accord with Government's policy of stimulating export trade.

9 Dec. Australia's food production development plan aims at making the country's output of food in 1957 one-fifth higher than the average in the five years 1947 to 1952, by developing existing farm land and extending irrigation. Wheat acreage to be increased by about one-third, and the export surplus of sugar expected to rise from the 168,000 tons of last year to 715,000 tons in 1957–8. Primary produce exports to U.K. had shown sharp fall in 1951–2; she had substantial trade deficit over year.

14 Jan. Meat industry officials estimate that Australian meat exports for year ending June 1953 will be at least 100,000 tons more than in the previous year.

NEW ZEALAND

25 Nov. The Prime Minister said that in 1953 his country would be able to send 360,000 tons of meat to Britain. Production of dairy produce had also increased and 250,000 tons of butter and cheese would also be sent.

23 Dec. The N.Z. Prime Minister said that by 30 June 1953 New Zealand will have balanced current foreign earnings with foreign expenditure, and will have achieved a payments balance with the countries outside the sterling area and with the European Payments Union by that date. Later announced that N.Z. had a dollar surplus and sterling deficit in her overseas balance for 1952.

INTERNATIONAL

30 Jan. Conference opened at Washington to consider the renewal of the International Wheat Agreement.

Food and Agriculture: Notes and Statistics[1]

Milk supplies

THE sales of milk by farmers reached a peak in 1950 of about 1,883 million gallons. With a less attractive price and other production difficulties, this fell 5 per cent. to 1,790 million gallons in 1951 but rose again to 1,818 million gallons in 1952. The quantity used as fresh milk reached its peak one year later—1,573 million gallons in 1951, but the 1952 level of 1,547 million gallons was below not only the 1951 level but the 1950 also. In consequence, the margin used for

[1] Unavoidable postponement of the date of publication of the *Farm Economist* has delayed the appearance of articles submitted for publication. In order to give a larger proportion of space to articles, these notes are being curtailed for the time being. It is intended to resume them soon. (Edit.)

manufacture has moved irregularly, 326, 217, and 271 million gallons respectively in 1950, 1951, and 1952. Many factors have contributed to these trends; cow numbers, feed supplies, costs, and product prices have been concerned in production; human population, income levels, and distribution; non-food expenditure, retail prices of milk, and consumers' valuation of it, have played their part in the demand sector (see also Charts on p. 192).

TABLE 1. *Consumption of Milk—United Kingdom*

		Fresh milk					
			National Milk Scheme				
	Total (a)	*Total*	*Free*	*Reduced price*	*School milk*	*Full price*	*Milk for manufacture (b)*
	million gallons						
1939	1,299·6	864·0	..	..	25·2	838·8	435·6
1947	1,449·6	1,305·6	2·4	181·2	45·6	1,076·4	144·0
1948	1,617·6	1,417·2	2·4	186·0	50·4	1,178·4	200·4
1949	1,735·2	1,513·2	2·4	184·8	50·4	1,275·6	222·0
1950	1,882·8	1,556·4	1·2	182·4	50·4	1,322·4	326·4
1951	1,790·4	1,573·2	1·2	182·4	50·4	1,339·2	217·2
1952	1,818·0	1,546·8	1·2	177·6	52·8	1,315·2	271·2

Source: *Monthly Digest of Statistics.*

(*a*) Excluding milk sold outside the Milk Marketing Scheme.
(*b*) Manufacture into milk products together with the quantity used on farms for cheese-making.

Imports of food and feedingstuffs

In 1952, of the major products, rather less cereals, sugar, fruit, and processed milk were imported than in 1951 but rather more mutton and lamb. For the rest of the foods and feedingstuffs there was little change. Compared with the pre-war period, the biggest proportional decreases were in feedingstuffs, sugar, fruit, butter, meat (especially beef), and eggs. There were also considerable changes in the sources of some of the products, for example, the rise of New Zealand into first place as a source of meat. The simple total of the tonnages listed in Table 2 was 14·2 million tons in 1952 compared with 20·4 million pre-war. In one sense this can be taken as a rough complement to the increase from 30 per cent. to some 39 per cent. in the proportion of our food energy coming from home agriculture. It also indicates how much smaller than in 1939 is the scope for drastic economies in shipping, should events make that necessary.

Retail prices of foodstuffs

Comparisons of estimates of costs of living, whether between different times or between different countries, involve dealing arbitrarily with such factors as the contents of the representative 'basket' and the supply of substitutes and the value housewives place on them. Even so, credence must be given to wide differences between estimates which seem reasonably comparable. A comparison of the cost of representative baskets of foodstuffs which wage earners might buy in autumn 1951 is given in Table 3 compared with the cost in the United Kingdom at a 100. At current exchange rates, only Australia, New Zealand, and South Africa have food costs so low. Reference to the level of wages makes the comparison rather

TABLE 2. *Net Imports* of Food and Feedingstuffs, United Kingdom*

	1936–8 (b)	*1944*	*1949*	*1950*	*1951 (r)*	*1952*
			thousand tons			
Wheat (*f*)	4,925	2,820	4,783	3,266	4,053	3,905
Wheat flour, meal, and other wheat products	324	760	580	421	503	489
Rice	114	42	52	56	71	47
Pulse	151	71	55	39	60	81
Maize, maize meal, and other maize products	3,452	164	743	1,017	1,102	1,417
Barley, oats, and products	1,050	−27 (*e*)	517	822	1,320	1,153
Oil-cakes and meals (*a*)	1,648	883	1,098	1,122	1,200	998
Miscellaneous feedingstuffs and cereal products	1,198	25	274	344	638	432
Total cereals and feedingstuffs	12,862	4,738	8,102	7,087	8,947	8,522
Potatoes (including seed)	181	−40 (*e*)	42	83	93	87
Sugar (*c*)	1,807	1,071	1,477	1,203	1,405	1,252
Fruit, fresh (*g*)	1,426	212	955	947	1,034	824
Fruit, other	391	285	239	246	243	260
Tomatoes	182	9	283	299	290	247
Other vegetables	321	40	335	306	340	347
Butter	474	153	315	335	308	258
Oils and fats, excluding butter (*d*)	920	1,147	1,204	1,182	1,284	1,194
			thousand head			
Live cattle	664	402	437	452	463	458
			thousand tons			
Beef and veal (*h*)	606	368	393	359	185	155
Mutton and lamb (*h*)	344	385	372	405	256	363
Canned meat	68	167	93	107	175	137
Pork (*h*)	67	389	46	42	35	25
Bacon and ham	367	399	138	243	221	252
Total of above meats	1,452	1,708	1,042	1,156	872	932
Eggs (in shell)	176	23	145	116	78	84
Eggs (dried) (*i*)	..	80	5	16	18	·0
Cheese	140	251	212	153	194	136
Condensed milks	67	92	62	18	42	40
Dried milks	16	82	44	36	36	44
			million gallons			
Milk equivalent of cheese, condensed and dried milks: Whole	328	631	531	368	468	344
Milk equivalent of cheese, condensed and dried milks: Separated	64	188	58	56	60	75

* Imports, less exports, as recorded by Board of Trade.

(*a*) Including cake equivalent of imports of oilseeds and nuts.
(*b*) Average of three calendar years.
(*c*) Refined. Unrefined sugar is included on the basis, 1·07 tons unrefined = 1·0 ton refined.
(*d*) Including oil equivalent of imports of oilseeds and nuts.
(*e*) Net exports.
(*f*) Exports of 'all other descriptions of grain' (other than for grain sowing) presumed to be wheat.
(*g*) Including nuts used as fruit.
(*h*) Including offals.
(*i*) One ton dried eggs equals 4·73 tons shell eggs.
(*r*) Revised.

TABLE 3. *Relative Prices of Foodstuffs and of Wage Levels in Selected Countries. Autumn 1951*

	October 1951 'Baskets' of 17 foodstuffs consumed by wage-earners' families	*Wages Index September 1951 (hourly earnings) converted to U.K. sterling*
	(*Index U.K. = 100*)	(*Index U.K. = 100*) (*a*)
Union of S. Africa	89	..
Canada	210	276 (Manufacturing)
U.S.A.	215	384 "
Chile	340	..
Austria	130	..
Belgium	179	..
Denmark	114	119 (General)
Finland	153	163 (Manufacturing, males only)
France	200	78 (General)
Germany (Fed. Repub.)	154	84 (Manufacturing)
Ireland	108	72 "
Italy	191	61 "
Netherlands	124	63 "
Norway	118	124 (Manufacturing, males)
Portugal	109	..
Sweden	137	140 (Manufacturing)
Switzerland	178	132 (General, av. skilled and unskilled males)
Australia	98	151 (General, males)
New Zealand	92	141 (General)

Sources: *Year Book of Labour Statistics*, I.L.O., 1951–2.
Monthly Bulletin of Statistics, U.N.O.
(*a*) General wage level, September 1951, in the United Kingdom.

TABLE 4. *Prices of Selected Foodstuffs in European Countries*

Foodstuff	*France*	*Germany Fed. Repub.*	*Ireland*	*Italy*	*Netherlands*	*U.K.*
	pence per pound					
White bread	5·6	7·9	3·4	7·2	3·6	3·4
Beef, brisket	32·8	37·3	19·3	33·4	..	14·0
Butter	79·6	58·7	36·0	76·4	46·0	30·0
Cooking oil (approx.)	41·0	34·0	..	34·0	24·0	..
Sugar	9·9	12·2	4·0	16·0	9·2	6·0

more realistic. On this basis Canadian, American, Australian, and New Zealand workers can buy food cheaply in terms of hours of work. Others, including Danish, Finnish, Swedish, and Norwegian, seem similarly placed to those of the United Kingdom. French, Italian, Dutch, and Swiss workers in contrast appear appreciably worse off than the British. There are no more recent indexes published on the same basis, but a comparison of prices for individual foodstuffs leaves the impression that in the year to the autumn of 1952 food prices rose slightly more

in the United Kingdom than in western European countries. Prices of individual foodstuffs bear out this indication that the costliness of food in Britain is not unexampled (Table 4), all the countries quoted being ones where wage-rates seem rather lower than in the United Kingdom.

TABLE 5. *Some Indicators of General Price and Cost Movements affecting Agriculture in the United Kingdom*

1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*
	Prices of agricultural products:				*Retail prices of:*		*Full-time weekly wage-rates*	
Calendar years	*All main products*	*Foodstuffs normally readily importable*	*Prices of imported foodstuffs*	*Prices of industrial raw materials*	*Foods*	*Other goods and services (excluding rents)*	*Farm-rates*	*General index including farm-rates*
	Index numbers 1911–13 = 100							
1920	292	297	300	302	256	258	233 (*a*)	272 (*a*)
1926	151	155	151	149	164	192	174	186
1932	117	106	100	92	126	176	174	174
1936	120	112	98	106	130	174	179	180
1937	131	124	109	125	139	180	185	187
1938	130	122	110	109	141	183	192	194
1945	251	218	231	207	186	329	384	290
1946	265	233	234	235	189	332	412	314
1947	308	266	250	317	186	370	463	326
1948	318	294	265	371	198	404	500	342
1949	332	312	300	378	209	413	518	352
1950	344	328	320	446	225	424	527	358
1951	378 (*r*)	360 (*r*)	350 (*r*)	575 (*r*)	250	479	564	389 (*r*)
1952	391 (*p*)	375 (*p*)	396	506	289 (*b*)	512 (*b*)	610	421
1951–2:								
Nov.	438	370	356	555	263	498	600	405
Dec.	452	381	366	555	266	502	600	408
Jan.	445	380	377 (*r*)	561	274	507	600	412
Feb.	425	370	387 (*r*)	547	275 (*b*)	507 (*b*)	600	415
1952–3:								
Nov.	442 (*p*)	380 (*p*)	391	479	296 (*b*)	514 (*b*)	628	434
Dec.	452 (*p*)	386 (*p*)	388	484	300 (*b*)	515 (*b*)	628	434
Jan.	452 (*p*)	393 (*p*)	401	476	300 (*b*)	515 (*b*)	628	434
Feb.	439 (*p*)	393 (*p*)	424	474	301 (*b*)	515 (*b*)	628	437

For sources and definitions see Vol. vii, p. 46.

(*a*) July rates.

(*b*) New series calculated with effect from February 1952, not strictly comparable with previous series owing to changes in weighting and in list of items included.

(*p*) Subject to revision.

(*r*) Revised.

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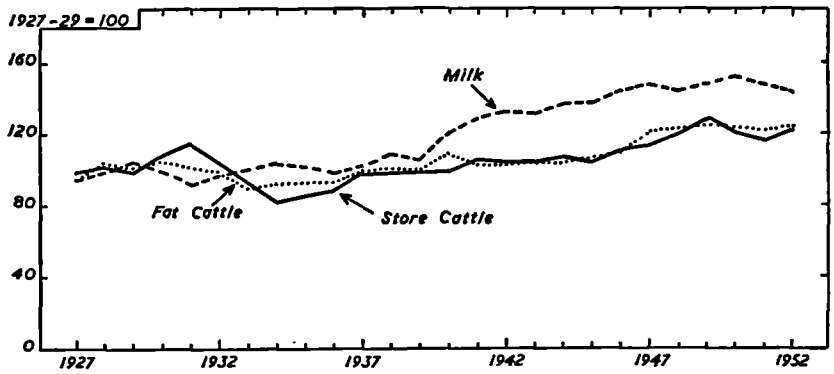


CHART I. Price received by farmers for milk, fat and store cattle in terms of the national cost of living index (compiled by Mr. J. R. Bellerby), England and Wales, calendar years.

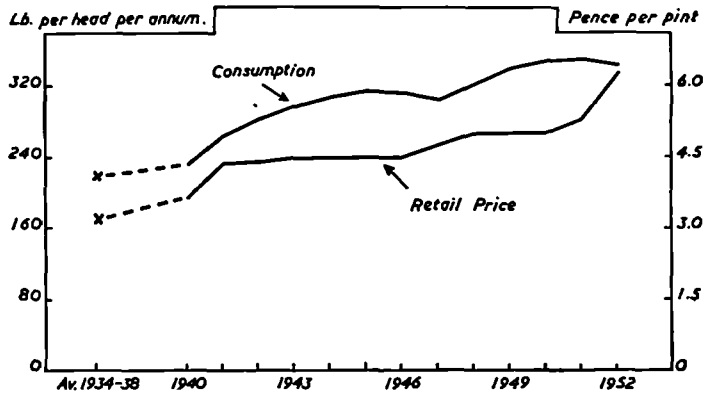


CHART II. Liquid milk: supply per head per annum moving into civilian consumption and the retail price of ordinary milk, United Kingdom, calendar years.

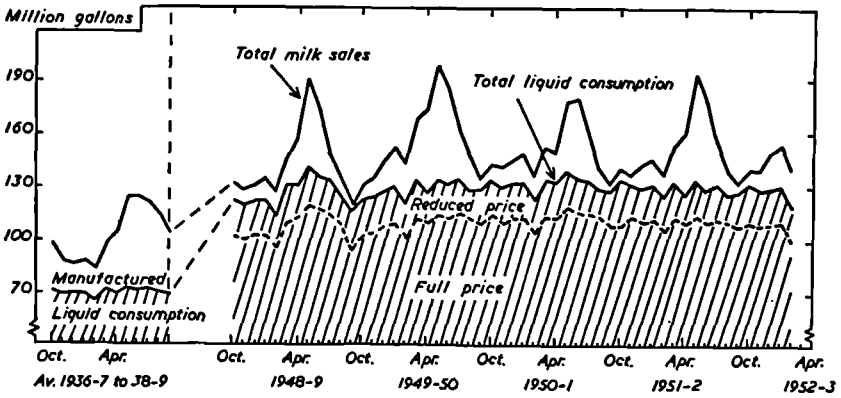


CHART III. Sales of milk through marketing boards and liquid consumption compared with manufacture, United Kingdom.

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WYE COLLEGE

MEASURING CHANGES IN FARM SALE PRICES

By J. T. WARD

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Measuring Changes in Farm Sale Prices

By JOHN T. WARD, B.Sc.(Econ.), B.Litt., Dip. Agric. Econ.

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Measuring Changes in Farm Sale Prices

By JOHN T. WARD, B.Sc.(Econ.), B.Litt., Dip. Agric. Econ.

In this article, Mr. Ward, who is Lecturer in Agricultural Economics at Wye College (University of London), illustrates the calculation of annual sale prices and index numbers of farms.

The purpose of this article is to illustrate the calculation of annual sale prices and index numbers of farms. In recent years, studies of farm sale prices have been made by a number of workers at the Agricultural Economics Research Institute at Oxford and the results have been published in *The Farm Economist* but they do not seem to be widely known in the professions. The first calculation of this kind was that made by Britton, who analysed the prices of farms sold in England and Wales during the period 1918 to 1938.(1) In a continuation of that work, I traced the change in farm values from the outbreak of the second world war to 1951.(2) The present paper is in part an explanation of that study and in part a continuation of it.

SOURCES OF DATA

The sources of data used were *The Estate Exchange Year Book of Auction Sales* and *The Estates Gazette*, both of which publish results of auction sales in London, the provinces and Wales. The details recorded usually include the place and date of sale ; a description (including the area and location of the property) ; whether it was sold freehold or leasehold, and whether with or without possession, and the price realised. For some sales, details of rent and certain statutory charges are also given. Britton used the *Year Book* which in the earlier years reported sales from all over the country, and this source was found to be satisfactory until 1946. After this, its reports were limited to properties sold within a radius of 30 miles from Charing Cross, while in 1949 and subsequent years they were restricted to an area south of a line drawn approximately from the Wash to the Bristol Channel. The data used for 1946 onwards were obtained from *The Estates Gazette*, which publishes weekly results of auction sales in similar detail to that in the *Year Book*. Both the *Year Book* before the area limitation of 1946, and *The Estates Gazette*, contained reports of sales of agricultural property in every county in England and Wales, and although the data published were not necessarily identical, they tended to be very similar because the two organisations worked together in close agreement and drew most of their material from the same auctioneers. A test comparison made for earlier years indicated that the trend in sale prices was not disturbed by this change in the source of statistics.

This material is subject to the following criticism. In the first place, its coverage varies throughout the country. A large number of sales are recorded in the West Midlands and Home Counties and a much smaller number in the North and in Wales due, apparently, to the varying degree in which auctioneers make their results available for publication. Without knowing how farm sale prices vary according to region and type of farming, it is impossible to tell how the varying completeness of the records in different counties affects the results, but a comparison of regional reports from auctioneers suggests that variations between regions and between different types of farms are small in comparison with those due to period of sale, size of farm, and whether or not possession is offered.

Secondly, the material relates only to farms sold at auction and does not include those sold by private treaty. It is not known what proportion of farms is offered by auction, but it is known that many of the larger agricultural estates are sold for investment by private treaty and that such estates, though relatively few in number, comprise an appreciable proportion of the total agricultural land in this country. This class of property was not covered by the present study, although a number of farms which were sold by auction as separate lots when large estates were broken up were included.

Finally, the small number of recorded sales of farms above 300 acres limits the reliability of the average prices recorded for this group.

Despite these limitations in the basic material, it is thought that, by a process of averaging, reasonably reliable estimates of sale values for broad categories can be made. The close agreement of Britton's figures with those estimated by the Ministry of Agriculture for 1925 and 1931, on the basis of crop reporters' returns, supports this view.

METHOD OF CALCULATION

The analysis was confined to properties described as farms. Small-holdings of less than five acres and farms specialising in fruit, hops, poultry or market gardening were excluded, as

Acreage (000's) and proportions of land in farm size groups

	5 and under 50 acres		50 and under 100 acres		100 and under 150 acres		150 and under 300 acres		300 acres and over		Total all farms	
	'000 acres	Per cent.	'000 acres	Per cent.	'000 acres	Per cent.	'000 acres	Per cent.	'000 acres	Per cent.	'000 acres	Per cent.
Owner-occupied ...	1,331	12	1,608	15	1,482	14	2,878	27	3,393	32	10,692	100
Tenanted	1,737	10	2,646	15	2,541	14	5,064	29	5,521	32	17,509	100

Source : Ministry of Agriculture, Fisheries and Food World Census, 1950. Tenure and Size of Holdings in England and Wales.

TABLE 1

Average annual sale prices of farms sold with vacant possession in England and Wales, 1938 to 1956

Year	No. of farms	5 and under 50 acres £'s per acre	50 and under 100 acres £'s per acre	100 and under 150 acres £'s per acre	150 and under 300 acres £'s per acre	300 acres and over £'s per acre	Weighted average all farms £'s per acre
1938	130	49·6	40·1	30·2	20·6	14·7	26·5
1939	115	58·0	29·7	27·4	23·8	10·4	25·0
1940	198	67·0	35·3	29·2	26·3	19·7	30·8
1941	201	82·2	44·6	31·5	33·5	21·8	37·0
1942	299	76·9	45·8	41·6	28·5	24·7	37·5
1943	261	92·9	56·4	38·4	39·0	36·6	47·2
1944	208	97·0	57·4	52·7	33·2	25·5	44·7
1945	317	96·4	61·3	45·0	37·1	25·5	45·2
1946	420	157·6	66·2	51·7	39·6	37·3	58·7
1947	445	146·9	87·1	72·6	55·8	44·3	70·1
1948	573	178·3	100·7	73·8	62·2	49·7	79·5
1949	479	175·4	100·0	75·0	63·8	38·9	76·2
1950	456	174·7	96·0	74·8	63·5	53·5	80·1
1951	477	167·0	105·0	82·0	70·3	68·2	88·1
1952	476	171·6	89·1	76·7	72·1	37·2	76·1
1953	538	128·6	85·7	77·5	63·7	51·4	72·8
1954	471	138·2	86·6	71·3	66·1	54·0	74·7
1955	528	160·8	85·3	76·8	67·7	58·3	79.8
1956	424	134·0	92·5	74·7	67·9	59·9	77·9

TABLE 2

Average annual sale prices of farms sold without possession in England and Wales, 1938 to 1956

Year	No. of farms	5 and under 50 acres £'s per acre	50 and under 100 acres £'s per acre	100 and under 150 acres £'s per acre	150 and under 300 acres £'s per acre	300 acres and over £'s per acre	Weighted average all farms £'s per acre
1938	122	39·3	26·9	16·3	16·8	11·8	18·9
1939	125	28·3	30·2	17·0	17·5	13·8	19·2
1940	112	41·0	25·3	20·6	17·4	10·0	19·0
1941	239	51·7	36·4	30·9	23·1	18·1	27·4
1942	243	60·0	31·6	30·2	17·2	14·7	24·7
1943	248	51·4	35·6	28·5	27·4	14·4	27·0
1944	202	46·7	39·5	34·0	22·2	23·8	29·4
1945	294	47·9	36·3	29·0	24·4	24·2	29·1
1946	184	72·1	40·3	32·6	26·2	17·4	31·0
1947	112	73·4	48·1	30·4	28·2	21·7	33·9
1948	154	97·2	56·3	47·3	30·2	28·9	42·8
1949	171	66·8	47·0	36·9	32·7	29·8	37·9
1950	120	68·0	44·0	59·8	38·4	19·4	39·1
1951	131	52·8	56·4	42·7	40·8	38·1	43·7
1952	81	69·3	51·0	35·2	35·3	25·0	37·7
1953	85	56·1	42·2	38·1	36·5	22·8	35·1
1954	70	78·1	54·3	34·2	30·1	36·3	41·1
1955	41	64·3	54·9	44·2	42·8	59·8	52·4
1956	40	80·6	50·6	36·7	41·2	42·4	46·3

were parcels of agricultural land which were not classified as farms on the grounds that they did not support a residence or buildings.

