AGRICULTURAL ADJUSTMENT UNIT · UNIVERSITY OF NEWCASTLE UPON TYNE

Capital Adjustment in Agriculture

A Workshop Report

7

THE AGRICULTURAL ADJUSTMENT UNIT
THE UNIVERSITY OF NEWCASTLE UPON TYNE

In recent years the forces of change have been reshaping the whole economy and, in the process, the economic framework of our society has been subject to pressures from which the agricultural sector of the economy is not insulated. The rate of technical advance and innovation in agriculture has increased, generating inescapable economic forces. The organisation of production and marketing, as well as the social structure, come inevitably under stress.

In February 1966 the Agricultural Adjustment Unit was established within the Department of Agricultural Economics at the University of Newcastle upon Tyne. This was facilitated by a grant from the W. K. Kellogg Foundation at Battle Creek, Michigan, U.S.A. The purpose of the Unit is to collect and disseminate information concerning the changing role of agriculture in the British and Irish economies, in the belief that a better understanding of the problems and processes of change can lead to a smoother, less painful and more efficient adaptation to new conditions.

Publications

To achieve its major aim of disseminating information the Unit will be publishing a series of pamphlets, bulletins and books covering various aspects of agricultural adjustment. These publications will arise in a number of ways. They may report on special studies carried out by individuals; they may be the result of joint studies; they may be the reproduction of papers prepared in a particular context, but thought to be of more general interest.

The Unit would welcome comments on its publications and suggestions for future work. The Unit would also welcome approaches from other organisations and groups interested in the subject of agricultural adjustment. All such enquiries should be addressed to the Director of the Unit.

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1968

PREFACE

On many topics in the broad subject of agricultural adjustment the first step of any examination is to collate the existing evidence. It then becomes possible to attempt a general statement of the principles involved and the way in which the factors are operating, thus leading to a better understanding of the issues. The way in which our lack of information limits our understanding will also be apparent. Capital adjustment is one of the topics where the Agricultural Adjustment Unit has attempted the collation of evidence by convening a workshop. Each workshop comprises of group of specialists in the field concerned who, over the course of a year or so, have jointly prepared a bulletin.

The resultant paper is the joint product of members of the group and therefore does not attribute individual authorship. The fact that it is a team effort does not imply that individual members of the workshop have no personal reservations about some of the points contained in it. Needless to say the views expressed in this bulletin do not necessarily reflect the views of the organisations from which members of the workshop are drawn. Membership of this particular workshop is given below.

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This bulletin is the third in the Unit series 'Studies in Structural Change'. The first, 'The Elements of Agricultural Adjustment', attempted to provide a general framework within which studies of detailed aspects of structural change could be set in context. The second, 'Farm-size Adjustment', discussed land occupancy, changing farm-size and land ownership. Here we are concerned with capital utilisation in agriculture, considering both the industry in total and the individual farm business. The continual increase in the demands for capital by the farm business presents difficulties to an industry still largely in the hands of individual proprietors. There may be some grounds for concern, particularly in the long-run, but the present level of knowledge is not sufficient to enable any firm conclusions to be drawn nor to enable specific recommendations to be made. It is hoped that the material in this bulletin will be sufficiently thought-provoking to encourage more research work and public interest, since capital is a major factor affecting the development of agriculture.

December 1968 JOHN ASHTON

CAPITAL ADJUSTMENT IN AGRICULTURE

CONTENTS

I. INTRODUCTION

There are two main aspects of the agricultural adjustment problem which provides the central theme to this bulletin on capital. Firstly, it is typical of developed economies that as incomes rise consumers spend proportionally less on agricultural products, so that, other things being equal, agriculture is not likely to enjoy the same increase in incomes that most sectors of the economy achieve. Secondly, by reason of advancing technology and changes in factor prices (i.e., land, labour and capital) there has been an increase in capital requirement and