The simplest method of calculating an annual average price would be to divide the total amount of money paid out by the total number of farms or acreage sold. This method would give unreliable results, however, because the composition of the recorded farms varied from year to year with respect to the proportion of sales with vacant possession and the average size of farm sold. The pronounced effect of these two factors upon sale prices can be seen from the tables.

In his calculations of sale prices for pre-war years, Britton did not distinguish between farms sold with vacant possession and those sold without possession, as the differential between them was not thought to be sufficient to distort the general average of all farms recorded sold, but a preliminary examination of the data for the war and post-war years showed a very different position. The premium for vacant possession rose rapidly during these years, and according to the published information actually exceeded 100 per cent. in the late 1940's due to the very different returns from what, under the provision of security of tenure, had become two classes of property. Because of this, separate values and index numbers have been calculated for these two main groups. In my earlier article,(2) I combined these to form an average value and a general index number by weighting them in accordance with the proportion of farmland owner-occupied and tenanted respectively, and the Agricultural Economics Research Institute at Oxford publishes a general index of this kind from time to time. Its value lies in making possible a continuation of the pre-war index calculated by Britton, but the concept of an average price for occupied and tenanted farms is artificial and for our present purpose it is probably better to restrict the calculation to separate sale values and indexes of the two classes of farms.

It is well-known that farm size has a marked influence upon sale price per acre, and it was therefore decided to calculate separate averages for five size groups. The variations between group averages are clearly shown in Tables 1 and 2. In order to calculate general average values for the two classes of property these group averages were then weighted in proportion to the acreage in each size group. These were as shown in the table at the top of page 4.

In the earlier articles, farms of 300 acres and over were excluded in calculating the two general indexes on the grounds that the number recorded were so small that their average prices would be unreliable, and, due to the heavy weighting of this group, would distort the annual values for all farms. There is some substance in this argument, especially in relation to recent years when there have been very few records of large farms sold for investment. On the other hand, to leave them out is to ignore the price of a group of farms which cover practically one-third of the total agricultural land in the country, so that the indexes would be much less representative. It was, therefore, decided for the present purpose to include all farms in the calculation of the general averages and index numbers. Attention will be drawn to those years in which it is thought that unusual values for the larger farms may have unduly influenced the weighted averages. Sale prices by size groups and weighted averages are given in Tables 1 and 2 and the weighted averages are illustrated in Fig. 1.

Having calculated average sale prices for each year from 1938 to 1956, it was possible to construct index numbers so that trends in values might be more easily discerned. For this purpose, the years immediately before the war were taken as the base period and average prices for all later years have been expressed as percentages of them. The two series of index numbers for farms sold with vacant possession and for those sold for investment are shown in Table 3, and are illustrated in Fig. 2. For comparative purposes, index numbers of farm product prices and of net farm incomes are also shown in Fig. 2. A logarithmic scale has been used in order to show relative changes.

COMPARATIVE ANALYSIS

It is of interest to see how far the trends in farm sale prices calculated in this way accord with the general factors which are known to have affected the market. In the late 1930's, agriculture was still depressed and farms offered with vacant

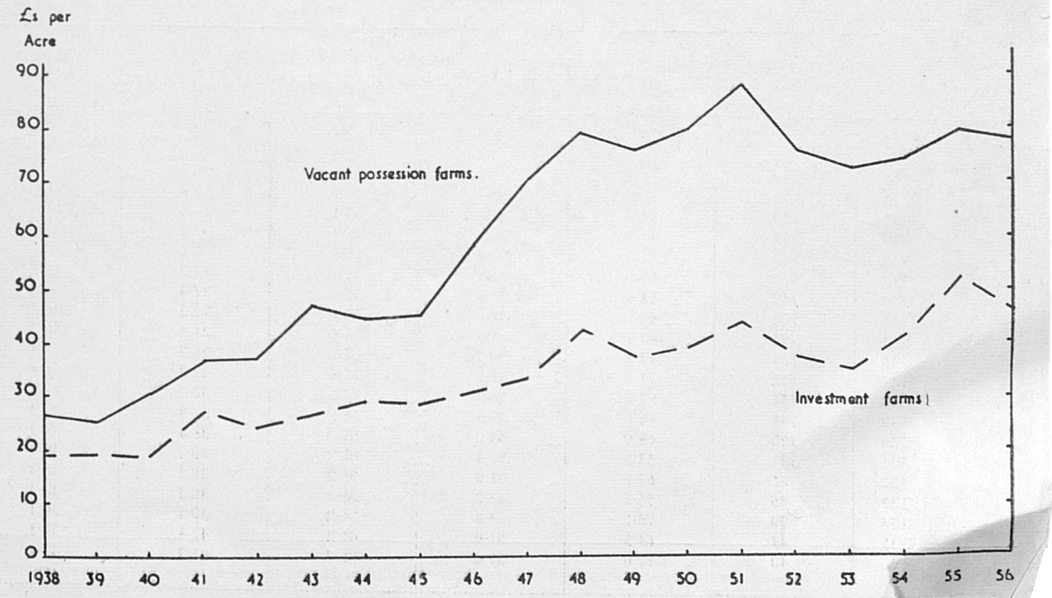


FIG. 1.—*Farm sale prices, 1938 to 1956.*

possession were realising on average £26 an acre while those sold for investment fetched about £19 an acre. The outbreak of war severely disturbed the market, but towards the end of 1939 there was a marked revival of interest in agricultural property. The vital importance of agriculture during a period of siege was recognised far earlier than during the first world war and the drive for greater production, symbolised by the ploughing up campaign, was accompanied by a system of guaranteed prices and assured markets. Farm incomes improved rapidly and the demand for farms with possession soon began to exceed the supply. During these years, there was a great deal of activity in farm real estate and a " sellers' market " was established which persisted, but for a slight easing at the end of the war, until 1951. Vacant possession prices rose rapidly during the early war-years reaching £47 an acre, more than 80 per cent. above their pre-war level, by 1943. Investment prices rose by only 40 per cent. to £27 per acre over the same period, reflecting the relatively slow improvement in rents. The traditional lag of rents behind prices and incomes was accentuated by the provisions for security of tenure introduced by Defence Regulation in 1941. Towards the end of the war, prices became stabilised as buyers of both classes of property became more cautious because of a feeling of uncertainty about the future of the industry. This was resolved, however, soon after the end of the war by the realisation that the acute world food shortage and the unfavourable foreign trade position of this country would not only prevent a return to the cheap food policy of the inter-war years but would actually necessitate further efforts to raise food production above the war-time level. The physical targets for this increase were laid down in the expansion programme of 1947, and in the Agriculture Act of the same year the system of guaranteed prices and assured markets was re-enacted as a permanent feature of agricultural policy.

The renewal of confidence in the industry led to an increased demand for farms that was facilitated and accentuated by the fact that interest rates were low and credit easy to obtain under the prevailing monetary policy. There was a very large flow of capital into the industry at this time and substantial increases in farm sale prices were recorded. Vacant possession prices rose sharply from 1946 and, but for a short break in 1949, continued to rise until 1951 when they reached a peak of £88 an acre, nearly three-and-a-half times their pre-war level. Investment prices also rose sharply over this period reaching £44 an acre in 1951, two-and-a-quarter times the pre-war figure. As rents had continued to lag far behind net farm incomes, these latter prices indicate rates of return below those yielded on Consols. At this time, and indeed throughout much of the period under review, yields appear to have been of negligible importance and farms for investment seem to have been bought partly as a tangible security against inflation and partly because of the taxation benefits secured under the maintenance claim, the capital expenditure claim and the preferential rate of estate duty. In addition to investment by those institutions traditionally interested in agricultural property, a considerable amount of " city " capital was attracted into the industry, while the businessman-farmer became well-known especially in the Home Counties.

This second period of rising prices came to an end in 1952. The substantial measure of success in expanding domestic output over the previous five years and the recovery from the world shortage had greatly eased the food situation, and from this time policy was directed less to " output at any cost " and more towards " greater efficiency." A free market in agricultural products combined with a system of deficiency payments was introduced in 1953. Costs of production continued to rise and, failing full recoupment at the annual price reviews, net farm incomes began to fall. At the same time there was a change in monetary policy. The credit squeeze was initiated in an attempt to control inflation and high interest rates and shortage of capital restricted the demand for farms. Vacant possession prices eased and were almost 20 per cent. below the peak level in 1953, since when they have hardened slightly. Investment prices also eased after 1951 but appear to have made a stronger recovery in the last year or two and have reached a new higher level. (The average figure of £52.4 per acre recorded for 1955 is, however, probably due to a biased sample and should be disregarded.) This is largely due to the fact that rents have continued to rise and in general are still well below the market level whereas net farm incomes have fallen. As a result of these trends there has been a marked easing of the premium for vacant possession.

It must be borne in mind that these increases in farm sale prices have taken place during a period of inflation when the pound has depreciated to something like one-third of its pre-war value. Up to 1951 the real value as well as the nominal value of farms sold with vacant possession had increased, reflecting the fact that net farm incomes had risen more rapidly than most other incomes and prices, including the prices of farm products (see Fig. 2). On the other hand the real value of investment farms had fallen considerably, due, largely, to the sluggishness of rents and the difficulty of obtaining possession, so that the effectiveness of this traditional " hedge against inflation " must be seriously questioned. Since 1951 the situation has been more complex, for while farms sold without possession have shown a slight increase in absolute value, their real value has probably declined while there has been a fall in both the real and the nominal value of vacant farms.

Apart from providing a measure of general trends in sale prices, further study of the recorded data enables us to make quantitative assessments of two other features of the market, namely the increase in the premium for vacant possession and the relative changes in the prices of farms of different sizes.

An estimate of the premium for possession is shown in Table 3. The average difference in sale price between the two classes of property is shown in column 6 while in column 7 this differential is expressed as a percentage of the average price of farms sold without possession. This method of calculation will only be accurate if the average quality of the farms sold in the two groups is equal. It has been suggested that many of the better farms sold for investment are sold privately so that in a study confined to auction sales the average farm sold for investment may be inferior to that sold without vacant possession. If this observation is correct, then the present method of calculation will tend to overrate the premium somewhat but should not invalidate its trend.

The premium stood at about 35 per cent. in 1938–39 and rose rapidly during the next few years to over 50 per cent. at the end of the war. Thereafter, it increased rapidly with the post-war boom in farm sale prices, reaching 107 per cent. in 1947 and remaining consistently above 100 per cent. from 1949 to 1953. The primary reason for this increase was, of course, that net incomes obtainable on farms bought with possession were much higher, and at the same time rising more rapidly, than the rents obtainable from sitting tenants who enjoyed security of tenure. Since 1953 the premium has declined to 68 per cent. in 1956, reflecting the relative hardening of investment prices at a time when rents have continued to rise although net farm incomes have tended to fall. Within size groups, it is interesting to note that throughout much of the period the premium has been considerably higher for the smaller farms and that although in the last year or so it has eased noticeably, especially for small-holdings under 50 acres, it is still much higher for the small and medium farms than for the larger ones over 300 acres.

TABLE 3

Average sale prices and index numbers of farms sold in England and Wales, 1938 to 1956, premiums for vacant possession, and index numbers of farm product prices and farm incomes

Year	Vacant possession		Without possession		Premium for possession		Farm product prices	Net farm incomes *
	Average price £'s per acre	Index No. (1938–9 = 100)	Average price £'s per acre	Index No. (1938–9 = 100)	£'s per acre	Per cent.	Index No. (1938–9 = 100)	Index No. (1937/8–1938/9 = 100)
1938	26·5	103	18·9	99	7·6	40	100	103
1939	25·0	97	19·2	101	5·8	30	100	97
1940	30·8	120	19·0	100	11·8	62	139	201
1941	37·0	144	27·4	144	9·6	35	167	338
1942	37·5	146	24·7	130	12·8	52	179	373
1943	47·2	183	27·0	142	20·2	75	182	401
1944	44·7	174	29·4	154	15·3	52	189	421
1945	45·2	176	29·1	153	16·7	55	192	356
1946	58·7	228	31·0	163	27·7	89	203	375
1947	70·1	272	33·9	180	36·2	107	236	350
1948	79·5	309	42·8	225	36·7	86	244	411
1949	76·2	296	37·9	199	38·3	101	254	533
1950	80·1	311	39·1	205	41·0	105	264	559
1951	88·1	342	43·7	229	44·4	102	290	495
1952	76·1	296	37·7	198	38·4	102	300	599
1953	72·8	283	35·1	184	37·7	107	306	617
1954	74·7	290	41·1	216	33·6	82	303	607
1955	79·8	310	52·4	275	27·4	52	320	539
1956	77·9	303	46·3	243	31·6	68	321	596

* Harvest years.
Sources : Farm product prices—The Farm Economist. Net farm incomes—Annual Review and Determination of Guarantees, 1957, Cmnd. 109, and private communication from Ministry of Agriculture, Fisheries and Food.

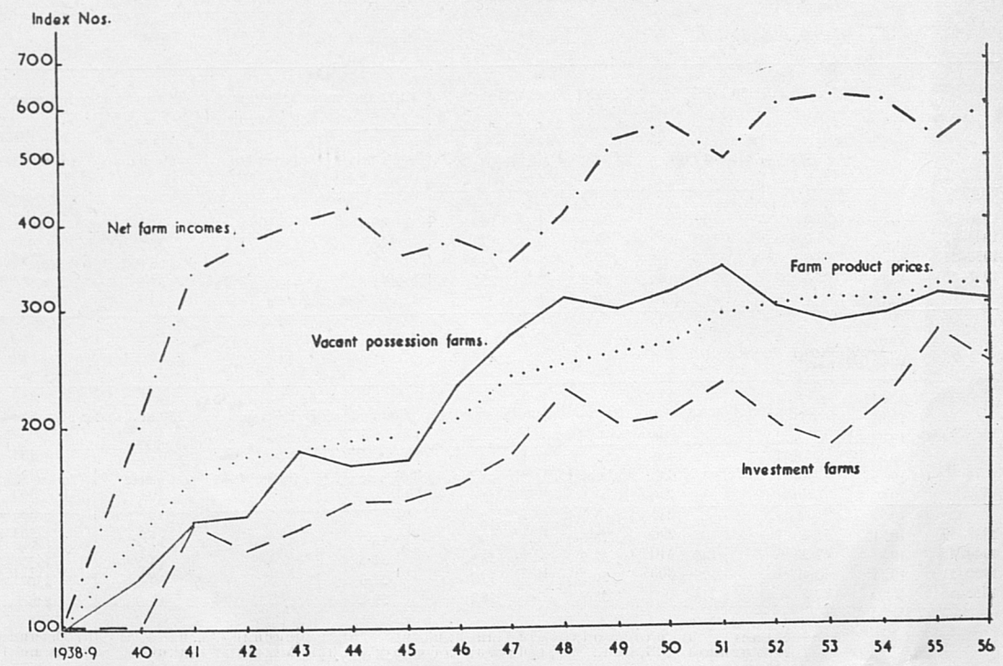


FIG. 2.—*Index numbers of farm sale prices, farm product prices, and net farm incomes, 1938 to 1956.*

FARM RENTS AND TENURE

tive changes in sale prices for farms of different sizes shown in *Table 4*. Two-yearly averages have been taken in order to smooth out some of the more extreme year-to-year variations. The main feature to be noted is that in both classes of property it is the largest farms which have shown the greatest increase in price over the pre-war period. The average price of vacant farms over 300 acres had risen to £60.8 per acre or nearly five times their pre-war level by 1951, compared with threefold increases for small and medium sized farms. Since then prices of the larger and medium sized farms appear to have been maintained while those of the smaller ones have eased.

In the case of farms sold without possession, the average sale price of farms above 300 acres rose from £12.8 per acre in 1938–39 to £51.1 per acre in 1955–56. The latter figure is, however, inflated by the very high sale price recorded for a small number of farms sold in 1955, and for comparative purposes the lower figure recorded for 1956, which is the one shown in Table 4, is probably more reliable. Even after making this adjustment the average sale price of the largest farms appears to have risen to well over three times the pre-war level. The index number for these farms stood at 332 in 1956 compared with a range of 185 to 244 for the other size groups in 1955–6.

This relative increase in the price of larger farms probably reflects the high profitability of the larger arable farms and the growing demand for farms large enough to secure the full advantages of large-scale mechanisation and operation. The relatively high prices paid for small-holdings in the early post-war years, which is a feature brought out by Table 1, can be attributed largely to the demand for residential holdings where farming efficiency was of less, and in some cases minor, importance.

CONCLUSION

The above analysis suggests that the trends in values discernible in the series of average sale prices and index numbers calculated from recorded data conform reasonably well with the general impressions gained from a knowledge of market conditions and can be satisfactorily explained in terms of major causal factors. It is therefore submitted that these statistics do, in fact, form an objective means of measuring general changes in farm sale prices. The limitations of the data upon which they are based have already been pointed out. With more comprehensive data, greater reliability of the general indexes would be ensured and, moreover, a comparative analysis of values by region and type of farms might also be possible. Such information is undoubtedly contained in professional records. Is there any possibility that it might be made available for research?

ACKNOWLEDGEMENTS

I am grateful to the Editor of *The Farm Economist* for permission to reproduce the section on sources of data from my original article and to other members of the Agricultural Economics Research Institute at Oxford for providing me with the data necessary to bring the series of farm sale prices up to date. I should also like to record my thanks to the Secretary of the Estate Exchange for the loan of a number of *Year Books* and to the Council and Secretary of The Royal Institution of Chartered Surveyors for permission to consult back numbers of *The Estates Gazette* in their library at Westminster.

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TABLE 4

Relative changes in the average prices of farms of different sizes

Vacant possession

Years	5 and under 50 acres		50 and under 100 acres		100 and under 150 acres		150 and under 300 acres		300 acres and over	
	£'s acre	Index No.	£'s acre	Index No.	£'s acre	Index No.	£'s acre	Index No.	£'s acre	Index No.
1938–39 ...	53·8	100	34·9	100	28·8	100	22·2	100	12·6	100
1944–45 ...	96·7	180	59·4	170	48·9	170	35·2	159	25·5	202
1950–51 ...	170·8	317	100·5	288	78·4	272	66·9	301	60·8	483
1955–56 ...	147·4	274	88·9	255	75·8	263	67·8	305	59·1	469

Without possession

Years	5 and under 50 acres		50 and under 100 acres		100 and under 150 acres		150 and under 300 acres		300 acres and over	
	£'s acre	Index No.	£'s acre	Index No.	£'s acre	Index No.	£'s acre	Index No.	£'s acre	Index No.
1938–39 ...	33·8	100	28·6	100	16·7	100	17·2	100	12·8	100
1944–45 ...	47·3	140	37·9	133	31·5	189	23·3	135	24·0	188
1950–51 ...	60·4	179	50·2	176	51·3	307	39·6	230	28·8	255
1955–56 ...	72·5	214	52·9	185	39·2	235	42·0	244	42·4*	332*

* 1956 only.

FARM RENTS AND TENURE

BY

J. T. WARD
B.Sc.(Econ.), B.Litt.

A PUBLICATION OF THE ESTATES GAZETTE, LTD.

MANY changes have occurred in the Pattern of Our Farming Systems since 1939 and discussion on the landlord tenant system has ranged far and wide in the last few years and has recently been concentrated on the Agriculture Act 1958.

Much has already been written about these matters in numerous papers and articles but it is thought that there may be a need for a rather longer study setting the background to the present position and also discussing future prospects and it is for this purpose that this book has been written.

Dealing with The Economic Basis of Farm Rent—The Decline in the Landlord Tenant System—Changes in Farm Rents 1939 to 1957—Low Rents and Security of Tenure—The Agriculture Act 1958—Some Alternative Proposals—Changes in the System of Tenure—Valuation for Rent.

15/-

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LECTURER IN AGRICULTURAL ECONOMICS

WYE COLLEGE (UNIVERSITY OF LONDON)

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Preface

DISCUSSION ON the landlord tenant system has ranged far and wide in the last few years and has recently been concentrated on the Agriculture Act, 1958. Some of the provisions of this Act have been introduced with the intention of lessening, albeit only slightly, security of tenure and of ensuring that rents awarded at arbitration are brought more into line with the general economic conditions of the industry. Much has already been written about these matters in numerous papers and articles but it is thought that there may be a need for a rather longer study setting the background to the present position and also discussing future prospects and it is for this purpose that the present book has been written.

I am indebted to the Principal of Wye College, Mr. Dunstan Skilbeck, who encouraged me to write this book, commented on it at various stages, and also wrote the foreword. I should also like to record my thanks to Dr. G. P. Wibberley and my colleagues in the Department of Agricultural Economics at Wye College and to Dr. O. T. W. Price for discussion on many points; to Mr. Derek Chapman, the Editor of the *Land Agents' Journal*, who published some of my preliminary ideas; and to the Ministry of Agriculture, Fisheries and Food for tracing information. None of them, of course, bears any responsibility for the views expressed in the book which remains that of the author alone.

Finally, I must thank my wife, Anne, for her patient encouragement while I have been writing this book.

J. T. WARD.

Wye,

April, 1959.

Foreword

THE CHANGES that have occurred in the pattern of our farming systems since 1939 have been remarkable; new enterprise, new technical knowledge, and a new economic climate have already gone far to alter the face of the countryside. This agrarian revolution, for it amounts to no less, has its counterpart in the changing pattern of the rural society and, in particular, the position of the agricultural landowner, once the dominating partner in the tripartite relationship of landowner, farmer and farm worker, has changed out of all recognition. The empty mansions and country houses stand as gaunt witnesses to the disintegration of many of the great estates. Those who still hold the so-called privilege of land ownership are yet faced with the concommitment of its responsibilities, though it may be questioned if the latter can be discharged effectively with but the shadow of the former. Will the landlord-tenant system, which has been such a characteristic feature of English agriculture over many generations, survive; what are the alternatives?

The magic of property has been held to turn sand into gold, a sentiment which may appear arguable to an owner-occupier suffering under the millstone of a heavy mortgage. It may, however, be concurrently held that a true economic rent is the finest stimulus to the efficient use of land on the part of both the landlord and the tenant farmer. It would seem certain that if the tripartite system is to survive it will be as necessary for the farming industry generally to accept a new attitude to agricultural rents as it will for landowners once again to adopt certain aspects of the hard business sense of their enlightened

XVIIIth century forebears. In these respects those involved in the interpretation of the relevant sections of the 1958 Act have a particular responsibility.

The author has made a searching analysis of what is admittedly an involved problem; he has admirably posed a challenge which it will be for those concerned to accept or reject.

DUNSTAN SKILBECK,

Principal of Wye College
(University of London).

Introduction

THE TWO major forms of land tenure under which farming is carried on in different parts of the world are owner-occupation and tenancy. In many countries owner-occupation is regarded as the ideal system of tenure, as much perhaps from the political and social point of view as from the economic. In others, tenancy in various forms is dominant although the rights and obligations of landlord and tenant vary greatly according to the system of tenancy practised.

In Great Britain a landlord-tenant system under which farms are let on an annual cash rent basis slowly developed out of the manorial system of mediaeval times and by the middle of the 19th century had assumed almost complete dominance. In the first half of this century, however, there has been a radical change in land ownership in this country, so that from a position just before the First World War in which some 80 per cent of the farm land in England and Wales was farmed by tenants, we have moved to one in which little over fifty per cent is still farmed on this system at the present time. From the limited amount of evidence available it seems that this proportion is falling further year by year. The prime cause of this decline has been the economic adversity which affected agriculture and depressed rents for over half a century, but there can be no doubt that institutional changes and in particular the gradual whittling away of the powers of the landlords have been important contributory factors.

The last twenty years of farming prosperity have not seen a revival of the system as might possibly have been expected, rather has its position weakened until there are today many experienced people who believe it to be in imminent danger of final collapse. In a paper on "Some Problems of Land Tenure" presented to the Agricultural Economics Society, Mr. Maunder

commented that, "The system of cash tenancy, while often considered to be the typical system of landholding in this country, is in fact diminishing in importance each year. This can be taken as a sign of its failure." He went on to say, "Speaking broadly the failure has not come from within. The system in theory possesses many desirable attributes but it seems to me that outside legislation is one of the many reasons for its decay."[1]

Professor E. F. Nash made the same point in an article in "*The Times*" of 5th February, 1958, when he concluded that, "But for the rigidities which now cripple its operation and threaten its survival (the English landlord-tenant system) could have been expected to continue for many years to fulfil the purposes which, by general agreement, it has so notably contributed in the past."

The rigidities in question are the high degree of security of tenure which has been granted to tenant farmers since 1941 and which has brought about undue inflexibility of tenancies, and the low level of farm rents which has resulted partly from security of tenure and partly from other causes. The general level of rents is perhaps the key to the whole position. The primary functions of contract rent in a cash tenancy system are to allocate agricultural land and the permanent equipment and buildings associated with it amongst the farmers competing for tenancies, according to their abilities, and to provide a flow of income to landowners which can be used to maintain the land and its equipment in a good state of repair. Provided market conditions result in an equilibrium rent these functions should be performed adequately and the system of tenancy be successful. But when, as in England and Wales at the present time, rents fall below this equilibrium level these functions can not be carried out correctly and the working of the whole system of tenure is adversely affected with consequential effects upon agricultural production.

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[1]A. H. Maunder "Some Problems of Land Tenure". *Journal of Agricultural Economics*, Vol. XII, No. 3, p. 288.

Chapter One

THE ECONOMIC BASIS OF FARM RENT

UNDER A CASH tenancy system of land tenure contract rent is the price paid for the use of agricultural land and permanent equipment which go to make up a farm, in the same way that wages are the price paid for the use of labour and interest the price paid for the use of capital. All are part of the price system, which, in a society based on free enterprise, is the mechanism by which the productive resources of a community are allocated, in accordance with the preference of consumers, amongst the many uses competing for them. If the demand for a product increases, its price will tend to rise and business men, seeking higher profits, will compete for the resources required to produce it, thereby increasing their price also and so attracting more of them into that line of production. Similarly, if the demand for a product falls the price of resources will tend to fall and some of them will be withdrawn from its production.

The Demand for Farms

In a free economy with no institutional restraints the level of rent, like the level of other prices, will be determined by the interaction of demand and supply. The demand for farms in a commercial agriculture is derived primarily from the demand for the food and other raw materials which can be produced from them. The qualification of a commercial agriculture is necessary because in a subsistence agriculture farms are wanted primarily for the shelter and food they provide for the farm family and the rents they fetch are to a large extent isolated from product prices on the market. In a highly commercialised

agriculture, such as that in Great Britain, although this factor is not altogether lacking the primary demand for farms is based on the incomes to be derived from them, and, therefore, indirectly upon product prices. When product prices increase farm incomes, or profits, tend to rise with them because costs lag behind product prices and are incurred at one level of prices, while, due to the relatively long period of production in agriculture, products are sold at another, higher, level. Conversely, during times of depression costs tend to remain high while product prices fall so that farm incomes fall heavily. As a result, farm profits are primarily dependent upon product prices so that when the latter rise the demand for farms increases, while when prices fall the demand for farms falls also. In short, the demand for farms depends upon the prosperity of agriculture.

The general level of rents offered at any time reflects the present and anticipated future level of farm profits. Anticipations of future profits must enter into valuations of this kind, and experience has shown that farmers tend to project into the future the prices, costs and incomes of the present and the two or three preceding years.

The Supply of Farms

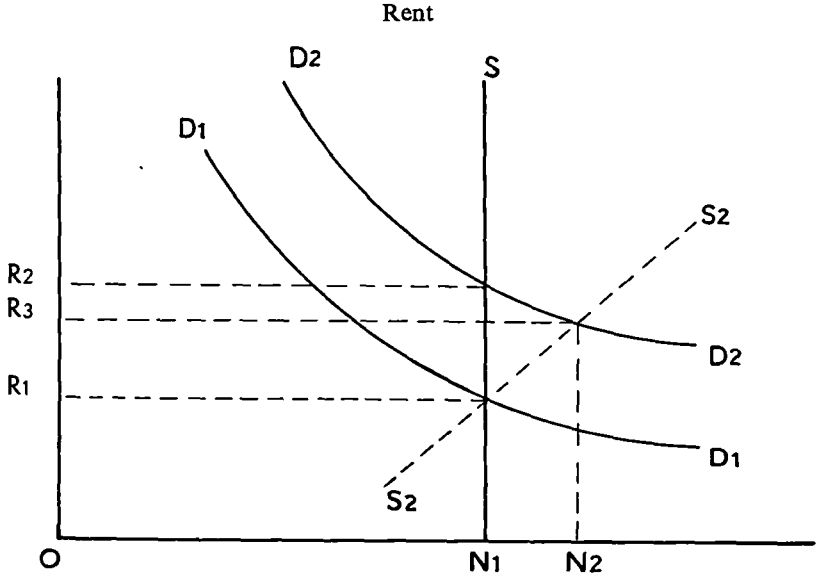
Unlike the supply of capital and labour, the supply of farms is fixed within relatively narrow limits, as geographical factors place limitations upon the amount of land, and the number of farms is primarily dependent upon historical and institutional factors. Moreover, leaving aside urban development which is a special case affecting only a small proportion of farm land, farms generally have no alternative use other than for agricultural production. In the short run, therefore, the number of farms will not respond to changes in the general level of rents, or, in technical terms, the supply of farms will be inelastic. The general level of rent will therefore be primarily determined by the state of demand, which in turn will depend upon the anticipated level of farm incomes.

This is illustrated diagrammatically in Fig. 1 below. The supply curve shown as N_1S is perfectly inelastic, ON_1 being the number of farms at a given moment of time. D_1D_1 represents the demand for farms at the prevailing level of product prices and

farm incomes. Like all normal demand curves it falls from left to right illustrating that the demand for farms will be greater at a lower general level of rent than a higher one. The equilibrium rent will be OR_1.

Now assume that product prices rise without any corresponding increase in costs so that farm incomes also rise. There will then be a new demand curve for farm tenancies shown in the diagram as D_2D_2. With the supply of farms constant at ON_1 the higher demand will result in the general level of rents rising to OR_2.

FIGURE 1



If supply were more elastic, as shown by the hypothetical curve S_2S_2 the increase in demand to D_2D_2 would call forth an increase in supply to ON_2 with the result that rents would only rise to OR_3 before a new equilibrium was reached. In other words, an increased demand for farm tenancies results in rents rising to a higher level than they would realise if the supply of

farms were more elastic, while if demand falls rents fall to relatively lower levels.

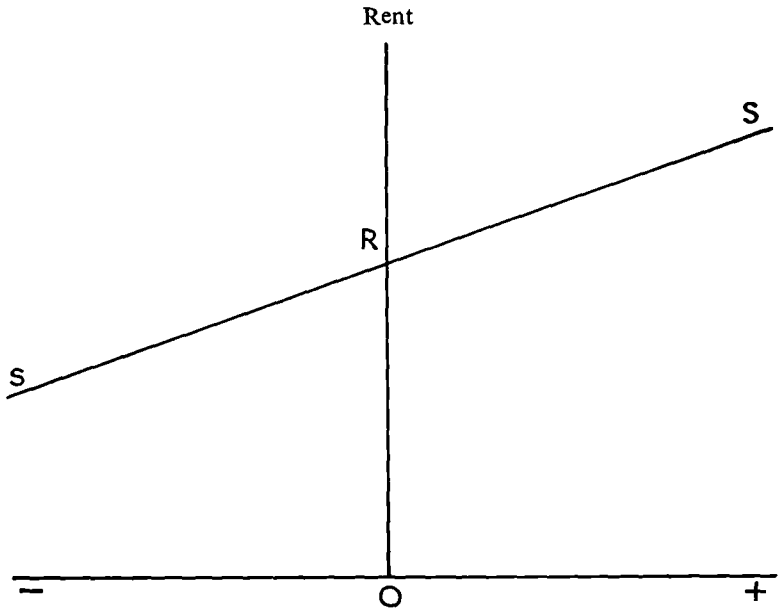
Now although the number or extent of farms can not be altered their economic productivity can, and this depends not only upon site and inherent fertility but also upon the provision and maintenance of many forms of permanent equipment which under a landlord-tenant system are the responsibility of the owner and for which he is rewarded out of the contract rent he receives. Moreover, and of greater analytical and practical importance, if improvements and permanent equipment are not maintained the land will become unusable in the long run. It is impossible to separate land from the improvements associated with it, and contract rent must, therefore, be considered as a payment for the land and improvements (including buildings) as an entity.

If contract rents fall below the level necessary to maintain permanent equipment in a good state of repair, production will suffer and if the neglect continues the land will eventually become unworkable. Conversely, if rents are high landowners will be encouraged to invest further capital in new improvements thereby increasing the productivity of their farms. In other words, in the long run, i.e. that period of time necessary for the provision and condition of permanent equipment to respond to changes in contract rent, there is a supply price as well as a demand price for farms considered as entities of improved land and permanent equipment.

It is possible to illustrate this supply function diagrammatically. In Fig. 2 the general level of farm rents is plotted along the y axis and net new investment in permanent equipment and buildings on the x axis. The crucial level of rent will be OR. Below this level repairs and maintenance will be neglected so that buildings and equipment will deteriorate. Above it, maintenance will be carried out and in addition new improvements will be made. At OR the position will be one of balance.

Potential or sitting tenants will be prepared to offer rents up to a level which will depend upon their estimates of future profits and their own personal preferences, while landlords will be obliged to accept any rent above the "transfer earnings" of the property (i.e. their earning in the next best use which may

FIGURE 2



Net new investment in permanent equipment and buildings

well be nil) although they will not be prepared to maintain permanent equipment unless the rent reaches a certain figure. This will generally be higher than the annual costs of repairs and maintenance and other outgoings a landowner has to meet, because if landowners receive no net return, i.e. if outgoings are as great as gross rents, then they have little incentive to maintain their property. Theoretically, it might be thought that landowners would meet these costs and have to accept the residual, if any, as their own reward, but in practice when rents are low landlords tend to neglect maintenance in order to preserve some net income. This net income is in the economic sense a real cost because if it is not paid the standard of permanent equipment will deteriorate and so the level of production will be affected.

During times of prosperity competition for tenancies will be strong and contract rents offered will generally be above the level the landowner requires in order to maintain the property

in a good state of repair. During periods of depression, however, the rents tenants will be able to offer, and still maintain solvency, may be below this level. In these circumstances repairs and maintenance will be neglected and no new improvements will be made.

The history of British agriculture during the past hundred years amply illustrates this point. During the "Golden Age" of the 1850's and 60's farm rents were relatively high and landowners invested considerable amounts of capital in drainage, farm buildings and other forms of improvement. In the depression years that followed, rents fell substantially, buildings and equipment were neglected and hundreds of thousands of acres of good farmland fell back to dereliction. After the short war-time break this process of deterioration continued during the acute depression of the inter-war years, and left British farming with a leeway of capital investment which has not yet been made good despite the prosperity of the industry and the taxation concessions and direct grants of the last twenty years.

Chapter Two

THE DECLINE IN THE LANDLORD-TENANT SYSTEM

THE ENGLISH landlord-tenant system, which had evolved slowly over the centuries from the manorial system, was at its peak during the second and third quarters of the nineteenth century. At that time more than eighty per cent of the farm land of England and Wales was owned by landlords who did not themselves farm extensively but let their land to tenants. Many of the larger tenants were in a substantial way of business and relied upon paid labour for running their farms. This pattern was characteristic of this country; most other European countries were still either feudal in organisation, as were Russia and other countries in Eastern Europe, or had moved from that stage to one dominated by small proprietors owning the land they farmed, as in France and much of Northern Europe. In new countries overseas, such as America, Canada, Australia and New Zealand, owner-occupation was the dominant system of tenure.

A striking feature of the English system was the great personal interest taken in agricultural affairs by the landlords who practised improvements on their home farms and encouraged, or enforced by covenant, their tenants to follow their example. Such control by landlords was possible because, through the legislation of a series of landed estate acts, landlords had by this time achieved virtually absolute powers of ownership, whereas such rights of tenants as existed related almost entirely to customary rights of compensation for improvements which were very limited and local in effect. Under the stimulus of this interest, and the prosperity of the

period, striking improvements in the science and practice of agriculture were made and many millions of pounds were invested in the land. Improvements in stock breeding, in cultivations and crop rotations, in drainage and manuring, in building and land reclamation were progressive and far-reaching in their effects. C. S. Orwin has summed up this period in the words, "Never at any other time in its history has the land been better equipped by the landlord, better cultivated by the farmer, nor has food production from it been more intensive".[1]

In marked contrast to this era of prosperity with high rents and heavy capital investment in agriculture, the next twenty years from 1876 to 1895 was a period of almost unrelieved depression. The depression was ushered in by a sequence of appalling seasons resulting in bad harvests and a great deal of disease amongst farm stock, and it was some time before it was fully appreciated that these adverse weather conditions were not the primary cause of the distress in agriculture, which was fundamentally due to a general economic depression and to the effects of rapidly increasing imports of grain and later of meat and dairy produce from the new countries overseas. By the turn of the century Britain, with a population of over forty million, was dependent upon overseas supplies for more than half her foodstuffs. This rapid increase in cheap imports of food undermined the existing structure of British Agriculture. The depth of the depression was reached in the years 1893 to 1895 and the Report of the Royal Commission on Agricultural Depression published in 1897 gives ample evidence of the dereliction of farm land and buildings and the general despair of landlord, tenant and worker. The same report draws attention to the fact that in the early years of the depression landowners, not appreciating the severity or long-term nature of the depression, attempted to maintain rents at their former levels with the result that many tenants were forced into bankruptcy. The landowners realised their error belatedly when they found they could not get a new tenant to accept farms at the old rents, or, in some cases, at any rent at all. This slow adjustment of rents to the changed economic conditions added to the severity of the depression.

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[1]C. S. Orwin. "A History of English Farming", Nelson, 1949, p. 73.

Lord Ernle writing of the 1880's said that "in the main landlords had accepted the position that there was little future for farming, that the development of their estates did not offer an outlet for their energies or capital comparable to those available elsewhere, and that their function was to be easy with their tenants in return for the sport and social status that the ownership of land conferred".[2]

To a considerable extent this attitude has persisted ever since. There are, of course, notable examples of private or public landowners who have maintained their interest in landed property as a business proposition, but they are the exceptions. Investment in agricultural property has not yielded the same return as investment in other forms of property, because farm rents have been adversely affected by the long periods of depression to which agriculture has been subjected during the last eighty years. The average level of farm rents today is little higher than it was in the early 1870's while in terms of purchasing power it is only a fraction of that level.

Over the same period estate costs have increased considerably, especially the cost of labour which has gone up from fifteen shillings a week in the 1870's to nearly two hundred shillings a week at the present time. The net rent of landowners has therefore been squeezed between falling gross rents and rising costs, while, to complete their discomfiture, it has been subjected to increasing rates of taxation. Income tax was 2d. in the pound in 1875 compared with a standard rate of 7s. 9d., (and higher rates on incomes subject to surtax) at the present time. Further, estate capital has been depleted by the imposition of estate duty upon agricultural land and, despite the abatement given to agricultural property since 1925, this has been a major factor contributing to the break up of the larger agricultural estates.

The effect of the reduction in both capital and income over a long period of time has been that British agriculture has been starved of the capital needed to maintain existing equipment in a good state of repair and to replace that becoming obsolete. Despite the prosperity of the last twenty years the rate of

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[2]Ernle. "English Farming Past and Present", 5th Edition, 1936, edited by Sir A. D. Hall, Longmans, pp. 386/387.

capital investment has not been high enough to make up for the neglect of the preceding sixty years. The fact that, even at the present inadequate rate of formation, much of it has to be financed by the State either directly through capital grants or indirectly through taxation relief of one form or another is an indication of a basic weakness in the structure of the industry.

In addition to this serious deterioration in the financial aspects of landownership the position of the landowner has also been undermined during the past eighty years. Under a series of Agricultural Holdings Acts dating from 1875 and culminating in the Act of 1948 the powers of the landowner over his tenant have been gradually reduced so that from his former dominant position in which he could not only prescribe cropping rotations and sales but could also evict his tenant at will, and without notice or payment for disturbance, he has been reduced to the junior partner in the relationship, "a mere receiver of an inadequate rent", while the tenant has been granted virtually all the rights of ownership without the responsibilities. It is of some interest to trace this development briefly over the years.

In 1875 an Agricultural Holdings Act was passed which sought to give to agricultural tenants compensation for any improvements they had made during their tenancy, based broadly on the lines suggested by the Pusey Committee which had investigated this problem a quarter of a century before. The Act was, however, permissive in nature in that landowners could contract out if they wished to do so, and so many took advantage of this provision that it has been called "a homily to landlords". In 1883 a second Act was passed making compensation for improvements and for tenant right compulsory. The significance of this Act was that it provided an incentive to improvement by encouraging a tenant to improve his holding without fear of financial loss when he left.

In 1906 a further important step was taken when the tenant was granted freedom of cropping and free sale of produce. Previously it had been customary for cropping to be closely prescribed in tenancy agreements and severe restrictions had been laid upon what produce could be sold off the land. Such restrictive covenants had been beneficial to agriculture as a

whole during an era when landlords took an enlightened and progressive interest in the practical aspects of farming and encouraged their tenants to improve their farming practices. During twenty years of severe depression, however, most landowners had lost their interest in agricultural affairs and the enforcement of cropping and sale restrictions which had been suitable to the system of farming of an earlier period now served mainly to prevent the struggling tenant from making a re-orientation to changed world conditions which was essential if British farming was to get back on to its feet.

Another provision of this Act was that the tenant was entitled to claim compensation if he was evicted "without good and sufficient cause and for reasons inconsistent with good estate management". Potentially, this provision was of great importance as the first step towards security of tenure but in practice it was not immediately effective due to the difficulty of assessing the amount of compensation. This drawback was later overcome by a provision of the Agriculture Act, 1920 under which the compensation due to a tenant for unreasonable disturbance was put at one year's rent unless the tenant could prove that the unavoidable costs of quitting the holding were greater, in which case he could claim for the full cost up to a maximum equal to two years' rent.

Under the 1920 Act provision was also made for arbitration for rents. Failing agreement between the two parties, either landlord or tenant could request arbitration for adjusting rent upwards or downwards as the case might be, and should the other party refuse arbitration could terminate the tenancy. If a tenant terminated the tenancy due to his landlord's refusal to go to arbitration he was entitled to claim compensation for disturbance, a provision which gave him a certain measure of security of tenure. These changes in the system of land tenure were subsequently re-enacted in the consolidating Agricultural Holdings Act of 1923.

The position then remained unaltered until the early years of the Second World War when a major step toward dual ownership of land was taken under a Defence Regulation of November 1941, which provided that notices to quit should be null and void unless approved by the Minister of Agriculture

as being in the national interest. This provision virtually removed the power of evicting a tenant from the landlord and vested it in the State. Its main purpose was to prevent speculation in land which might have created a position of insecurity for tenant farmers and so endangered the food campaign.

With the exception of this important wartime provision, relations between landlord and tenant of agricultural land were conducted for a quarter of a century under the Act of 1923. In 1947, however, an Agricultural Act was passed to form the basis of post-war agricultural policy and Part III and Schedules 3 to 7 of that Act, which related to agricultural holdings, were subsequently re-enacted along with the live parts of the 1923 Act in the Agricultural Holdings Act of 1948. The major provisions are still operative and those relevant to the present discussion are considered in some detail later. It is sufficient here to summarise them by saying that they are the culmination of the process by which the tenant farmer has achieved arbitration for rents, freedom of cropping and sale, compensation for improvements and a very high degree of security of tenure. The 1948 Act has, in fact, been summarised as the "nunc dimittis" of the English landowner.

As the position of the landowner has deteriorated so that of the tenant has improved. He has secured most of the advantages of ownership with few of the responsibilities so that the tenant farmer of today is in a very different position economically and socially from his predecessor of eighty years ago. Few tenant farmers have any wish to become their own landlords and although there has been a marked increase in owner-occupation during this century this may be attributed to the fact that landowners have no longer been able to maintain their estates rather than to any pressure for ownership from tenants.

During the decade following the First World War a very large number of farms in England and Wales were sold by landowners to their tenants. The wartime and early post-war boom in farm prices gave landowners an opportunity to sell. At this time the tenant did not enjoy the same degree of security of tenure as in more recent years and the landlord was empowered to evict him if he wished to sell the property. In such cases, the tenant was obliged to buy the freehold if he wanted

to stay on the farm and it was the usual practice for the landowner to give his tenant first refusal of the property at a fair price. In this way many tenants took on the responsibilities of ownership, not because they wished to do so but because it was the only way of securing their own occupation of the farm. Many were, in fact, severely handicapped by having to raise long-term capital on mortgage, thereby incurring a burden of heavy annual charges which was particularly onerous during the years of depression which followed the short-lived post-war boom.

During the agricultural depression of the 1930's there was even less incentive for the tenant to achieve owner-occupation. Moreover, since tenancies were relatively easy to obtain and there were fewer people willing to buy farm property the possibility of a farm being sold over the tenant's head was no longer such a real one. It would seem that few tenants bought their freeholds during this period and indeed the number of owner-occupiers appears to have fallen, a feature which was probably attributable primarily to foreclosures on farms whose owners were no longer able to meet interest charges on mortgage loans during the years of extreme depression. The mortgagees were frequently unable to sell such properties and obliged to put in a tenant, usually at a very low rent, in order to keep the land in some degree of condition. It is of interest to note in passing that during the same period there was a spectacular increase in tenancy in the Mid-West of the United States, an area devoted by tradition and philosophy to owner-occupation, due to the same causes.

The almost complete security of tenure which was introduced as an emergency measure in the early days of the Second World War and later embodied in a more permanent form in post-war legislation, removed the pistol from the tenant's head, but despite this there has been a steady increase in owner-occupation since 1939. The incentive to the landlord is clearly seen but why should the tenant oblige him in this way when he was no longer under duress to do so? The answer, paradoxically enough, lies largely in a side effect of security of tenure. As is shown in a later chapter, one of its results was to lead to a marked discrepancy between the price of farms sold without possession, that is subject to an existing tenancy, and those

sold with vacant possession. During the late 1940's this premium for possession amounted to as much as 100 per cent. When a farm was sold subject to an existing tenancy the only person able to obtain possession by purchase was the sitting tenant himself. This he normally did by agreement with his landowner but in cases where agreement was not reached and the property was put up for auction he was able to outbid the investor in the sale room. He was ensured an immediate appreciation in its capital value as he was then in a position to offer vacant possession if he wished to resell. It would seem that very few sitting tenants did in fact avail themselves of the opportunity to resell and realise a capital gain, the great majority preferring to stay on as owner-occupiers. The reason, of course, was that had they resold they would have found great difficulty in obtaining another farm to rent and would, in turn, have had to buy with vacant possession if they wished to continue farming.

The result of these changes is that whereas before the First World War approximately 80 per cent of the farm holdings above 5 acres in England and Wales were tenanted, by 1950, the last year for which official figures are available, the proportion had fallen to 60 per cent. There can be little doubt that it has decreased further since then. The general trend during the first half of this century is shown in Table 1, and the position in 1950 is shown in more detail in Tables 2 and 3.

TABLE 1

Year	*Holdings above 5 acres in England and Wales*	
	Owner-occupied per cent.	*Tenanted per cent.*
1911	20	80
1927	36	64
1941	34	66
1950	39	61

SOURCES: Agricultural Statistics, National Farm Survey Report and 1950 World Agricultural Census. See also statement by the Minister of Agriculture, Fisheries and Food (Mr. Hare) in the House of Commons on 15th December, 1958.

TABLE 2

Number of agricultural holdings farmed by owner-occupiers and by tenants in England and Wales, by size of holding, 1950

	5–49¾ *acres*		50–99¾ *acres*		100–299¾ *acres*		300–699¾ *acres*		700 *acres and over*		*Total acres*	
Tenure	000's	%	000's	%	000's	%	000's	%	000's	%	000's	%
Owned ...	70·9	45	20·0	34	22·6	32	4·5	32	0·9	35	118·0	39
Tenanted	84·8	55	39·3	66	48·8	68	9·5	68	1·7	65	184·1	61
Total...	154·8		59·3		71·4		14·0		2·6		302·1	

TABLE 3

Acreage of agricultural land farmed by owner-occupiers and tenants in England and Wales, by size of holding, 1950

	5–49¾ *acres*		50–99¾ *acres*		100–149¾ *acres*		150–299¾ *acres*		300 *acres and over*		*Total acres*	
Tenure	000's	%	000's	%	000's	%	000's	%	000's	%	000's	%
Owned ...	1331	43	1608	38	1482	37	2878	36	3393	38	10692	38
Tenanted	1737	57	2646	62	2541	63	5064	64	5521	62	17509	62
Total...	3068		4254		4023		7943		8913		28201	

Source: World Agricultural Census 1950.

Chapter Three

CHANGES IN FARM RENTS 1939 to 1957

The General Trend

THERE ARE no comprehensive data relating to changes in farm rents in England and Wales since the outbreak of the Second World War. The last major survey of rents was carried out for the National Farm Survey in 1941 and since then no adequate study has been made, although one is at present being undertaken by the Department of Estate Management at Cambridge. In default of any specific enquiry into the trend in rents an attempt has been made to calculate the trend over the last two decades from data collected primarily for other purposes.

The only source covering the whole period is The Farm Management Survey which provides information on rents for approximately 2,000 farms a year. The survey, which is representative of a large number of types of farming, is conducted by the University Departments of Agricultural Economics and the results are used as basic information for the February Price Reviews. Information for the years 1944-45 onwards has been published by the Ministry of Agriculture, Fisheries and Food in the annual reports on "Farm Incomes in England and Wales" and that for 1939 to 1943 was set out in an unpublished memorandum on "The Rent of Agricultural Land in England and Wales" by the Agricultural Economics Research Institute at Oxford.

The rent data are, however, subject to a number of disadvantages. In the first place, the average size of farm in the

Survey is relatively large, varying between 170 and 210 acres, according to the year of survey, compared with an average for the country as a whole of 83 acres. As there is a strong negative relationship between farm size and rent per acre the average rent recorded in the Survey is likely to be lower than the true average for the country as a whole. The discrepancy, however, is probably not very large. The average rent recorded in the National Farm Survey of 1941-43 was 27 shillings an acre for all farms and 25 shillings an acre for farms of 100-300 acres. The average rent for the Farm Management Survey farms at

TABLE 1

Farm rent per acre in England and Wales, 1939 *to* 1956–57
(*based on the Farm Management Survey*)

Year	*Number of farms*	*Average size (adjusted acres)**	*Rent shillings per adjusted acre*		*Annual change*	*Index number*
			s.	d.	*per cent*	(1939=100)
1939	1515	203	24	0		100
1940	1764	209	22	9	— 5	95
1941	1735	207	24	2	+ 6	101
1942	1828	200	24	7	+ 2	102
1943	1875	190	25	7	+ 4	107
1944/45	2274	179	24	7	— 4	102
1945/46	2609	173	25	0	+ 2	104
1946/47	2717	175	25	10	+ 3	108
1947/48	2806	177	25	10		108
1948/49	2397	173	26	7	+ 3	111
1949/50	2518	174	27	7	+ 4	115
1950/51	2203	168	29	3	+ 6	122
1951/52	2140	171	30	0	+ 3	125
1952/53	2117	169	31	6	+ 5	131
1953/54	2130	173	32	10	+ 4	137
1954/55	2078	177	35	2	+ 7	147
1955/56	2089	186	37	2	+ 6	155
1956/57	2056	186	39	0	+ 5	163

*In order to facilitate comparison between types of farming groups and from one year to another rough grazings have been reduced to an equivalent area of crops and grass.

this period was approximately 25 shillings an acre. Secondly, the figures quoted for rent in the reports include all farms, "whether rented, owned or part owned/part rented so as to bring them to a comparable basis. In the case of owner-occupied farms the rent charged is equal to the usual rent for a farm of the same size and type to a tenant with equal length of occupation including appropriate allowances for improvements during the occupation. The charge for rent shown in the tables includes cash rents, rental values and interest on improvement whether carried out by owner or tenant".[1] The average rents recorded, therefore, contain some degree of estimation in so far as they include a number of owner-occupied farms. In view of these qualifications the absolute rents given in Table 1, which is based on the Farm Management Survey, should be regarded as minimum figures in relation to the probable level and movement of average rents for the whole country.

It is possible to compare part of the trend shown in Table 1 with one based on information contained in the series of reports published by the Country Landowners' Association under the title "An Enquiry into Agricultural Rents and the Expenses of Landowners in England and Wales". These reports cover the years 1938, 1946, 1947, 1949, 1950 and 1951 only but they relate to a much larger sample of farms. The number of estates included in the survey varied from 353 comprising 1,758,000 acres in 1946-47 to 253 of 1,267,000 acres in 1951, while the figures shown in the table below are based on an identical sample of 143 estates.

Geographically the sample was well distributed in England although rather under-represented in Wales. It cannot be regarded as representative of all tenanted farms in these countries, however, because of the predominance of large estates and publically owned estates in the sample. Dr. Denman has pointed out that the rents on these large estates tend to be lower than on smaller estates.[2] The trend in rents may also be somewhat different.

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[1]"Farm Incomes in England and Wales 1954-55", H.M.S.O. 1957, p. 5.

[2]D. R. Denman, "Estate Capital", Allen & Unwin, 1957, p. 133.

TABLE 2

Farm rent per acre in England and Wales 1938 *to* 1951
(based on the Country Landowners' Association Survey)

Year	*Acreage let*	*Rent per adjusted acre*	*Annual change*	*Index number* 1938 = 100
	acres	s. d.	*per cent*	
1938	791,636	25 7		100
1946	855,996	27 4	+ 7	107
1947	857,232	28 2	+ 3	110
1949	849,532	29 7	+ 5	116
1950	849,189	31 5	+ 6	123
1951	839,875	33 6	+ 7	131

The table shows a steady increase in rents during the post-war years. A small part of this general increase was due to fairly substantial increases in the rents of a small number of holdings on a change of tenancy. For example, in 1950 changes in tenancy on 413 holdings, just under 3 per cent of the total number in the sample, were recorded, resulting in an average increase in rent of 44 per cent. The number of holdings changing hands are proportionately so small, however, that although they raise the general average slightly the major cause of the upward trend can be attributed to an increase in rents paid by sitting tenants.

The resemblance between the two series of figures, which are compared in Table 3, is striking and the trend conforms closely to the general consensus of expert opinion. It would seem to justify the general conclusion that rents increased very little during the war years, although payments actually made increased as the practices of granting remissions and of allowing arrears to accumulate, which were prevalent before the war, virtually disappeared with the increase in prosperity. By 1948 a more definite upward movement had become apparent and rents have increased more rapidly since then. By 1956-57 the average rent of 39 shillings per acre was some 60 per cent above the pre-war level, and was increasing at a rate of between 5 and 9 per cent per annum. If, as reports indicate, the rate of increase has continued around 7 per cent since then, it is probable that

the average level of rents on farms similar in size to those in the Farm Management Survey reached 41s. 6d. per acre by 1958, or approximately 75 per cent above the pre-war figure, while if an allowance is made for some under-estimation in the trend calculated from the Farm Management Survey data, then an increase of 100 per cent seems quite probable.

TABLE 3

The Trend in Rents

Year	*F.M.S.*[3] *Index number*	*C.L.A.*[4] *Index number*
1938 (9)	100	100
1946	107	107
1947	107	110
1948	111	NA
1949	115	116
1950	122	123
1951	125	131
1952	131	NA
1953	137	NA
1954	147	NA
1955	155	NA
1956	163	NA

Types of Farms

The rental figures quoted from the Farm Management Survey Reports so far are averages for all types of farms. They are based upon rents of some 2,000 farms which are classified into broad types of farming groups. In pre-war and early war years the major type groups distinguished were grass farms, mixed farms and arable farms, but since 1944-45 the grass farms have been sub-divided into dairy farms and a number of other livestock groups. The latter have varied considerably over the years and it is not possible to calculate any trend for farms of these types, but broad trends can be shown for mixed and arable farms throughout the period and for dairy farms from 1944 onwards.

[3]Farm Management Survey.
[4]Country Landowners' Association Survey.

The composition of the farms included in these groups has however changed over this period so that the trends in average rents shown in Table 4 should be regarded as no more than broad approximations.

TABLE 4

Farm rents in England and Wales 1939 *to* 1956–57
by major types of farming

Year	*Dairying* (*av. size approx.* 120 *acres*)		*Mixed* (*av. size approx.* 230 *acres*)		*Arable* (*av. size approx.* 190 *acres*)	
	Rent per acre	*Index No.*	*Rent per acre*	*Index No.*	*Rent per acre*	*Index No.*
	s. d.	(1944 = 100)	s. d.	(1944 = 100)	s. d.	(1944 = 100)
1939	N.A.		21 2	90	20 2	87
1940	N.A.		21 2	90	19 10	86
1941	N.A.		21 10	93	20 7	89
1942	N.A.		21 10	93	21 0	91
1943	N.A.		22 10	98	21 10	94
1944	30 5	100	23 5	100	23 2	100
1945	30 9	101	24 2	103	24 7	106
1946	30 9	101	24 7	105	25 0	108
1947	31 7	103	25 2	108	25 9	111
1948	32 9	107	26 0	111	26 5	114
1949	33 7	110	27 10	119	27 7	119
1950	40 4	132	28 2	120	30 4	131
1951	42 1	138	29 2	125	31 2	135
1952	42 4	138	30 9	131	32 7	141
1953	45 0	147	32 4	138	34 4	148
1954	48 0	157	35 4	151	36 4	157
1955	48 2	158	37 5	160	40 7	175
1956	50 5	165	40 0	170	41 5	179

N.B.—The average rents given in the table should not be used for comparison between types of farms because of the differences in average sizes.

It seems that the increase in rents of both mixed and arable farms was relatively small during the war years and it is probable that the same was true for dairy farms. Since 1944-45 there has been a more pronounced increase for all these types with arable farming showing the sharpest rise. This may be attributed to

the fact that arable farming was the most depressed during the 1930's and that from the outbreak of war until the mid 1950's agricultural policy, and the structure of product prices, was largely directed to encouraging an increase in the arable acreage.[5] Moreover, many of the scientific advances, such as improved strains of crops and technical improvements such as power farming, developed during these years, have been directly beneficial to arable farming. During the past two or three years considerable increases in rent have been noticed on many farms of this type, particularly the larger ones.

The financial information available for upland livestock farms is not sufficiently consistent to allow for a similar calculation, but it suggests that there has been very little increase in rent on farms of this type, and that on the poorest land they may actually have fallen. This impression is supported by the experience in Scotland where over the same period relatively large increases in rents were recorded for arable and dairy farms while rents on upland farms remained stationary or fell. This reflects the decline in sheep and cattle farming during the war years and the relative depression which has continued in the so-called marginal areas since then despite the aid of direct and indirect subsidies.

Rent, Gross Revenue and Expenditure

The slow increase in rents relative to the changes in other items of cost and of farm revenue has resulted in a marked change in a number of economic relationships which had been accepted as normal in the pre-war years of greater stability but less prosperity. The "Farm Incomes" reports contain data relating to all farm expenses and revenue and it is therefore possible to study the changes in these relationships in factual terms over this period. The general trends are illustrated in the tables below.

In 1939 rent accounted for 10 per cent of the total revenue of all farms, or approximately twice its proportion in 1956-57, while the same general relationship held for all major types of

[5]It was recorded in the surveys of farm rents published by the Ministry of Agriculture and Fisheries in the Agricultural Statistics for 1924 and 1931 that the rent of arable farms fell more sharply during the Great Depression.

farming. The position recorded for the years 1944-45 indicated that the greater part of the change had taken place during the five years of the war. The trend of rent as a proportion of total farm expenditure was almost identical. The proportion fell from just over 11 per cent before the war to 8 per cent in 1944-45 and 5½ per cent in 1956-57.

TABLE 5

Rent as a proportion of farm revenue in 1939, 1944/45 and 1956/57

Farming type	1939	1944/45	1956/57
	per cent	*per cent*	*per cent*
Dairying ...	10·4	7·0	5·2
Livestock farms		8·4	4·5
Mixed farms ...	10·3	6·2	4·6
Arable farms ...	9·3	6·1	4·9
All types ...	10·1	6·6	4·7

TABLE 6

Rent as a proportion of total farm expenditure in 1939, 1944/45 and 1956/57

Farming type	1939	1944/45	1956/57
	per cent	*per cent*	*per cent*
Dairy farms ...	11·6	8·7	6·0
Livestock farms		10·5	5·5
Mixed farms ...	11·3	7·5	5·4
Arable farms ...	11·0	7·4	5·8
All types ...	11·3	8·1	5·6

Source: Farm Management Survey.

Rent and Profit

By far the most significant change during this period is that which has taken place in the relationship between rent and farm profit. Before the war the average contract rent was about seventy-five per cent of the average farm profit. In general

terms, farm profits averaged about 30 shillings an acre while rents were around 22 shillings. Actual payments of rent were, however, less than the contract figure because of the widespread practice of granting rebates or of allowing arrears to accumulate. Nevertheless, rent was relatively high in relation to the level of profit. This relationship was quickly transformed, however, during the early war years due to the rapid increase in profits resulting from the introduction of guaranteed prices. A study of the farm management survey data suggests that as early as 1940 profits had risen nearly threefold so that average rents had fallen to only 27 per cent of profit. With the exception of certain years, notably 1947-48, when extreme weather conditions had a very marked effect upon farm profits this relationship has remained remarkably constant and for the last three years has stood at 29 per cent. Annual figures are given in Table 7 below. A more detailed analysis of the present relationship between farm profits and rents is made in Chapter V.

TABLE 7

Farm rents and profits 1939 *to* 1956/57

	Profit £'*s per acre*	*Rent* £'*s per acre*	*Rent as per cent profit*
1939	1·50	1·20	80
1940	4·20	1·14	27
1941	4·98	1·21	24
1942	5·10	1·23	24
1943	4·91	1·28	26
1943	4·91	1·28	26
1944/45	3·47	1·23	35
1945/46	4·27	1·25	29
1946/47	3·80	1·29	34
1947/48	2·56	1·29	50
1948/49	4·96	1·33	27
1949/50	5·02	1·38	27
1950/51	4·85	1·46	30
1951/52	5·76	1·50	26
1952/53	5·98	1·57	26
1953/54	7·51·	1·64	21
1954/55	6·17	1·76	29
1955/56	6·37	1·86	29
1956/57	6·55	1·90	29

Source: Farm Management Survey

Rent and Landowners' Outgoings

So far, the trend in gross rents only has been considered but from the landowners' point of view it is changes in net rent which are of greater importance. Unfortunately, details of landowners' outgoings are not available over the whole period as they are not included in the items of cost taken into consideration for the February Price Reviews. Information over the years 1938 to 1951 is, however, available in the reports published by the Country Landowners' Association, and a calculation of the trend in net rent, based upon the information contained in these reports is given in Table 8. Reference has already been made to the unrepresentative nature of the sample of estates included in the Country Landowners' Association survey and it is possible that as a result the proportion of outgoings to gross rent may be overstated in relation to the position in the country as a whole.

Due to the rapid increase in the cost of repairing and maintaining farm property, and the slow rise in gross rents, landowners' outgoings assumed an increasing proportion of gross rents during much of the period 1938 to 1951. Net rents fell not only in relative but also in absolute terms until 1949 and although they recovered slightly after that year they were still below the pre-war level in 1951. The position since then is not known in detail but it is probable that in the last few years gross rents have been increasing at a greater rate than outgoings so that net rents may have been increasing. A second point which emerges from the figures shown in Table 8 is that after 1946 net rents were no longer adequate to cover costs of improvements which must to some extent have been financed from sources outside agriculture.

The Yield on Capital

During this period the capital values of tenanted farms have appreciated much less than those of vacant possession farms but, even so, until 1951 they increased proportionately more than farm rents with the result that the yield on investment fell until that year although it has increased slowly since then. A broad estimate of the trend in yield is shown in Table 9 which has been calculated from the results of auction sales, at

TABLE 8

Gross rents and landowners' outgoings on an identical sample of 143 estates in 1938, 1946, 1947, 1949, 1950 and 1951

Year	*Gross rent*	*Repairs and maintenance*	*Statutory charges*	*Repairs and maintenance and statutory charges*		*Net rent*		*Improvements*
				Total	*Proportion of gross rent*			
	shs. per acre	*shs. per acre*	*shs. per acre*	*shs. per acre*	*per cent*	*shs. per acre*	*Index No. (1938=100)*	*shs. per acre*
1938	23·6	8·2	1·9	10·1	42·8	13·5	100	3·8
1946	25·2	9·8	1·7	11·5	45·7	13·7	101	6·1
1947	26·0	12·1	1·8	13·9	53·4	12·1	90	8·1
1949	27·2	16·6	1·9	18·5	68·1	8·7	64	11·8
1950	28·9	17·1	1·9	19·0	65·8	9·9	73	14·5
1951	30·8	17·7	1·7	19·4	63·0	11·4	84	16·9

Source:—Country Landowners' Association's reports on "Agricultural Rents and the Expenses of Landowners in England and Wales".

Note:— Statutory charges include tithe, land tax and rates.

which both sale prices and rents were recorded, published in "*The Estate Exchange Year Book*" and "*The Estates Gazette*". For the limited number of sales recorded, the gross yield averaged 5½ per cent in the years just before the war and then fell steadily and continuously to little over 3¼ per cent in 1951. This fall reflected the fact that the average sale value of tenanted farms more than doubled during this period from under £20 an acre to more than £40 an acre whereas gross rent probably increased at the much slower rate of 30 per cent or so. The easing of investment prices during the last few years, together with the gradual increase in rents has resulted in an upswing in the rate of yield and the average gross yield for the limited number of sales recorded was 3.9 per cent in 1954, 4.2 per cent in 1956 and 4.5 per cent in 1957. These latter figures must, however, be regarded with considerable reserve because they relate to very few farms, although the range in yield was surprisingly limited.

TABLE 9

Rate of yield on investment in tenanted farms in England and Wales and on 2½ per cent Consols, 1937-39 *to* 1958

Year	*No. of farms recorded*	*Average gross yield per cent*	*2½% Consols net yield per cent*
1937-39	341	5·5	3·5
1941	240	4·4	3·1
1943	248	4·2	3·1
1945	294	4·0	2·9
1947	111	3·7	2·8
1949	171	3·6	3·3
1951	131	3·3	3·8
1954	70	3·9	3·8
1956	40	4·2	4·7
1957	20	4·5	5·0
1958	33	4·0	4·7

If allowance were made for landowners' outgoings the average net yield on investment would be considerably lower. On the basis of gross yields and the ratio of outgoings to gross rents recorded in Table 8 it would appear that the net yield on

farm property would be approximately 3¼ per cent before the war, roughly equal to that on Consols but only 2¼ per cent, or half that on Consols in 1957, while in 1951 it may have fallen as low as 1¼ per cent compared with 3¼ per cent on Consols. These figures can be regarded as no more than tentative, however, because of the small number of farm sales upon which some of them, especially in recent years, were based, and the fact that the information on outgoings necessarily came from a separate survey.

A comparison of this nature should not be taken too far because, unlike the annual return on Consols, the return from investment farms may be increased. In the first place, the rent ruling on a farm when it is purchased may be increased by a landlord prepared to press for it and to resort to arbitration as frequently as he is entitled to under the 1948 Act. Secondly, a landlord is entitled to charge interest, at a rate which must be agreed with his tenant but which in practice cannot be divorced too far from market rates, on improvements to the property, and he may, therefore, regard a farm as a suitable form of property for investing further capital. Such improvements if carried out with due regard for their merit in increasing the productivity and saleability of the property, will benefit the landowner in three ways. He will get a reasonable return on his capital outlay, he will increase the capital value of the property and so enhance his prospects of future capital gain, and he will be entitled to important taxation concessions. Furthermore, in the event of the sitting tenant quitting the holding, the landowner can put in a new tenant at an economic rent, farm the property himself, or resell with vacant possession to secure a capital gain which is not subject to taxation.

The Social Income of Agriculture

During the period under review the increase in rents has been proportionately far less than that in farm wages and in farm profits. Broadly, wages in 1956-57 were nearly four and a half times as high as before the war and profits were more than five and a half times greater, whereas rents were no more than twice as high. Detailed figures are given in Table 10. Two-yearly averages have been used to "average out" variations in profits which fluctuate fairly widely from one year to another. The data

TABLE 10

Relative changes in farm wages, profits and rent, and in the distribution of the social income of agriculture 1937/38–1938/39, 1943/44–1944/45 *and* 1955/56–1956/57

Years	*Wages*			*Profits*			*Rent*			*Social Income of Agriculture*	
	Total	*Index No.*	*% of social income*	*Total*	*Index No.*	*% of social income*	*Total*	*Index No.*	*% of social income*	*Total*	*Index No.*
	£ *million*	(1937/8–1938/9 =100)	*per cent*	£ *million*	(1937/8–1938/9 =100)	*per cent*	£ *million*	(1937/8–1938/9 = 100)	*per cent*	£ *million*	(1937/8–1938/9 = 100)
1937/8–1938/9	66	100	41	57	100	35	40	100	24	163	100
1943/4–1944/5	161	244	39	209	367	51	42	105	10	412	253
1955/6–1956/7	291	441	43	320	561	47	65	163	10	676	415

Sources:—Murray, K. A. H. "History of the Second World War—Agriculture", Appendix IX and "Annual Review and Determination of Guarantees" 1957 and 1958. (Cmnd. 109 and Cmnd. 360).

for wages and profits have been taken from official statistics which in recent years have been published in the "Annual Review and Determination of Guarantees" after the February Price Review. Unfortunately, no separate item is given for rent, although a composite figure for rent (including rental values) and interest is given. This covers not only interest paid by tenants to landlords but also interest payments on short-term loans from banks, merchants and other sources. This item was relatively small before the war but has become of greater importance since due to the large increase in the amount of working capital involved in farming. The figures for rent given in the table have therefore been derived from total acreages and assumed average rentals. Taking 1955-56—1956-57, if the 31.1 million acres of crops and grass in the United Kingdom are valued at £2 an acre and the 16.7 million acres of rough grazing at 4s. an acre, a total rental value of £65.3 million is obtained. This compares with an average of £82 million quoted in the Annual Reviews for rent and interest for these two years. The figure of £65 million is a gross one, however, and if, as would seem to be the case, landowners' expenses have increased in greater proportion than gross rents during this period then the increase in net rents will be even less than 63 per cent over pre-war.

As a result of these relative changes there has been a considerable change in the distribution of the social income of agriculture amongst the three partners. This is also shown in Table 10. Before the war, wages accounted for 41 per cent of the total income, profits for 35 per cent and rent (including the rental values of owner-occupiers) 24 per cent, but by the end of the war there had been a substantial improvement in the position of farmers, whose share had risen to 51 per cent, largely at the expense of landowners who suffered a fall to 10 per cent. Since then, there has been no further major change, although farm workers have more than regained their slight fall during the earlier period while the farmers' share has eased to 47 per cent and that of landowners has remained at 10 per cent. Once again, if net rather than gross rents could be taken, the position of the landowner would look even less favourable. After paying outgoings he probably retains no more than 5 per cent of the total income of agriculture at the present time. The fact that the farmers' gain has been at the expense of the landowner

lends support to the argument that through the peculiarities of the present landlord-tenant system, the increased profits due to greater prosperity in farming have "stuck" with the farmer and have not been competed away into larger rents as would probably have happened on a free market.

Chapter Four

LOW RENTS AND SECURITY OF TENURE

THE EVIDENCE considered so far does not *in itself* prove that there is anything wrong with the general level of farm rents in Great Britain at the present time. The yield on agricultural property has traditionally been low in this country, due basically to the fact that there are many inducements other than rent to invest in this form of property. Moreover, the relative decline of rent as a proportion of farm output and expenses, and of the share of landowners in the social income of agriculture and of the national income is not a new phenomenon but rather the speeding up of a process which has been evident since the onset of the agricultural depression in the late 1870's. Nor is it confined to this country. Recent studies, and in particular those by Professor Schultz[1] and Dr. Price[2], have shown it to be one of the characteristics of economic growth resulting from a relative decline in the significance of agricultural land as a factor of production.

There are two basic causes of this trend. In the first place, as a society develops economically a smaller proportion of its income is spent on food and a greater proportion upon manufactured goods and upon personal services. For example,

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[1] T. W. Schultz, "The Declining Economic Importance of Agricultural Land", *The Economic Journal*, Vol. LXI, No. 224, December 1951.

[2] O. T. W. Price, "The Economic Significance of Land as a Factor of Production with particular reference to Agricultural Land", *The Farm Economist*, Vol. VII, No. 6, 1953.

before the Industrial Revolution transformed this country, nearly 75 per cent of the national income was spent on food, whereas at the present time only 25 per cent is accounted for in this way. A falling income elasticity of demand for food is typical of all communities as they develop from what Professor Schultz has called "high-food-drain" economies to "low-food-drain" economies. Secondly, within agriculture itself economic and technical innovations have resulted in a relative decline in the contribution made to total output by land and fixed equipment and a relative increase in the significance of working capital and of technical and managerial ability. This is the result of the application of science to plant and animal breeding, of the development of artificial fertilizers, and of the mechanisation of farm operations. One facet of this is that the annual expenditure by British farmers on artificial fertilizers is greater than the total rental value of all the farms in the United Kingdom. The relevant figures for 1957-58 were: rent (including rental values of owner-occupied farms) and interest—£87·5 million; fertilizers—£93·5 million.[3]

There is considerable evidence, however, that the present low level of farm rents can not be attributed solely to this trend, important though it may be, but is in large measure due to a state of equilibrium in the farm real estate market. In the first place, the number of potential tenants seeking farms far exceeds the supply of farms to let. This excess of unsatisfied demand results in the high rents which are tendered on the few occasions when farms are placed on the market. The prudent landlord does not accept the highest tender regardless of other considerations but he is invariably able to obtain a sound tenant at a rent substantially higher than that obtained under the previous tenancy. Any reasonable farm will attract hundreds of enquiries and scores of genuine offers. In the last year or so it has become quite common for offers of up to £8 an acre to be tendered for good, well-equipped farms, while even comparatively poor ones have realised £3 to £4 an acre. Moreover, a great number of the unsuccessful offers are higher than the rents currently being paid by sitting tenants for similar farms. It seems evident that many sitting tenants are paying less for their farms than they would have to pay under more competitive conditions.

[3]Cmnd. 696, "Annual Review and Determination of Guarantees, 1959".

Secondly, a substantial premium has been created for farms sold with vacant possession. During the years of the expansion programme from 1947 to 1952 the average price of farms recorded sold with vacant possession was more than twice as high as that of farms sold subject to a tenancy, while even in the last few years when rents have been increasing although farm incomes have become more stabilised, the premium has still amounted to more than 60 per cent. A comparison of average sale prices of vacant farms and investment farms and a calculation of the premium for possession is given in Table 11.

TABLE 11

Average sale prices and index numbers of farms sold in England and Wales, 1938 to 1957, and premium for vacant possession

Year	*Vacant possession*		*Without possession*		*Premium for possession*	
	Average price £'s *per acre*	*Index no.* 1938-9 = 100	*Average price* £'s *per acre*	*Index no.* 1938-9 = 100	£'s *per acre*	*per cent*
1938	27	104	19	100	8	42%
1939	25	96	19	100	6	32%
1940	31	119	19	100	12	63%
1941	37	142	27	142	10	37%
1942	38	146	25	132	13	52%
1943	47	181	27	142	20	74%
1944	45	173	29	153	16	55%
1945	45	173	29	153	16	55%
1946	59	227	31	163	28	90%
1947	70	269	34	179	36	106%
1948	80	308	43	226	37	86%
1949	76	292	38	200	38	100%
1950	80	308	39	205	41	105%
1951	88	338	44	232	44	100%
1952	76	292	38	200	38	100%
1953	73	281	35	184	38	109%
1954	75	288	41	216	34	83%
1955	80	308	52	274	28	54%
1956	78	300	46	242	32	70%
1957	83	319	48	253	35	73%
1958	90	346	54	284	36	67%

Source: J. T. Ward, "Measuring Changes in Farm Sale Prices", "*The Chartered Surveyor*", December 1957, and "A New Peak in Farm Prices?", *The Estates Gazette*, 31st January, 1959.

The premium has been calculated as the difference between the average prices of farms sold with possession and those sold without possession, and in the last column of the table it is shown as a percentage of the latter. It is probable that these data exaggerate the premium to some extent because some of the best investment farms are sold privately and are therefore not included in the auction results which have been used as the basis of calculation, but this factor is not likely to be of major importance.

The premium for possession measures the difference in the values placed upon unoccupied and tenanted farms. The purchase of a farm with a sitting tenant secures a series of low rents which may prove difficult, inconvenient or even impossible to raise. The purchase of a farm with possession on the other hand, secures the right to share in farm profits, and has become almost the only way by which anyone wishing to farm on his own account can get into the industry.

The annual and capital values which are recorded for farms let or sold under competitive conditions provide the only objective valuation there is of the economic worth of an entry into farming. The high level of rents offered at tender has already been referred to, and prices paid for farms sold with vacant possession can be expressed in comparable terms. For example, a mixed farm of (say) 250 acres of average fertility, and with good equipment and situation, might cost £80 an acre, or £20,000 in all, if bought with vacant possession. A farmer with limited capital buying for occupation would normally have to borrow most of this amount. The annual sum required to pay off capital and interest at 6 per cent on a loan of £20,000 over twenty-five years is approximately £1,550 or £6 5s. an acre. In addition, the occupier would have to pay the landowner's outgoings, of (say) £1 an acre, and would therefore be faced with total ownership costs of £7 5s. an acre.

It is true that in twenty-five years' time the capital loan will have been repaid and the annual loan charge will therefore cease, but future events tend to be discounted heavily and the realisation that annual costs will be less in the distant future is not adequate compensation unless the present loss in income

is proportionate. To allow for this, however, the alternative case may be considered in which a purchaser finds the capital to purchase his farm not by raising a loan on mortgage but by withdrawing capital he already possesses from alternative investment. In such a case he will be giving up the right to (say) 5 per cent on his capital in perpetuity. At a purchase price of £20,000 this represents an annual loss of £1,000, which is equivalent to £4 an acre. In addition he will have to meet the owner's expenses of £1 an acre, making £5 an acre in all.

These annual charges are very much higher than the average level of rents paid on many farms which have been subject to the same tenancy for some years. Amongst the more important of the factors which have led to this state of disequilibrium are the large measure of security of tenure afforded to sitting tenants, and the relative failure of the system of arbitration to provide an effective substitute for competitive rental bidding.

Security of tenure, in the form which has become familiar over the past two decades, was first introduced by a Defence Regulation in November 1941 which provided that notices to quit should be null and void unless approved by the Minister of Agriculture. The Minister's prerogative was subsequently retained under the Agriculture Act, 1947, and re-enacted in the consolidating Agricultural Holdings Act, 1948. Under Section 23 of the 1948 Act the grounds on which a landlord could obtain possession of a holding without the consent of the Minister, were limited to: failure of the tenant to pay rent, failure to remedy a breach in the tenancy contract, bankruptcy or death of the tenant. The grounds on which the Minister was empowered to grant notices to quit were: that is was in the interests of good estate management or good husbandry, that the land was required for agricultural research or education, that it was required for a non-agricultural use, or that, in certain specified cases, the landlord would suffer greater hardship than the tenant if the Minister did not consent. For eviction in the interests of good husbandry, provision was made for the landowner to apply to the County Agricultural Executive Committee for a Certificate of Bad Husbandry which, if granted, was sufficient grounds for enforcing a notice to quit.

As a result of these provisions the tenant achieved virtually complete security of tenure. The effect was to eliminate the

competitive element from the determination of rents except in the few cases where a tenancy fell in and the farm was re-let on the open market. The sitting tenant was not subject to any competitive pressure as the only way his rent could be increased was by agreement with his landlord or, failing that, by a settlement at arbitration if his landlord pursued the matter so far.

It was in order to prevent security of tenure leading to a freezing of rents that the 1948 Act provided that failing agreement on rent between landlord and tenant either party could appeal to arbitration and the other could not refuse. Following a change, or confirmation, of existing rent by this method no further change in rent could be made at arbitration within a period of three years. The duty of arbitrators under the 1948 Act was to decide "what rent should be properly payable".[4] This concept obviously depended very much upon the experience and attitude of those appointed as arbitrators and one of the major criticisms which has been levelled at the operation of this section of the Act is that in practice arbitrators have determined rents which are too low in relation to the changed economic conditions of the industry. It has frequently been said that many arbitrators have interpreted "a proper rent" in relation to the existing tenancy, and it is a widespread tradition that a sitting tenant should not be expected to pay a rent as high as would be obtainable on an open market letting. The limited amount of information available suggests that rents fixed at arbitration do, in fact, fall some way below those secured on a free letting of similar farms.

A more general criticism is that landowners have not employed the system sufficiently, in that many of them have refused, for personal or social reasons, to take a tenant to arbitration when he has not been willing to agree to an increase in rent. There is a strong body of professional opinion which holds that this is, in fact, the primary cause of the relative failure of the system and it is certainly arguable that if landowners had made full use of it and had pressed their claims more vigorously, the arbitrations would have taken place in a climate of opinion more favourable to higher rents and greater awards might therefore have been made.

[4]Amendments to these provisions introduced in the 1958 Agriculture Act are considered in Chapter V.

This failure of landowners to resort to arbitration is only one aspect of the lack of a strictly economic approach to the problems of landownership. This has always been something of a tradition amongst British landowners and it became widespread during the long years of depression when the ownership of agricultural estates ceased to be a commercial proposition. It still persists at the present time despite the fact that economic and social conditions are now very different. This is illustrated by some of the results of a recent survey of thirty seven large agricultural estates carried out by Dr. Denman and his colleagues of the Department of Estate Management at Cambridge.[5] The sample was limited to a number of large private landowners, and it is unlikely that the same factors influence either the larger institutional landowners or the small private ones to anything like the same extent. Nevertheless, rental policies followed on the large private estates do influence rents adopted elsewhere, not only by example, but by tending to create a background of low rents which exerts some effect upon arbitrations.

Dr. Denman listed twelve "inducements to management" in an order based upon the frequency with which they were given by the landowners interviewed. Foremost amongst them were residence, inheritance and social repsonsibility; then came amenity, love of the land, tax relief, land management, collateral benefits (minerals, timber, building development), estate duty, stabilising investment, spirit of a trust and particular individual circumstances. It will be noticed that return on capital is not mentioned.

The influence of non-economic considerations is reflected in the landowners' attitude towards increasing rents in general and resorting to arbitration in particular. Landowners dislike taking tenants to arbitration if an increase in rents cannot be agreed; many want to maintain traditions going back for decades or even centuries, and some consciously pursue low rent policies which, according to Dr. Denman, are inspired by motives varying widely from altruism to apathy. Further, on a number of estates there appears to have developed a tacit understanding

[5] D. R. Denman, "Estate Capital", Allen and Unwin, London 1958.

between landlord and tenant that in return for the continuance of a low rent the tenant will not press for estate expenditure on repairs and maintenance. This tends to lead to a deterioration in the permanent equipment of the holding and also to an extension of the low rent policy because the landlord will feel less inclined to ask for an increase in rent when this has happened or when, as is often the case, the tenant has assumed more of the responsibility for repairs than was originally agreed.

Apart from these largely personal considerations there are a number of economic factors which also act to restrain landowners from seeking increases in rent. Foremost amongst them is the present system of taxation. Heavy and progressive income tax and surtax remove much of the incentive to increase rent rolls, especially in the case of wealthy owners many of whom feel that the small net reward does not justify the trouble involved. Estate duty also adversely affects rents, as some landowners are reluctant to increase them in case this should lead to a higher assessment for probate. Further, many private landowners do not derive the bulk, or even the major part, of their incomes from their agricultural estates but rely extensively upon other sources. Dr. Denman has pointed out that on the estates he studied, for every £1 invested in agriculture the larger estate owners had a further £1 invested in other forms of property, while on the smaller estates of between 100 and 250 acres the "consociate capital" was twice as much as the agricultural capital. Landowners do not therefore have the same incentive to raise farm rents as they would have if these were their primary source of income.

Finally, there is the political factor. The agitation against landownership coupled with the movement for land nationalisation which were pronounced political and social issues in the early years of this century had a profound effect upon many landlords and although this particular bogey has been quietened recently it still makes some of them reluctant to raise rents even when economic circumstances justify such action.

There is a wide measure of agreement that the excessive degree of security of tenure and the low level of rents have, in practice, proved detrimental to the agricultural industry and to

the economy as a whole. In the first place, security of tenure has resulted in extreme inflexibility of farm tenancies. Many young men without sufficient capital to buy freehold at inflated prices have been unable to gain an entry into the industry because the number of potential tenants has been far greater than the few farms coming onto the market to let. All associated with the University Departments of Agriculture and the Agricultural Colleges are aware of the difficulties facing students who wish to go farming. It frequently happens that less than half of those leaving College in any one year go into farming in this country although a much larger proportion would like to do so. This migration into industry, or to countries overseas where opportunities of farming are greater, of young men, whose training is generally provided at public expense and which should fit them to be amongst the future leaders of the industry, is a loss the country can ill afford at a time when increased efficiency is imperative.

Landowners and their agents see the same problem from a broader aspect when they consider the long waiting lists of suitable candidates eager to secure a tenancy. The excess of demand for tenanted farms over the supply of them becomes most apparent when farms are re-let by tender, a practice which is becoming increasingly popular and which invariably results in high rental offers. One result of this is that tenants on similar farms are paying very different rents. Those who have just taken on a new tenancy at a competitive rent are under an economic pressure to get the best out of the farm; they must farm up to that rent if they are to earn a reasonable income for themselves. On the other hand, sitting tenants, paying much lower rents for similar farms, are able to achieve the same income at a lower level of production, and therefore do not have the same incentive to farm to the economic optimum. It is a normal human reaction in such circumstances not to make the greater personal effort, nor to incur the higher costs and risks, necessary to maintain a greater intensity of production, and the heavy incidence of progressive taxation encourages this attitude. Some farmers undoubtedly react to low rents by "not farming as well as they know how", while probably a much greater number do not take steps to improve their technical and business efficiency as they would be obliged to do, and as many of them could do, if rents were higher.

Further, security of tenure has meant that the incompetent as well as the efficient farmer has been able to maintain his occupancy. Low rents have enabled tenants who have not got the ability to farm well to cling on at a low level of production. Although the standard of technical and managerial efficiency is at least as high on some British farms as anywhere in the world that on a great many others unfortunately falls a long way short. The reasons for this wide diversity are numerous and complex, but there can be little doubt that in the case of many tenanted farms the payment of a rent which is considerably below the competitive level is an important contributory factor. Observers not only in Britain but in other countries where low rent policies have been adopted have commented upon their adverse effect upon the general standard of farming.

Another function of rent which has been impaired by the present low level is that of ensuring a flow of long term capital into the industry. This failure is no new phenomenon in Britain; the lack of capital investment was strikingly evident from the dilapidated state of many farm buildings in the years before the war, and the National Farm Survey in 1941 showed that no more than 39 per cent of them could be classified as good while 49 per cent were only fair and 12 per cent bad. This was not surprising as the Survey took place at the end of a long period of depression. Since then, however, agriculture has been prosperous, but although considerable strides in re-equipment have been made, there is still a long way to go in replacing obsolescent buildings, many of which were put up when modern implements were unknown and labour was cheap and plentiful.

Low rents have also prevented the investment of new capital in improvements and especially in the costly replacement of obsolete buildings. Net rents have been insufficient to provide this capital on the scale needed. Table 8 showed that the average level of expenditure on improvements on the estates included in the Country Landowners' Survey exceeded net rents by a considerable amount. It has been traditional amongst larger landowners at least to plough back incomes into improvements to their estates, and there are many in other industries as well as agriculture who advocate financing new investment in this way. It is, however, not essential; the capital market exists to meet needs of this kind, and while agriculture does not have access to that market in the way that many industries do,

reasonably adequate facilities for long-term credit are available. Moreover, many landowners have sources of capital additional to those invested in their agricultural estates and use the income from these sources for agricultural needs. Ploughing capital back into agriculture has been encouraged by preferential income tax allowances accorded to investment in farm property. Under the Capital Expenditure Claim, which has been called the most far-reaching income tax and surtax relief ever granted to landlords,[6] the total cost of an improvement can be set against taxation in a series of equal annual allowances over a period of ten years. In addition, an initial allowance of 10 per cent can be claimed under the Investment Claim (making 110 per cent in all) while expenditure on maintenance and repairs is allowable against taxation under the Maintenance Claim. It has frequently been pointed out, however, that the real benefit of these allowances is reduced during a time of inflation by their spread over a series of years.

An advantage claimed for the system of taxation relief is that allowances are made only when improvements are actually carried out so that the State is assured a positive asset for its concession. There is some truth in this, but there is also a danger that expenditure may be incurred primarily for the sake of tax relief or for increasing the saleability of farm property. The proviso that the expenditure has to be necessary for the proper working of the holding is not an adequate safeguard unless it is interpreted in a strictly economic sense. An improvement to a holding may be deemed physically necessary to its proper working but unless it results in an annual increase in output. or saving of costs, which is at least large enough to repay the capital involved and yield a return equal to the prevailing rate of interest the investment is not an economic one and represents a misuse of the community's resources. Investment is much more likely to be carefully considered and planned where yield is considered of primary rather than of secondary importance.

A second criticism of this method of financing improvements is that the allowances are obviously only of financial advantage

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[6] H. E. G. Read, "The Finance of Estate Management", *Journal of the Land Agents' Society*, Vol. L, No. 4, April 1951, pp. 148-56.

to landowners subject to income tax. They certainly encourage the traditional large landowner to plough income back into his estate, but this type of owner is less numerous than is popularly thought and is becoming scarcer every year. Although no comprehensive information is available on the present structure of landownership in Great Britain, regional surveys have shown a bewildering number of small owners, many with only one farm or even a single field on a farm.[7] Many of such owners have small incomes so that liberal taxation allowances for improvements carried out on their estates are of academic interest only. At the other end of the scale are the large institutional landowners such as the Church Commissioners and the University Colleges which by virtue of their legal positions are also not liable to income tax.

In the case of the owner-occupier, the large farmer with a profit running into several thousand pounds a year takes advantage of taxation allowances to maintain and improve his holding. The result of ploughing back capital in this way is an increase in the income earning capacity of the farm and in its capital value. Capital appreciation is not subject to taxation and this form of investment is therefore a strong incentive to anyone paying a high rate of income tax or sur-tax. On the other hand, annual reports on farm incomes in England and Wales indicate that probably half the farmers in these countries do not earn incomes high enough to be paying income tax at the standard rate, while a large proportion do not pay income tax at all in a normal year. Clearly, they have neither the necessary resources nor the taxation incentive to plough back capital needed to modernise their holdings. One effect of this state of affairs has been to widen the gap between the well-equipped farm on the one hand and the badly equipped one on the other.

Despite these taxation inducements the amount of capital made available directly by landowners has been insufficient to cover the cost of improvements to farm properties without substantial assistance from other sources. In the first place,

[7] See Agricultural Economics Research Institute, Oxford, "Country Planning", O.U.P. 1944; and James Wyllie, "National Farm Survey. Results of Some Investigations in the Wye Province", Wye College, 1945.

there has been a growing tendency for tenants to undertake a greater amount of responsibility for repairing and maintaining the fixed equipment of their farms. This has been encouraged on some estates because, as income tax is levied on gross rentals, a landowner may secure a larger net income by asking his tenants for a slight increase in rents, plus a large share of the costs of maintenance and repairs, than by asking for a larger increase in rent.[8] Many of the more enterprising and prosperous tenants, appreciating that compensation for improvements and security of tenure give them adequate protection, have also financed capital improvements that would normally be regarded as the responsibility of the landlord. Tenants have been able to provide capital in this way because of the higher incomes earned over the past decade, which to some extent have been the result of policy aiming at the injection of capital into the industry via the system of guaranteed prices. On occasions, prices for guaranteed products have been increased substantially above increases in farm costs in order to ensure increases in the net income of farmers from which further expansion of output can be made. The injection of capital on a very considerable scale by this means was a feature of agricultural policy in the early years of the Second World War and again during the period of the agricultural expansion programme initiated in 1947. Increasing the incomes of tenants and owner-occupiers however does not necessarily ensure that new investment is made in long-term equipment and there are indications that while considerable amounts of capital have been invested in working capital, particularly in the form of tractors and mechanical equipment, during the last decade, the proportion spent on long-term equipment has been relatively low and probably inadequate. The gross capital formation in agriculture over recent years has averaged approximately £80 millions a year. Of this total about £55 millions have been expended on plant and machinery and just over £20 millions on buildings.[9]

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[8]See David T. Stratton. A Commentary on Lt.-Col. Verdin's paper "Farm Rents" in the *Journal of the Land Agents' Society*, Vol. 54, July 1955.

[9]Source: Annual Reports on National Income and Expenditure. H.M.S.O. The figures quoted are gross amounts. No allowance has been made for depreciation.

In addition to supplying capital indirectly through deficiency payments the State has provided the agricultural industry with many millions of pounds through direct grants of various types. The latest subsidies of this kind are the Husbandry Grants and the Farm Business Grants which are available under the Agriculture (Small Farmers) Act, 1959. The more important groups of subsidies, however, have been those devoted to improving permanent equipment, either for specific items such as drainage and water supplies, or for more comprehensive development as under the Livestock Rearing Act and the Marginal Production Scheme. Under the Agriculture Act, 1957, the Farm Improvement Scheme was introduced to provide capital grants of one-third of the approved cost of providing or improving permanent equipment and of making long-term improvements to land. This is the most comprehensive scheme yet introduced and will make grants available for all the major forms of permanent improvements not already covered by grant aid. The increase in the provision of direct grants for permanent improvements as well as in those of a more temporary nature such as the fertilizer and lime subsidies, has resulted in an increased proportion of the total agricultural subsidies being given in this form rather than through the price subsidies. This is a welcome development of policy because direct grants have the advantage of only being given where an improvement is actually made and they can be subjected to the condition that they are economically sound, a condition which ought to be applied more generally.

The reliance of the agricultural industry upon such sources of capital, after an unprecedented period of prosperity, is evidence of a fundamental weakness in the industry. In the case of tenanted farms the fault lies very largely in the divorce of responsibility for working and long-term capital and in the fact that the increase in farmers' incomes has not resulted in a corresponding increase in landowners' resources from which greater provision for new investment could be made.

Chapter Five

THE AGRICULTURE ACT, 1958

THE PROVISIONS relating to security of tenure and to the determination of rents at arbitration contained in the Agriculture Act, 1958, represent an attempt to remove in some degree the institutional restraints imposed upon the operation of market forces by the Agricultural Holdings Act, 1948. The broad purpose of these amendments is to make the 1948 Act work in the way originally intended. When the Act was put into operation it was not foreseen that the security of tenure it accorded would protect the incompetent as well as the competent tenant to such a high degree, nor that this, taken in conjunction with the interpretation placed upon "proper rent" at arbitration would be a contributory factor towards maintaining rents below their economic level. The relevant sections of the 1958 Act are an attempt to combine a high degree of security of tenure for the efficient tenant, without preventing the landowner from being able to gain possession from an inefficient one, with a system of arbitration which will encourage an economic level of rents.

Section I of the Act repeals the powers of supervision, direction and dispossession granted to the Minister under Part II of the Agriculture Act, 1947. In recent years there has been a growing feeling that the exercise of such powers, while necessary and acceptable under the siege conditions of war, were both unnecessary and distasteful under the very different conditions prevailing in this country in the mid and late 1950's, and as a result of this public feeling they were falling into

disuse. The effect of the amendment has therefore been to bring the letter of the law into line with its practice, and to relieve the landlord and owner-occupier, as well as the tenant, of the threat of direct intervention by the state.

On the other hand amendments introduced under section 3 (2) of the Act should make it slightly easier for the landowner to evict an incompetent tenant. In the first place, the emphasis on consent to notices to quit has been altered slightly by a change in wording so that whereas formerly the Minister "shall withhold his consent" unless he is satisfied as to certain matters, under the amendment the Agricultural Land Tribunal (to whom these powers are transferred) "shall consent to the operation of a notice to quit, if, but only if, they are satisfied as to one or more of the following matters." The change may seem slight, but in practice it might imply that consent may normally be given rather than normally withheld. The matter or matters on which the Tribunal must be satisfied, and which must be specified by the landlord in his application for their consent, may be one or more of the following:

"(*a*) that the carrying out of the purpose for which the landlord proposes to terminate the tenancy is desirable in the interests of good husbandry as respects the land to which the notice relates, treated as a separate unit; or

(*b*) that the carrying out thereof is desirable in the interests of sound management of the estate of which the land to which the notice relates forms part or which that land constitutes; or

(*c*) that the carrying out thereof is desirable for the purposes of agricultural research, education, experiment or demonstration, or for the purposes of the enactments relating to smallholdings or allotments; or

(*d*) that greater hardship would be caused by withholding than by giving consent to the operation of the notice; or

(*e*) that the landlord proposes to terminate the tenancy for the purpose of the land's being used for a use, other than for agriculture, not falling within paragraph (*b*) of subsection (2) of the last foregoing section."

Paragraph (*e*) remains the same as the corresponding paragraph (*e*) of section 25 (1) of the 1948 Act and paragraph (*c*) is the same as the former paragraph (*b*) except for the omission of "otherwise" before "desirable" which does not appear to affect its meaning, but the remaining three paragraphs introduce amendments.

The major change introduced under (*a*) is the qualification "as respects the land to which the notice relates treated as a separate unit." This is in line with an interpretation of section 25 (1) (*a*) of the 1948 Act given in the courts whereby it was held that a landlord could not seek possession of a holding on the grounds of furthering the good husbandry of land in his own occupation.

On the other hand the introduction of paragraph (*b*) in the 1958 Act means that it will now be possible for a landlord to gain possession of a holding on the grounds of sound estate management of his estate as a whole whereas paragraph (*a*) of section 25 (1) of the 1948 Act has been interpreted to mean good estate management of the holding treated as a separate unit. It is possible to think of a situation in which the purpose for which the landlord proposed to take possession might be in the interest of sound management of the whole estate but might not necessarily lead to an improvement of the management of the individual holding. The amalgamation of holdings to form larger and more economic units might be a case in point. The substitution of "sound management of the estate" for "good estate management" is largely due to the fact that, because of the way in which the rules of good estate management are set out in the 1947 Act, the meaning of the phrase has come to be limited to the provision of conditions which will enable the occupier to maintain production. "Sound management" has been adopted to enable other factors, such as management costs and estate organisation, to be taken into account as well as the production from a particular holding.

Paragraph (*d*) amends the provision of the 1948 Act under which the landlord could only plead hardship if the tenancy had existed before 1947, or, where the tenancy had been created after 1947, if he required the land for a specific purpose which

had been stated in the contract. This limitation meant that the landlord had less than equitable treatment in relation to the tenant who could plead hardship in any case. These qualifications have been deleted so that hardship to the landowner is now to be considered on the same basis as that of the tenant. It was widely reported in the press at the time the Agriculture Bill was published that the tenant could only plead hardship if the landowner was claiming possession on the grounds of his own hardship, but this would appear to be a misinterpretation of the relevant clauses of the Act. The last paragraph of section 2 of the Act provides that, "Notwithstanding that they are satisfied (as to the grounds specified for consenting to a notice to quit) the Tribunal shall withhold consent to the operation of the notice to quit if in all circumstances it appears to them that a fair and reasonable landlord would not insist on possession." It may be argued that a fair and reasonable landlord would not ignore excessive hardship caused to a tenant if evicted so that under this proviso hardship may still be pleaded as a grounds upon which the Agricultural Land Tribunal may refuse consent to a notice to quit.

These amendments to the provisions relating to notices to quit may result in a slight lessening of the high degree of security of tenure enjoyed by the tenant farmer under the 1948 Act. It will be somewhat easier for a landowner to evict an incompetent tenant and to gain possession himself on certain specified but still very limited grounds. The changes introduced are so slight, however, that in practice it is unlikely that their operation will lead to any noticeable slackening of the present inflexibility of tenure nor are they likely to have any marked influence upon the level of farm rents.

Rents are likely to be affected by the new definition of rent properly payable to be observed at arbitration. The purpose of Section 2 of the 1958 Act is to give an objective definition of the rent which "should be properly payable" referred to in section 8 of the Agricultural Holdings Act, 1948. There has been a certain amount of controversy as to the interpretation of this phrase. Mr. Walmsley has defined it as "that (rent) which a prudent tenant might reasonably be expected to offer and a properly advised landlord might reasonably be expected to accept on an open market letting of the holding, but excluding

scarcity value".[1] By scarcity value Mr. Walmsley meant a premium value offered in order to secure the tenancy with a view to obtaining a revision to the proper rent at the end of three years. This definition has been widely, but not universally, accepted and it would seem that, implicitly or explicitly, some professional valuers in interpreting the rent properly payable have been guided by the tradition of asking a sitting tenant for a rent somewhat lower than that which could be obtained on a free market letting. As a result, many awards made at arbitration have been below those which might reasonably have been expected on a free market. Under the 1958 Act the "rent properly payable" is defined explicitly to exclude the effect of an existing tenancy. It is defined as "the rent at which, having regard to the terms of the tenancy (other than those relating to rent) the holding might reasonably be expected to be let in the open market by a willing landlord, to a willing tenant, there being disregarded . . . any effect on rent of the fact that the tenant who is a party to the arbitration is in occupation of the holding".

This new definition has been subjected to a considerable degree of criticism from those representing the tenant farmer's interests. It has been argued that such open market rents as are recorded under present conditions are influenced by a number of unusual factors and that it will therefore be unfair to the sitting tenant if his rent is assessed in comparison with those obtained at new lettings. Some of these fears may be dispelled by the operation of certain sections of the 1948 Act which are still applicable and also by the interpretation which the Government intends shall be placed upon the new definition.

Section 8 of the 1948 Act stipulates that in assessing the rent of a farm the arbitrator

"(*a*) Shall not take into account any increase in the rental value of the holding which is due to:

(i) improvements which have been executed wholly or partly at the expense of the tenant . . . . or

(ii) improvements which have been executed thereon by the landlord (with the aid of a grant)

[1] R. C. Walmsley, "Farm Rents", The Chartered Surveyor, March 1956, p. 502.

(*b*) shall not take into account relief from payment of rates . . . and

(*c*) shall not fix the rent at a lower amount by reason of any dilapidation or deterioration of, or damage to, buildings or land caused or permitted by the tenant."

Of more immediate importance is the possibility that the open market rents which will presumably be taken as the basis of assessment might be unduly influenced by "freak" bids made by wealthy business men intending to set up as hobby farmers, by unusually efficient farmers wishing to extend their holdings, or by "ordinary" farmers willing to pay a premium in order to secure a tenancy with a view to asking for a remission once they had become fully established. The Government have made it clear that the definition of the rent properly payable is to be interpreted in such a way as to exclude bids of this kind being used as the basis of comparison. This was expressed by Mr. Godber, the Minister's Parliamentary Secretary, at a meeting of the Central Association of Agricultural Valuers on 19th June, 1958.

> "We must, of course, ensure that arbitrators are not obliged to take into account premium rents. The definition in the Bill, if I may remind you of it again, refers to the rent at which the holding might *reasonably* be expected to be let in the open market by a *willing* landlord. Such a landlord could not reasonably be expected to accept the highest tender if it is obviously more than a good tenant could afford to pay, and keep on paying, without exploiting the fertility of the land. Nor could he reasonably be expected to refuse to let his farm until an exceptionally efficient tenant happens to offer an unusually high rent. A willing landlord could not reasonably be expected to hold out for a freak bid, and it follows that he could not reasonably expect to obtain an excessive rent."

This does not, however, entirely resolve the matter. It can be argued that due in part to the present degree of security of tenure the supply of farms coming on to the market to let is artificially low so that with an intense demand rental offers made are unusually high. The open market rent under present

circumstances may therefore be somewhat higher than would be the case if there were a free market for tenancies. It is possible, however, that the operation of the 1958 Act may lead to a greater number of farms coming onto the market to let. In the first place, the slight easing of the provisions for security of tenure may encourage landowners to evict the more incompetent tenants and seek new ones. Secondly, and probably of far greater importance, when a tenancy falls in through the death or retirement of a tenant, the landowner may be encouraged by the provisions of the Act (which should make it easier for him to secure a realistic rent and also to regain possession if he wished to do so) to re-let to a new tenant rather than sell with vacant possession as has frequently been the case. If the number of farms to let does increase in this way there may be a slight easing of high rental offers, but they can not be expected to fall very much while agriculture retains its present degree of prosperity. If it is agreed that security of tenure in the form laid down in the 1948 Act and modified in the 1958 Act is to be retained then it would appear that the new definition of the rent properly payable may be the best suited to assessing rents reasonably consistent with prevailing economic conditions.

The effect of this provision of the 1958 Act should be to bring rents more into line with those which would result under competitive conditions for tenancies. In the first place, it should act directly by ensuring that the level of awards at arbitration is related closely to market trends, and, secondly, it should affect the attitude of tenants and of landowners who will tend to think more in terms of higher competitive rents than of the low rents paid by many sitting tenants. The expectation of more realistic awards at arbitration may encourage landowners to ask for rental increases, and equally probably it may persuade tenants to agree to such increases. Such a change in the attitude of both tenant and landlord to rental increases would mean that the effects of the amendment would permeate through the system at a much faster rate than the small proportion of cases taken to arbitration might indicate.

These results will only come about, however, if landowners are prepared to exercise their rights to take tenants to arbitration if agreement can not be reached privately, and if rents

awarded at arbitration are genuinely related to open market rents. The more progressive and economically minded landowners will undoubtedly use the new provisions to secure increases in rent where their farms are under-rented. In some of the cases where increases in rent are most needed, however, it may be found that there are reasons other than lack of opportunity which prevent landowners pressing for increases. If this attitude persists then the provisions of the Act will not be fully effective.

It may be of some interest to consider the level to which rents might rise once these amendments have had time to influence them. Landowners will hope to secure increases to the amount they might receive on a free market and it will be the duty of arbitrators to make awards on this competitive basis. The pace will therefore be set by the bids of potential tenants who will be prepared to offer contract rents based on their estimate of the value of the gross output they can achieve from the farm *less* working costs including a reasonable return on their own capital, labour and management. A first approximation to these values in relation to rents currently being paid on different sizes and types of farms can be obtained from the farm management survey data.

The latest years for which information is available are the accounting years 1955/56 and 1956/57 which relate in the main to the harvest years 1955 and 1956 respectively. Weather conditions in these two years were very different and caused marked variations in physical outputs with varying effects upon the profitability of different types of farms. The summer of 1955 was dry and sunny, the harvest was excellent and crop yields were high. As a result revenue and profits were high on arable farms and on mixed farms with a substantial acreage of corn, but the drought conditions were unfavourable for dairy and livestock farmers. The positions were reversed the following year. Persistent rain and frequent thunderstorms in August and September damaged crops and made harvesting difficult, and cereal yields were generally below average. Grass grew well, however, until late in the season to the benefit of dairy and livestock farmers.

In order to minimise the effects of these annual variations the financial results for the two years have been averaged in the

following table as shown. Due to the heterogeneous nature of the farms included in the broad types of farming groups and the fact that very few farms were included in certain size/type groups, the data given in this table can not be regarded as representative in an absolute sense of similar groups of farms in the country as a whole. Nevertheless, broad relative comparisons may be generally reliable.

Analysis of the table shows two main features; net incomes or profits depend upon both size of farm and type of farm. In general terms, the average profit on the smallest farms was £500 and it was on average less than £1,000 for farms below 150 acres. Above this size, however, relatively high profits were recorded; approximately £1,400 for farms of 150-300 acres, £2,500 for those of 300-500 acres and £3,500 for the largest farms above 5,000 acres. These, however, are averages for all types of farms and cross tabulation shows that type of farming also had an important influence upon profits. Within each size group net farm incomes were higher on mixed farms than on dairy or livestock farms, and higher still on arable farms. These differences were particularly marked in the case of the large farms over 300 acres and, to a lesser extent, the medium-sized ones.

Before drawing any conclusions from these comparisons it is important to consider more exactly what the term net farm income included. It is defined in the "Farm Incomes" reports as the balance of farm revenue over farm expenditure after allowance has been made for the difference between opening and closing valuation. It is, therefore, the amount left to recompense the farmer for his own physical labour (a major item on the great majority of small farms), his organisation and management and the use of his working capital.

A comparison between net incomes and average rents currently paid suggests that even when allowance is made for interest charges it is the larger farms which are more markedly under-rented in relation to others. The average net income on the largest arable farms in the sample was over £5,000 while that on arable farms of 300 to 500 acres was £3,500. Comparable figures for mixed farms were £4,500 and £2,900. The average rents recorded for all these groups of farms were around £2 an

TABLE 12

Net farm income and rent, by type and size of farm, England and Wales 1955/56 *to* 1956/57

	50 *acres and under*		50·1 *to* 100 *acres*		100·1 *to* 150 *acres*		150·1 *to* 300 *acres*		300·1 *to* 500 *acres*		500 *acres and over*		*All sizes*	
	NFI	*Rent*	*NFI*	*Rent*	*NFI*	*Rent*	*NFI*	*Rent*	*NFI*	*Rent*	*NFI*	*Rent*	*NFI*	*Rent*
	£	£	£	£	£	£	£	£	£	£	£	£	£	£
Dairying	460	111	627	180	879	302	1425	530	1102	754			888	313
Livestock	425	80	589	116	605	169	927	284	1428	417	1295	455	881	256
Mixed	446	93	662	175	955	261	1603	449	2875	781	4519	1340	1685	470
Arable	605	108	927	203	1423	318	1982	473	3493	781	5383	1452	1825	423
All types	491	104	677	169	900	255	1414	419	2464	672	3478	1072	1315	371
All types — Average size	37		76		124		213		385		774		204	
All types — NFI per acre	13·3		8·9		7·3		6·6		6·4		4·5		6·4	
All types — Rent per acre	2·8		2·2		2·1		2·0		1·7		1·4		1·8	

acre, yet first class arable farms of 500 acres will realise £7-£8 an acre on a free letting and still yield a good tenant an income of more than £2,500 a year, while to take a less extreme case, the medium-sized mixed farm will let freely at £4 to £5 an acre and yield the average tenant a profit of £1,200 to £1,500.

This marked under-renting of the larger arable and mixed farms may be attributed to the fact that the structure of farm rents has remained much the same as in pre-war years and increases in rent have tended to be roughly proportionate. Before the Second World War British agriculture was based primarily upon dairying and livestock farming, but during the last twenty years greater emphasis, both financial and technical, has been placed on arable farming, so that although livestock products still form by far the greater proportion of output, cash cropping is more significant than it used to be. The system of subsidies has been greatly in favour of cereals. Moreover, many of the technical innovations of the past two decades, such as improved strains of cereals and increased knowledge and use of fertilizers, have primarily benefited arable farming, while the tremendous strides that have been taken in farm mechanisation have particularly favoured the large farms. Output from, and incomes earned, on arable farms and, to a lesser extent, mixed farms have accordingly increased proportionately more than those on grassland farms, but it is clear that rents have not increased to the same extent.

The high incomes earned on the larger farms can not be considered in isolation from the personal qualities of the men farming them. It can hardly be questioned that in technical and managerial ability many farmers on large farms are more efficient than the majority on small ones. Moreover, they frequently have greater resources of capital and are more willing and able to use credit facilities in order to expand their farm enterprises economically and to make good incomes. Yet it is because they have been able to secure relatively large farms that they are able to employ these talents. Many others of similar ability at present frustrated on smaller farms of their own, or perhaps managing for someone else, would welcome the opportunity and challenge of a large farm if they could only have the chance. This is evident from the high rents offered for good large farms when they are let on the open market, and

also by the relatively high prices they realise when sold with vacant possession. The increase in the sale prices of these farms has been proportionately greater than that for smaller farms during the last decade and this trend has strengthened further in the last few years. These market values indicate that the price differentials for different sizes of farm, which were customary before the Second World War, are no longer so relevant under the changed technical and economic conditions of today. As long as the larger farms, and particularly those suited to cash cropping, continue to yield high incomes competition for the few that come on to the market to let will result in high rents being offered. If "rents properly payable" under the new provisions of the 1958 Act are determined on a comparative basis we may therefore expect to see substantial increases in rents on farms of this type.

Turning to the smaller farms, the table shows that while rents per acre are higher, and net farm incomes or profits per acre are also high, profits per farm are very much lower. Indeed the average level of profit on farms of under 50 acres, with the possible exception of the small arable farms, is less than the average earnings of a good cowman. It is clear that with incomes of this order there is no element of "surplus profit" from which large increases in rent will readily be forthcoming. Despite this, rents offered under competitive conditions are likely to be higher than the average 56/- recorded for this sample, although the differential is unlikely to be anything like so great as for the large farms. Two possible reasons for this may be suggested. In the first place, demand for the small farm is likely to continue to be strong because of the attraction this way of life has for so many people and also because many potential tenants are seriously limited, by shortage of capital or lack of managerial ability, in the size of farm they can control. Secondly, farms let at tender will generally not be secured by the average farmer but by the man of more than average ability who will be able to offer a relatively high rent and still be able to make a reasonable living. This is, of course, one of the aims of the 1958 Act. It is in the interest of the industry and the nation as a whole that the more efficient farmers should secure tenancies and pay an economic rent for them. If rents on the other farms are adjusted accordingly there should be greater flexibility of tenure and more opportunity for new entrants.

From the landlord's point of view the small farm may be a less attractive investment than the larger one because on the former, outgoings will continue high in relation to potential rents. There will, therefore, be a greater economic incentive to amalgamate the small more uneconomic farms, and it would seem that such a policy would be permissible under the provisions for sound estate management included in the 1958 Act.

Chapter Six

SOME ALTERNATIVE PROPOSALS

A Free Market

THERE IS a body of opinion in the professions and elsewhere which holds that the only way to secure free market rents, and a greater flexibility of tenure at the same time, is to go further than the 1958 Act has done towards repealing security of tenure. The logic behind this argument is that security of tenure in its present form is at least partly responsible for inflexibility in tenancies and low rents, and that a return to a free market would therefore be the appropriate solution.

The major economic argument which has been advanced against such a proposal is that it would remove the stability the tenant requires in order to plan and implement policy. This would probably arise less through a sudden and substantial increase in rents than through the probability that the landowner might seize the opportunity to serve notice to quit in order to sell his property with vacant possession and so secure a capital appreciation. The tenant would then be faced with the choice of quitting his farm and home or else of buying the freehold at the vacant possession price and so in all probability incurring a heavy mortgage debt.

A return to greater freedom of tenure would therefore be likely to see an increase in the number of farms changing hands and an increase in the price of tenanted farms towards that secured for those offered with vacant possession. There would most likely be an initial period of some considerable disturbance and even when the market had settled down the remaining

tenants would still be faced with the possibility that they might be evicted or, alternatively, be obliged to put up the capital to buy their farms. On balance, it would seem that this proposal might in part defeat its own ends because, although it should ensure a more realistic level of rents, the instability it would introduce might prevent the higher rents from encouraging more economic production while the probable increase in owner-occupation would prevent greater flexibility in tenanted farms. It is, therefore, possible that a step designed primarily to foster the landlord-tenant system might in fact hasten its decline through encouraging a further growth of owner-occupation.

One way of removing some of the inflexibility of the present system without going to the extreme of removing security altogether would be to return to the pre-war system under which the tenant's security rested upon the obligation of his landlord to pay compensation for disturbance if he was evicted without good and sufficient cause. The compensation allowable was equivalent to one year's rent or up to a maximum of two years' rent if greater loss could be substantiated. It is far more difficult to obtain a new tenancy now than in the days before the war and far more costly to buy a farm, so that eviction would now bear more heavily upon a tenant who wished to continue farming. It has therefore been suggested in some quarters that the compensation payable should be increased to (say) four years' rent. This, it is argued, would also give security of tenure to all but the most inefficient tenants, as only in their case would landowners think it worthwhile paying capital sums of this amount in order to secure possession.

The question which arises, however, is whether compensation based on four years' rent would be sufficient to provide security in this way. The answer must surely depend upon the individual case. Where a farm is grossly under-rented the landowner might well think it worthwhile securing possession by paying compensation. For example, assume that a hundred acre medium quality mixed farm is let at 30 shillings an acre giving an annual gross rent of £150. Under present conditions of tenure, it might fetch say £5,000 or £50 an acre if sold without possession. If offered with vacant possession, however, it might realise £8,000 or £80 an acre. A landowner who could not

foresee any other way of obtaining possession might well consider paying out four times £150 or £600 in compensation in order to secure a capital appreciation of £3,000.

The position would be very different, however, if the gross rent were not 30/- an acre but £4 an acre, or £400 for the farm. The compensation payable would then be £1,600 and, of even greater importance, the capital comparison would now be very different. At only 20 years' purchase the investment value of the property would be £8,000, as much as the vacant possession value, so that there would be no incentive to evict for possession. The best security a tenant could have would be to pay a good rent. This method of providing a degree of security of tenure would therefore encourage tenants to pay economic rents and provide landowners with a sanction to enforce against those who were unwilling to do so.

One probable result of the 1958 Act will be that the premium for vacant possession will virtually disappear for those farms where rents are adjusted to open market levels. Only in cases where they persist well below that level will the possibility of capital gain still exist. The conclusion which may be drawn is that it is the level of rent which is the decisive factor. A landowner prepared to press for an economic rent under the provisions of the 1958 Act will not need the threat of eviction to secure a higher rent, while the landowner not prepared to exercise this right would presumably not be prepared to take the even stronger step of seeking eviction and paying compensation. It would therefore appear that provided landowners are prepared to use the Act correctly no major modification of the present provisions for security of tenure should be required.

Long Leases

The same reasoning may be advanced against another suggestion put forward as a possible solution to the twin problems of inflexibility of tenure and low rents, namely, that the present system of security of tenure based on contractual annual tenancies should be replaced by a system of long leases. Under the 1948 Agricultural Holdings Act a tenancy for two years or more can only be terminated by notice which is subject to the same qualifications as a notice to quit a farm held on a yearly tenancy, and unless consent is given to such a notice the

tenancy, "shall, instead of terminating at the expiration of the term for which it was granted, continue . . . . as a tenancy from year to year."

It has been proposed that long leases of, say, seven years should not be subject to this provision so that at the expiration of the lease the tenant would have to seek a new agreement at an open market rent if he wished to renew the tenancy. The advantage claimed for the long lease is that it would grant security of tenure over a period long enough for a tenant to plan the production of his farm for some years ahead and to benefit from putting this plan into operation. He would also be assured of stability of rent over several years and of compensation for improvements if he left the holding when the lease fell in. The landowner on the other hand would benefit from being able to re-let the farm at a higher rent at the expiration of the lease, although the rent might fall below the competitive level during the lease. The long lease might, therefore, be said to give stability over a short period but flexibility in the long period.

On the other hand, it may be questioned whether a lease of seven years *is* long enough for the tenant to plan his farm organisation and put that plan into operation. The fact that the average tenancy in England and Wales before the Second World War ran on for approximately twenty years is an indication of the length of time the farmer customarily spends on one holding. This difficulty might be overcome by long leases of say twenty-one years with breaks at seven and fourteen years for rental revisions. It is pertinent to note that in several cases in recent years where farmers have sold their land to institutional landowners they have retained occupancy under twenty-one year leases.

The question that arises is whether such a system would have advantages over the present one. As the average length of tenancy under a year to year agreement is probably about twenty years, the introduction of long leases of twenty-one years would probably make little difference in length of occupation in general, although it might in individual cases. Breaks for rental revision at the customary seven and fourteen years would be less suitable for adjusting rents to rapid changes in farming prosperity than the present right of appeal to arbitration every

three years *provided* the latter is used. This perhaps is the crux of the matter. A formal break written into the tenancy agreement would probably be used without hesitation or unwillingness by either party whereas many landowners at the present time seem loath to use the *ad hoc* right to appeal to arbitration. Would a compromise solution be to retain the present degree of security of tenure but provide statutory breaks every three years at which rents were to be reassessed by landlord and tenant with provision for any disagreement to be submitted to arbitration?

Salaried Management

Turning from the immediate problem of security of tenure to that of low rents, many people maintain that the level of investment in agricultural land and permanent equipment will not be satisfactory until the landowner receives a larger share of the profits of the industry. One way of ensuring this would be to replace the tenant by the salaried manager, and a number of landowners have done this in recent years by taking land in hand when a tenancy fell in.

On the larger farms it undoubtedly would give the landowner a greater return to land and permanent equipment than rent at present levels under a normal tenancy, but it would also involve him in a much greater provision of capital, responsibility for general policy and a greater degree of risk, while on a small farm the return might be no greater than under a cash tenancy. This can be illustrated by examples based on the data contained in the Farm Management Survey.

CASE 1. Assume a 90 acre dairy farm on poorish hill land in the Pennine district. If farmed by a landowner with a bailiff the following values might be typical:

	£	£
Gross output		3,700
Total working expenses (excluding rent)	3,040	
Interest at 7 per cent on working capital of £3,400	238	
Salary for working bailiff	550	
Total costs		3,828
Return to land and permanent equipment		—128
Rent under cash tenancy		160

In this case the landlord would be likely to lose some £128 a year if he employed a bailiff and provided all the working capital—whereas he receives £160 a year rent under a cash tenancy. The discrepancy of £288 can only be explained by the fact that the average tenant farmer on this class of farm receives a net income which does not compensate him for his capital and management at the market rate. For a farm of this size the landowner is likely to be better off if he retains a tenant than if he employs a manager.

CASE 2. A light land arable farm of three hundred acres. Two thirds of the farm is devoted to cash cropping, wheat, barley, sugar beet and some potatoes, with the remaining acreage down to permanent grass and leys grazed by beef cattle and sheep:

	£	£
Gross output		11,200
Expenditure (excluding rent)	8,520	
Interest at 7 per cent on working capital of £9,000	630	
Salary for manager	850	
Total expenses ...		10,000
Return to land and permanent equipment		1,200
Rent on present cash tenancy basis ...		480

In this case, the profit the landlord would receive in return for the use of his land and equipment (and greater responsibility) would be £1,200 compared with a rent of £480 on a cash tenancy. It would, therefore, be well worth while installing a salaried manager.

These case studies have been taken to illustrate the relationship of rent to the profit a landlord might reasonably expect to make if he farmed the land with a salaried manager on two very different types of farms. The broad conclusion which may be drawn is that employing a salaried manager may not be worthwhile on a small farm which is better left under tenancy unless it can be included within a larger area under existing management. On larger farms, however, where output is high relative to working costs and rents are still relatively low, salaried management might well lead to a substantial increase

in the landlord's income. In return, he would have to accept greater responsibility for organisation and the policy decisions associated with it than if he let to a cash tenant. Moreover, the question of opportunity has to be taken into account. This solution will remain a hypothetical one unless the landlord has a vacant farm in which he can install a manager. If he has, then he must compare the return under management not to the present rent of 32/- an acre but to one of £4-£5 an acre which he could probably obtain on a new letting. For landowners taking a personal interest in their farms, salaried management might be a solution: to the majority who have neither the time nor the necessary experience a good tenant paying a realistic rent will still seem the best consideration.

Share Tenancy

A compromise between salaried management and the normal cash tenancy would be provided by share tenancy. The two "partners" would be retained although the financial arrangement would be altered so that the owner would share more directly in farming prosperity (and adversity) and would also have to accept greater responsibilities for the provision of capital and the organisation of the farm business.

In an article in the *Westminster Bank Review*,[1] Mr. A. H. Maunder referred to the possibilities of this system and used data from the Farm Management Survey to suggest that under it the returns to landowners on many estates in this country would be greater than under the existing one at the present level of rents. These calculations were based on the assumption that the level of output and expenditure would be the same under the two systems but this is questionable. Under share tenancy the tenant does not have the same incentive to intensify production because he receives only a proportion of any extra output which may result from his own additional work or care. When he contemplates the personal effort involved in, say, weeding a crop with the probable return, it may not seem worthwhile when he receives only half the additional yield whereas it might if he were to reap the full benefit. A tenant paying a fixed cash rent has a greater incentive to increase output as once he has earned enough to pay

[1]A. H. Maunder, "Some Alternatives to Cash Tenancy", *Westminster Bank Review*, May 1956.

his rent any additional return will belong to him. It is largely for this reason that the standard of farming tends to be low, and land and capital to be used inefficiently, in share systems. Moreover, as Maunder pointed out in a later paper, "The benefits of the system are only fully realised when it is worked on the basis of an estate rather than individual farms. It presupposes that the owner is able and willing both to have a greater financial stake in the industry and also to take a much greater share in the organisation of farming than is the usual practice in this country today."[2]

As regards the tenant, there is no incentive to the farmer already operating a cash tenancy to seek a share tenancy unless he is so short of working capital that additional supplies from the landlord would enable him to expand his farm enterprise considerably. The system might, however, appeal to the young man not already established in farming who would welcome the capital and guidance provided by a share owner, and a small number of tenancies of this kind have been introduced in this country.

Even if the disadvantages of the system could be overcome, share tenancy would still remain no more than a hypothetical solution to the present tenure problem in Great Britain because it is difficult to see how it could be introduced in present circumstances. It is easier to visualize a sitting tenant agreeing to an increase in his rent than to the introduction of a share system. The only opportunity would be when a tenancy fell in and in that case the landlord would not be faced with a choice between share tenancy and a low rent but between share tenancy and several other possibilities including farming the land himself, putting in a new tenant at a competitive rent or selling the property. With the traditions of land tenure in this country it is highly unlikely that share tenancy will be tried except, perhaps, by a small group of landlords who have an interest in experiment.

An "Escalator" Rent

The advantage of share tenancy from the landowner's point of view is that under it his return increases directly with rising

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[2]A. H. Maunder, "Some Problems of Land Tenure", *Journal of Agricultural Economics*, Vol. XII, No. 3, p. 288.

prosperity in farming (although it will also fall during depression). It is possible to achieve the same effect, however, within a cash tenancy system if contract rents are related to product prices. There are numerous references to rental agreements of this kind on large estates in England in earlier centuries in which the price of corn was usually taken as the criterion. In more recent times the same principle has been introduced into tenancy agreements in some parts of the United States. There it is frequently expressed in a rather more sophisticated manner in terms of changes in a wider number of farm products. Rent for a given year is calculated by the use of a formula of the following kind:

$$\text{Current rent} = \text{Base year rent} \times \frac{\text{(Current year index number of agricultural prices)}}{\text{(Base year index number of agricultural prices)}}$$

The product prices included in the calculation of the index number depend upon the system of farming practiced, i.e. milk prices would be relevant on dairy farms and prices of cereals and other cash crops for arable farms. Such a selection would be easier to make in many parts of the U.S.A. because of the relatively simple and uniform systems of farming there. In areas in which mixed farming predominates, as in much of Great Britain, a general index number might be most appropriate.

The following example might help to show how this formula would be applied in practice. Assume that a mixed farm of two hundred acres producing a wide variety of crops and livestock products, let at 20 shillings an acre before the war. Now the General Index Number of Agricultural Prices published by the Ministry of Agriculture stood at 89·5 for the harvest year 1938/39 (base year 1927/28—1929/30 = 100), but by 1957/58 it had risen to 298. On the basis of these figures the rent of the farm would automatically be increased by the use of this formula to

$$20 \text{ sh.} \times \frac{298}{89 \cdot 5} = 67 \text{ sh.}$$

or approximately £3 7s. an acre.

A criticism of this method is that it assumes no change in the cost structure of farming. If all prices, of resources as well as products, have risen uniformly, then this is equivalent to a fall in the purchasing power of money, so that if all incomes have risen threefold there seems no valid reason why rents should not increase threefold as well. In fact, it is a characteristic of inflation that farm product prices rise more rapidly than costs so that farm incomes tend to rise even more rapidly. For example, over the period 1938/39 to 1955/56 product prices in Great Britain rose threefold but farm incomes rose about fivefold. Under competitive conditions for tenancies rent would therefore probably rise substantially. Conversely, during times of depression product prices fall more rapidly than costs, so that incomes also fall. The use of an escalator formula of this kind in farm rent agreements might therefore underestimate the increase in rent during years of rapidly rising prices and underestimate the fall during years of depression. It would, nevertheless, provide a much greater degree of flexibility than the normal fixed annual rent.

Rent as a Return on Capital

In addition to proposals incorporating changes in security of tenure a number of other proposals have been put forward in recent years suggesting more direct ways of increasing farm rents. One of these proposed that rent should be assessed basically as a percentage rate of return on capital, on the grounds that Part I of the Agriculture Act, 1947 specifically provided for "an adequate return on capital invested in the industry".[3]

The major objection to this reasoning is that the capital values of investment farms are primarily, although by no means exclusively, dependent upon the incomes they yield so that it would seem to be a circular argument to suggest that rent should be assessed as a given percentage return on capital investment. Moreover, the only objective criterion of an "adequate" return is that provided by the market, and many

[3]See Country Landowners' Association "Agricultural Rents and Interest on Improvements" 1956, and Lt.-Col. R. B. Verdin, "Farm Rents", *Journal of the Land Agents' Society*, July 1955.

investment farms are currently being bought at prices which yield a *gross* return of less than 5 per cent which contrasts markedly with the *net* return of 5 per cent which has been suggested as the basis of assessment. It would, in fact, be impossible to enforce a rate of return above the market rate, without controlling the capital value of investment farms. It is significant that in Holland where farm rents have been controlled a similar measure of control has also been imposed on sale values. The result has been an excess of demand over supply at the controlled price so that the persons to whom a property may be sold have to be regulated, the tenant having first option of purchase. It would be possible to ensure landowners in this country a net return of 5 per cent on their investment, provided capital values were controlled at a low enough level. This, however, would mean that landowners got the worst of both worlds, low rents and low capital values. Surely the only realistic solution is to consider other means of increasing rents and let capital values, and the relationship between the two, be left to the operation of market forces?

Chapter Seven

CHANGES IN THE SYSTEM OF TENURE

THERE WILL be those who maintain that the provisions of the Agriculture Act, 1958, are merely tinkering about with the present system of land tenure which is foundering more and more each year and is no longer capable of performing its necessary functions, and that more radical changes in the system are needed. Two major alternatives stand out; owner-occupation and state ownership. The first would not necessarily require legislation nor indeed any positive policy, for it has been steadily increasing in importance over the past fifty years, and a continuation of this process will eventually transform the system of ownership of agricultural land, but it could be speeded up by state intervention, as has happened in many countries, if this were thought desirable. The second would require more drastic measures because an attempt to settle the problem by this means would necessitate nationalisation of the land.

Owner-occupation is the dominant form of land tenure in many parts of the world. In some, mainly the newly developed, countries such as America and Australia, it is the original system under which these countries were settled, but in others it has developed out of a system of tenancy, either in a revolutionary way, by expropriation of the landowner and grant or resale to the tenant, or by an evolutionary process of gradual change.

In theory, owner-occupation has a number of economic advantages over tenancy arising primarily from the fact that

ownership of the land and control of its use are vested in the one person. The owner-occupier enjoys complete freedom of cropping and sale, and at the same time he has an incentive to adopt a system of farming which will maintain or even enhance the capital value of the property. He can also develop and improve the property, secure in the knowledge that he will himself benefit from the capital appreciation. These considerations are of major importance, so much so that their presence or lack has a fundamental effect upon the standard of farming. In general, under systems of tenure where the tenant does not enjoy these rights the general efficiency of agriculture may be found to be seriously impaired, and under such circumstances owner-occupation might lead to a marked improvement in the economic efficiency of farmers, and in their social and political status as well. These theoretical advantages are not of much significance for the tenant farmer in Great Britain, however, because he has secured most of them already while remaining a tenant. He enjoys statutory rights which ensure freedom of cropping and sale of produce, compensation for improvements, security of tenure, and the right of appeal to arbitration for an independent assessment of rent, and he can also request his landlord to provide or maintain equipment necessary for the efficient management of his farm. In these unique circumstances it is difficult to see how the tenant could benefit from assuming ownership.

On the other hand, owner-occupation is subject to a number of disadvantages. Firstly, and of major importance, it reduces the sources from which capital may be drawn into agriculture. The owner-occupier has to find capital for both land and permanent equipment as well as for his working equipment and stock; and he is generally less able to tap some of the sources of credit outside agriculture which are available to the landlord. Farmers in general, and small farmers in particular, are loath to rely heavily upon credit facilities, and frequently possess limited security for credit for working capital, so that the need to tie up large sums in the freehold of their farms creates a serious problem. Many tenants in this country were able to weather the economic storm of the 1930's through the granting of rebates by landowners at a time when owner-occupiers were being forced out through foreclosure. Secondly, owner-occupation prevents specialisation of management into

farm management and estate management. The two are not the same in requirements of ability or experience and although there are many examples of owner-occupiers who carry out both functions more than adequately it is not possible to achieve a really efficient and economic standard of estate management except on the larger estates.

Access to adequate supplies of capital, and experienced estate management, which are generally lacking on the owner-occupier's farm, may also be lacking on the estate which consists of a single farm or a very few farms of small size. There is at present no adequate knowledge of the pattern of landownership in this country but it is known that in addition to the large institutional landowners, such as the University Colleges, the Church Commissioners and the Crown, and the large private landowners, there are a very large number of small landlords many of whom may own only a single farm, or even part of a farm. Although statistical knowledge of their relative wealth and efficiency is almost entirely lacking there is a general consensus of opinion amongst farmers and professional land agents that many of these small landowners frequently have neither the capital nor the knowledge to improve, or even maintain, their properties in a manner adequate for present requirements. In such cases the advantages of a low rent may not be sufficient to recompense the tenant for inadequate buildings and equipment and to him, and to the nation as a whole, owner-occupation might be more satisfactory. On the large estates owned by the institutional landowners or the large private landlords, however, the advantages of tenancy would still seem to outweigh those of occupation. The number of large private landowners, the traditional "squire landlords" of English society, is decreasing each year but many of the institutional landlords appear to be in a strong and healthy position and may possibly become more rather than less important in the future if rents increase to an economic level. The landowning corporations have several very important advantages over the private owner; they are permanent, they have adequate supplies of capital and trained and experienced staff, they are not subject to the same rates of taxation as private individuals and, of particular importance, they are exempt from estate duty. It is probable that the future of landownership, as distinct from occupation, in this country may

lie predominantly with corporate bodies of this kind rather than the traditional private owner.[1] It is indeed difficult to argue that tenancy on such estates, and also on the large private ones which may be preserved by more realistic rents, is less sound or desirable on economic grounds than owner-occupation. The fact that several cases have been recorded of efficient and prosperous owner-occupiers selling their land to large institutional landowners while agreeing to stay on as tenants, on long leases and usually at high rents, shows how some thoughtful members of the industry have compared the two systems.

If it is agreed that it is not the characteristics of tenancy as such but the breakdown of the private landlord-tenant system which is the major cause of present problems, it is a logical step to consider the nationalisation of agricultural land, which would preserve tenancy but at the same time alter the system. Broadly speaking, this was the argument put forward in the inter-war years by writers with an intimate knowledge of agriculture, amongst whom Dr. Orwin[2] and Sir Daniel Hall[3] were outstanding. Paradoxically, the arguments they advanced were based on opposite premises to those used by the earlier supporters of land nationalisation, who had advocated state ownership on the grounds that landowners were amassing wealth at the expense of the community at large, whereas Orwin and Hall saw it as the answer to a dereliction of farm land and buildings which was beyond the depleted power and wealth of the landowner to restore. They contended that the system had worked well during the previous century when the landlord had a personal interest in farming and the legal power to enforce his wishes, and also possessed capital which could profitably be invested in improving farm land, but that it was inadequate in the very different conditions of the 1930's when these requirements no longer existed. They concluded that state ownership would have to be introduced if British farming was to be put back into a healthy state. Land nationalisation would be a means to this end because it would make possible

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[1]See P. Sutcliffe, "Investment of Capital in Land: Outlook for Landlords", *The Chartered Surveyor*, September, 1958.

[2]See C. S. Orwin, and W. R. Peel, "The Tenure of Agricultural Land" C.U.P. 1926. and C. S. Orwin, "Speed the Plough", Penguin, 1942.

[3]Sir A. Daniel Hall "Reconstruction and the Land", Macmillan, 1941.

rationalisation of farm boundaries and layouts, security of tenure for the competent tenant, uniform and rational standards in selecting tenants, a consistent rent policy, and adequate supplies of capital for the maintenance and replacement of permanent equipment. Despite the prosperity of the intervening years most of these problems have not yet been solved.

A rationalisation of farm holdings to form more compact, easier worked units, capable of efficient and economic production is certainly needed. The layout of many farms in England and Wales, arising generally from historical accident with little or no conscious planning, is generally unsatisfactory. The National Farm Survey reports showed that the layout of only 54 per cent of the total number of farms in England and Wales could be classified as good, with 33 per cent fair and 13 per cent bad.[4] Striking illustrations of poor layout of farms have been recorded for a selected area in the Midlands, surveyed by Dr. Orwin and his colleagues from the Agricultural Economics Research Institute at Oxford,[5] and for a number of parishes in the South East of England surveyed by Mr. Wyllie.[6] Reports of both these surveys drew attention to the difficult layout of many farms, and the former also stressed the amazingly complex nature of landownership. One hundred and twelve ownerships were identified, giving an average estate size of 116 acres within the survey area of 13,044 acres, while, due to the presence of a small number of large estate holdings, the modal size was only 59 acres. Moreover, a "six mile point crosses twenty-seven farm boundaries and passes over twenty-three farm properties".[7]

The significance of such a complexity of ownership is that it imposes legal and personal barriers upon any attempt to redraw farm boundaries. This problem, and that of reallocating small farms to form more economic units cannot be tackled successfully while there is a multitude of individual ownerships, and

[4]"National Farm Survey of England and Wales", H.M.S.O. 1946, pp. 35-36.

[5]Agricultural Economics Research Institute, Oxford, "Country Planning", O.U.P. 1944.

[6]James Wyllie, "National Farm Survey. Results of Some Investigations in the Wye Province", Wye College 1945.

[7]"Country Planning", pp. 48-50.

only state ownership would provide a framework within which both of them could be overcome in a relatively short period of time. Whether they would be so overcome in practice is, however, another question. The Minister of Agriculture was granted powers under the Agriculture Act, 1947, to schedule areas for redrawing farm boundaries but these powers have not been used. Possibly the fact that they would have had to be imposed on reluctant landowners has been decisive, but it is also possible that the difficulties of getting a number of occupiers to agree upon all necessary changes which, while for the general good, would undoubtedly strike many of the individuals concerned as unfair and arbitrary, may have been an equally important factor. While the first of these objections would not be encountered under state ownership the second would still remain. A possible solution might be to adopt a system of gradual rationalisation through State purchase of farms which were badly laid out or too small, for reallocation amongst neighbouring farms. Such a scheme has been working with some success in Sweden for a number of years.[8]

Secondly, it is claimed that state ownership would ensure greater security of tenure as the tenant would, presumably, not be subject to eviction unless he was manifestly inefficient nor would he feel any necessity to buy his freehold in order to secure his occupancy. Against this, however, it may be argued that the tenant already has such a large measure of security that it is in fact impairing the working of the system and that, in the interests of greater efficiency, less rather than more security is needed. It is likely that under any scheme of land nationalisation the Minister of Agriculture would be granted powers to supervise, and if necessary, evict unsatisfactory tenants, but it is questionable to what extent they would be used. The extreme reluctance of the Minister of Agriculture to use similar powers of supervision and eviction under the 1947 Act, the public outcry in recent years when such powers have been evoked, and their repeal under the Agricultural Act, 1958, all indicate quite clearly that they would not. It is characteristic of a Civil Service to seek to be inconspicuous, and this could be achieved better by letting bad tenants remain than by seeking to evict them in a zealous search for efficiency.

[8]See W. J. Thomas, "Swedish Agricultural Policy Since the War", *The Agricultural Review*, Vol. III, No. II, April 1958.

Associated with the last point is that of a rent policy. Nationalisation would not ensure the optimum allocation of farms amongst tenants, nor the optimum use of land, unless a positive and progressive rent policy were adopted. This should involve both a general level of rents closely related to farming prosperity and a differential scale for different sizes and types of farms. The best way of ensuring this would be to accept competitive offers from selected tenants when farms fell vacant but even then, the problem of adjusting rents on holdings subject to sitting tenancies would be just as great as it is at present. Moreover, the danger that a central land board might come under political pressure to maintain rents at a so called "reasonable" or "fair" level which might be less than that warranted by economic circumstances cannot be ignored.

State ownership might, however, ensure more uniform standards in selecting the tenants who are to farm the nation's land. Traditionally, this has been done by the private landowner who, while by no means solely concerned with the training and practical experience of his potential tenants, nevertheless undoubtedly considered these factors carefully in the interests of securing his rent and maintaining the condition and value of his property. During recent years, however, very few tenancies have been offered as landowners have usually preferred to sell with vacant possession when a farm fell vacant, so that farms have gone mainly to those who could afford to buy them and not necessarily to those who would farm them most efficiently. It is true that some buyers have been men of ability who farm to a high standard, but it is also true that some have been business men whose prime aim in owning a farm is the taxation allowances it affords. It might therefore be desirable on social and economic grounds to provide for selection of farmers on the basis of technical qualifications and experience. This could be adopted under state ownership of the land, but the same result might also be achieved by statutory regulation requiring any one buying or renting a farm to have undergone a minimum period of training and practical farming, as is the case in Holland.[9] It would, however, obviously be

[9]For a comment on the importance of training and experience in farm management see Arthur Jones "The Educational and Advisory Approach to the Efficiency of the Individual Farm". Presidential address to the Agricultural Economics Society, July 1958, *Journal of Agricultural Economics*, Vol. XIII No. 2.

more difficult to enforce such a regulation while retaining private ownership of land.

Turning to the provision of long-term capital for new investment, it is hardly necessary to stress that nationalisation would not automatically result in ample supplies of capital being made available. The State can only raise capital required for new investment by borrowing from the public or else by taxation. The latter could only be justified on social or political grounds and would be inexpedient with the present high level of taxation and of agricultural subsidies. The former would have to take account of current market rates of interest, and any investment made would have to yield a return high enough to pay that rate and to amortise capital. Investment falling short in this respect would constitute a waste of resources. There should be ample opportunity for productive investment of the nation's resources in permanent improvement in agriculture, but if these are not to be misused the investment must be judged on an economic and not a physical basis. The application to estate management of the economic techniques which are proving so successful in farm management might be expected to make a major contribution to the solution of this problem.

The provision by the State of capital for improvements to land and buildings would not be a revolutionary change since it already provides a considerable amount of the capital currently invested either directly through grants of one form or another, or indirectly through taxation concessions. On grounds of social equity, therefore, it might be argued that the nation should reap the benefit of this investment, which it could do directly only if it owned the land.

Apart from changes in the supply of new capital, land nationalisation would involve the transference of the title to existing agricultural property from individual owners to the State. Where this involved the replacement of the private landowner, there should be no effect upon the capital position of the tenant, but in the case of the owner-occupier the purchase of his freehold would release capital at present tied up in land and buildings for use in supplementing working capital. Many owner-occupiers realise only too well that estate capital yields

less than 5 per cent whereas farm capital should bring in a return of 10 to 15 per cent. Further, the nationalisation of owner-occupied farms would make possible specialisation not only of capital provision but also of management.

In summary, what is required of a more efficient system of land tenure is a rationalisation of farm layouts, greater flexibility of tenure, more economic rents, and more investment in long-term improvements. All of these might conceivably be achieved under State ownership but not necessarily so. Much would depend on the administration of the national estate and the policies adopted. Experience of other nationalised industries suggests that detailed and personal attention, which are so essential for good landlord-tenant relationships and for efficient administration and farming, might be lacking on an estate of this size, although it has been suggested by Sir Daniel Hall and others that this might be overcome by the creation of local or regional land boards with full power to deal with day-to-day administration. The problem of staffing would still remain, however, and it would clearly be difficult to provide sufficient well trained agents to carry out the necessary duties, especially as many of the present administrators, notably the private owners themselves, would probably not be prepared to carry on after nationalisation. Unless an efficient administrative machine were to be built up there is no guarantee that estate management in detail would be any better than under present conditions and it might even be less efficient. Finally, unless positive and efficient policies for tenure, for economic rents and for the formation of long-term capital were formulated and carried through into practice there would be no guarantee that the major problems at present facing the industry would be solved. In other words, the theoretical advantages of land nationalisation might prove illusory in practice.

SUMMARY AND CONCLUSIONS

MORE THAN half the farm land in England and Wales is still farmed by tenant farmers and it is primarily with factors affecting the landlord-tenant relationship that this short study has been concerned. The relationship is at present unsatisfactory in several ways; in particular, tenancy has become too rigid and the incompetent tenant has been afforded too great a degree of security of tenure, while rents on many estates are too low to secure efficient farming or to provide adequate funds for maintaining and improving permanent equipment. To meet this need the taxpayer has been obliged to find large sums of money to finance improvements through various Government schemes culminating in the Farm Improvements Scheme of 1957, in addition to general price subsidies. At a time when agriculture is relatively prosperous, and the continuation of that prosperity is assured under the long-term guarantees introduced in 1957, this is evidence of a weakness in the structure of the industry.

On tenanted farms this weakness is largely due to the fact that the higher incomes of the farmers have not been reflected in proportionate increases in the rents paid to landowners from which capital improvements would normally be financed. This in turn is attributable partly to the lack of a business approach in estate management, which became a tradition during years of adversity and for various reasons has continued over the last twenty years, and partly to the present excessive degree of security of tenure and the difficulty of raising rent. The major purpose of the 1958 Act is to remove some of these restrictions on the free operation of the landlord-tenant system by a slight easing of security of tenure and by defining the "proper rent" to be determined at arbitration to ensure that open market rents form the basis of awards.

The Act should lead to an increase in farm rents to a more competitive level. It has been well said that rents "should be maintained at such a level that the good farmer can do well, the average farmer obtain a reasonable living, while the inefficient farmer heads steadily for bankruptcy, although if he is wise, and the owner still wiser, steps will be taken to terminate, what is today a life tenancy, before this happens."[1]

Those tenants unable to adjust their use of resources and their level of output to meet economic rents would be obliged to make way for some of the capable young men who would be prepared to do so in return for the opportunity to farm on their own account. It must be acknowledged that some of the most incompetent tenants might be forced to leave their farms, but many others, with the assistance of the sound technical and economic advice now available to them should be able to reorganise their farm businesses effectively. In addition to this easing of the present inflexibility of tenure an increase in the price of land to an economic level should therefore lead to an increase in its net productivity as tenants would be obliged to make more economic use of it. At the same time, higher rent rolls would increase the means at the landlord's disposal for carrying out improvements to land and permanent equipment. These two forces, working together, should result in better equipped, more intensively farmed land in the hands of those best suited to manage it.

These beneficial results will not come about automatically, however; they will only be achieved if landowners and their agents adopt a more realistic approach to the business of running estates and, in particular, if they are prepared to insist on increased rents where the economic productivity of their farms justify such increases. Where necessary they will have to be prepared to take tenants to arbitration.

Much will also depend upon the interpretation placed upon the "rent properly payable" by arbitrators. The way in which the Government hopes it will be interpreted has been clearly set out and arbitrators have a moral duty to the nation to interpret

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[1]E. H. Fleming-Smith "Problems of Land Ownership" *Journal of the Farmers' Club*, Part I, 1954.

the new definition in that light. In the past many arbitrators would appear not to have interpreted the "rent properly payable" as an open market rent and the lack of precise definition of this phrase in the 1948 Act perhaps gave them some justification for their lenient attitude towards sitting tenants. It has been said of such arbitrators:

> "These men are honest and sincere, but their benevolence and their reluctance to apply strict principle to valuations has had unfortunate results. They care deeply for the land, and for the people on it, but they have been too soft with tenants. In consequence landowners are having to subsidise comparative inefficiency on very many farms, and the young, enthusiastic and efficient men are squeezed off the land. The market has been rigged, with the best will in the world, it is true, but rigged nonetheless."[2]

Tenant farmers also have a responsibility to see that the new system works. Many of them realise that although a low rent may seem fortunate for one, a general level of rents which is too low in relation to economic conditions is detrimental to the industry as a whole. Tenants on farms at present under-rented must be prepared to pay an economic price for their holding. In some cases, particularly on the larger arable farms the level of incomes is such that many of them can afford to do so with little if any change in their farm organisation. This is, however, not likely to be the case for the great majority of the smaller farmers. Some of these, especially those on poor land, are probably paying an economic rent already, while others could do so if they improved their technical and economic efficiency. The advisory services provide freely the help necessary to put farm businesses on to a sounder basis and grants of various kinds are available to cover at least part of the capital costs of any reorganisation. A shortage of working capital may, however, still be a serious obstacle on some farms. The best way of overcoming this particular problem might be for the commercial banks to extend credit more readily to farmers presenting a reorganisation plan supported if necessary by a farm budget drawn up with the help of the advisory services.

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[2]Agricola "Fixing Farm Rents", The Estates Gazette 28th June, 1958.

It is greatly to the credit of the farmers' unions that they agreed with the Country Landowners' Association the modification of the rules governing consent to notices to quit before the 1958 Act became law. It is to be hoped that both organisations will also take steps to ensure that their members are fully aware of the need for, and importance of, having to pay an economic price for the land and permanent equipment associated with it which are the foundations of the agricultural industry.

The 1958 Act provides what may be the last opportunity for landowners, their agents and tenants to pull the landlord-tenant system back on to a sound working basis. Government support to the industry provides a favourable background. It is now up to all concerned to show that under the sound economic conditions prevailing the advantages claimed for the system are real and practical. They will have to strive for greater flexibility of tenure, and greater efficiency in estate management, and must provide the incentives and the penalties which will encourage their tenants to use the land and buildings let to them economically and efficiently. Finally, they must be prepared to plough back in improvements much of the increased rents they may receive. It must always be borne in mind that the possibility of higher rents arises primarily from the support given to the industry by the taxpayer. At the present time, the net farm income in Great Britain, that is the sum total of farming profits, amounts to some £350 millions a year, while the direct and indirect subsidies paid to the industry by the State amount to nearly £250 millions.[3] Any severe reduction in subsidies would result in a fall in farm incomes and a decline in the demand for farms with a consequential fall in their capital and rental values. Landowners should therefore use the higher rents which may result from the operation of the 1958 Act to good effect by improving the productivity and efficiency of their estates. They will be misusing their trust if they do not do so.

If there is not a marked improvement in the financial position of the private landowner there can be little doubt that his role in the industry will decline even further. Owner-occupation is

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[3]The Minister of Agriculture (Mr. Hare) in a parliamentary reply on Monday, 9th February, 1959 gave the estimated cost of agricultural support in the financial year 1958/9 as £247.5 million.

still gaining ground and within the area left to tenancy the private landowner is being displaced by the large institution. The future of tenancy may well rest more in its hands than in those of the private owner. This will certainly be the case unless many private landowners are prepared to reorganise the finances of their estates. Agriculture is prosperous and the landowner has been offered a chance to share in that prosperity and once again to play a part in the well-being of the industry. It is up to him to seize the opportunity—it may not occur again.

Appendix

VALUATION FOR RENT

WITH THE possibility of an increasing number of farms coming on to the market to let and the virtual certainty of a much greater number of farms with sitting tenants being re-assessed for rent under the new definition of 'rent properly payable' laid down in the 1958 Act, much attention will be paid to the establishment of open market rents. The pace will be set by the offers made by prospective tenants. The basis on which these offers may be made, and a method by which they can be calculated in practice, are therefore of some significance.

From the point of view of a prospective tenant tendering for a farm the purpose of valuation is to calculate the highest rent he can afford to pay and still leave himself what he regards as a reasonable living. He must, therefore, not offer a rent which is too high in relation to his own abilities and requirements even if rumours of extravagant tenders have reached his ears. On the other hand, if he is genuinely attracted to the farm and knows that competition is keen he must be prepared to offer up to the maximum he can really afford if he is to have a good chance of securing the tenancy.

Theoretically, each potential tenant will estimate the value of the output he is likely to be able to obtain from the farm, and the costs he is likely to incur in running it. By relating the one to the other he will estimate the gross margin of profit he may expect from farming the land in a way he believes will be suited to its, and his own, capabilities. He must further decide what level of income will induce him to take on the tenancy; this will

depend upon a number of personal factors including his present income, his preference for the farm and its farmhouse, and for the type of farming to which it is best suited, and possible alternatives open to him. On the basis of these expectations he will decide what rent he can afford to pay.

A hypothetical example may help to make this clear. Consider the case of a mixed farm of 150 acres of average fertility and with a reasonable farmhouse and set of buildings that is to be let by tender. A potential tenant having walked the farm may estimate that he could achieve a gross output of £6,000 a year and that his working costs would be £4,550 a year. He therefore anticipates a gross profit of £1,450. If the lowest income he is prepared to accept on that particular farm, taking into account the amount of capital he would have to raise in order to run it, and his own personal preferences and alternative opportunities, is £1,000 he will be prepared to offer a rent of up to £450, or £3 an acre. Whether he will actually offer as much as this will depend finally upon his estimate of what his competitors are likely to offer. If he thinks that few are interested in the farm he may offer slightly less, but if the competition is keen he will tend to offer the full amount rather than risk losing the chance.

The calculation of rent as a residual provides one explanation of why rental offers vary so widely. For example, in the case given above another potential tenant, estimating the same level of output and costs, might be prepared to accept a personal income of (say) £700, so that out of an expected gross profit of £1,450 he would be willing to offer as rent £750, or £5 an acre. Such a comparison is not unrealistic, indeed much wider ranges in offers are recorded in practice. It might be that the first offer came from a man who was already a tenant on a smaller farm earning an average of £800 a year, but seeking a chance to move to a larger farm, while the second was from a younger man who had previously earned little above the agricultural wage in a managerial position and wanted to begin farming on his own account. More frequently, discrepancies in rental offers will reflect the fact that each potential tenant will make a different assessment of the economic potentialities of the farm in the light of his own managerial efficiency, or may make different assumptions about the future level of product prices and farm incomes.

APPENDIX

In practice, offers for individual farms are not calculated in such a precise, business-like way as the theory suggests. Some farmers, usually the more efficient and more commercially minded ones, will go through a detailed calculation and are accordingly less likely to make serious errors of judgment, while others may do so in a more general way, but a large proportion probably do not make a calculation of this kind at all. In everyday terms, it may be true to say that a few people after walking a farm will sit down to make detailed financial calculations, many more will jot down rough figures upon the back of an envelope, while the rest will arrive at a rental figure on the basis of the general level of rent in the district. Nevertheless, the only way of making reliable estimates of output and costs, and so of deciding what rent the prospective tenant can afford to pay, is to draw up a budget based on the farm plan it is intended to put into operation.

Budgeting may be a risky procedure unless carried out with extreme care, and with cross checks wherever possible, because relatively slight errors in estimates of output or expenditure can have disproportionate effects upon the residual which will be available as rent. Fortunately, the theoretical and practical aspects of farm budgeting have received a great deal of attention in the last few years particularly through the work of the Farm Management Liaison Officers attached to the University Departments of Agricultural Economics, and of the District Officers of the National Agricultural Advisory Service who are increasingly concerned with economic aspects of management. Moreover, survey work in agricultural economics has resulted in the accumulation and analysis of a vast amount of physical and economic data relating to farm output and expenditure, and this is available in various forms[2] to provide a realistic basis of assessing and comparing average performances on different types and sizes of farms. Data of this kind have been used to prepare the farm budget set out below. In drawing up such a budget care should be taken to keep the estimates of output and costs well within the capability of the potential tenant.

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[2]See "The Farm as a Business" published by the Ministry of Agriculture, Fisheries and Food and the Provincial supplements and reports published by individual University Departments.

CASE STUDY

A large farm of 450 acres in the South East of England. The soil is brick earth of high fertility and the fields are large and easily worked. There is a fair range of buildings with yard and parlour suitable for a dairy herd of 60 cows and followers. A pleasant farmhouse is in a very good state of repair. The farm is in a good situation and there is an adequate labour supply locally.

The prospective tenant has had twenty years' experience of farming, much of it in dairying and cash cropping. He has sufficient capital to run a farm of this size. After careful inspection of the land and buildings he envisages the following farm plan:

Cropping—340 acres of tillage under a four course rotation of corn, corn, roots, leys. This will give each year, 170 acres of corn, mainly wheat and barley with some oats for feeding. (Feed acreage, 25 acres). Previous experience on the farm indicates high yields with an average of 30 cwts. 80 acres of sugar beet with an estimated yield of 13 tons, 90 acres one year leys and 90 acres of permanent grassland complete the cropping. The leys and permanent grass will be used for grazing, silage and hay and this, together with the sugar beet tops, should provide sufficient forage for the dairy herd, followers and sheep.† The wheat will all be sold off but some of the barley and oats will be kept back for the stock. There should be a surplus of straw and at least 100 tons should be available for sale.

Cropping may be summarised as follows:

170	acres	Corn
80	„	Sugar beet
90	„	One year leys
90	„	Permanent grass
20	„	Buildings, roads and small copses
450	acres	

Stocking—60 Ayrshire dairy cows averaging 725 gallons with 45 followers in a self-contained herd. The best twenty cows and heifers will be put to a dairy bull for replacements. The others will be crossed with a beef bull and the calves sold off at a week old. A flock of 100 Clun ewes will follow the dairy herd.

The farm will be run with a labour force of eight regular workers consisting of a foreman, 2 cowmen and 1 other stockman who will look after the young stock and sheep, 3 tractor drivers and 1 general worker. Most of the arable work, including the sugar beet harvesting, will be highly mechanised but a considerable amount of casual labour will be required for thinning the sugar beet.†

Estimated Output		£
145 acres	Corn × 30 cwt. at 27/- per cwt.	5,800
80 acres	Sugar Beet × 13 tons at £6 a ton	6,240
60	Cows × 725 galls. milk at 2/11 per gall.	6,340
12	Cull cows at £40	480
40	Beef cross calves at £10	400
100	Ewes (net output of lambs, wool and draft ewes at £10 per ewe)	1,000
		£20,260

In addition there may be a number of miscellaneous items including sales of straw if this is allowed by the tenancy agreement.

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†Checks on the forage acreage and feedingstuffs requirements can be made by calculating forage and concentrates required by each type of livestock. A farmer who has kept careful records will be able to assess these on the basis of his previous performance. As a general guide, standards are given in "The Farm as a Business".

Other standards are also given for labour requirements which can be used to check the provision made for labour against the work involved in the farm plan.

Estimated Expenditure	£
Feedingstuffs 35 tons at £33 a ton†	1,150
Seeds 340 acres at average £3 an acre	1,000
Fertilizer 430 acres at average £4 an acre	1,700
Labour—Regular 8 men, including overtime, insurance, perquisites, etc.	4,600
Casual	700
Power and machinery (fuel and oil, repairs, and depreciation at £8 per acre)	3,400
Miscellaneous, 10 per cent of total expenditure	1,400
	£13,950

	£
Gross output	20,200
Expenditure	14,000
Margin	6,200
Personal requirement	2,500
Residual, available as rent	3,700

Rental bid approximately £8 an acre

On the basis of this calculation it would seem that the prospective tenant could afford to offer £8 an acre for the farm, if he himself required an annual income of £2,500. If he wished to obtain a higher income and/or to push the rental offer up a little higher, he would have to intensify production. This could be done with least disturbance to the existing plan by the introduction of a pig or poultry enterprise.

The preparation of a farm budget will be particularly useful for the specialised form of valuation considered above, estimating the rent a potential tenant can afford to pay. It will, however, also be useful in more general cases in which rents are reassessed on farms subject to existing tenancies. The tenant

should find it of value in presenting a statement of his ability to pay (no more than) a certain level of rent, while the landowner may also use it to advantage for calculating the rent he may reasonably ask. If budgets are prepared by both parties in an objective manner, and based on standard data for the type and size of farm concerned, there should not be a marked discrepancy between them. In practice, some leaning a little one way or the other might be evident but this could probably be resolved by detailed comparison of the budgets.

Serious ground for disagreement might arise, however, in deciding in what proportions the gross margin left after working costs had been defrayed from output should be divided between profit for the tenant and rent for the landowner. In the case of a farm let at tender this division is decided by competition amongst prospective tenants, but with a sitting tenant it must ultimately be decided by negotiation between tenant and landlord, or failing agreement, by arbitration. In either case, an economic assessment of the productivity and profitability of the holding by the preparation of budgets should still form a useful basis of settlement.

†Checks on the forage acreage and feedingstuffs requirements can be made by calculating forage and concentrates required by each type of livestock. A farmer who has kept careful records will be able to assess these on the basis of his previous performance. As a general guide, standards are given in "The Farm as a business".

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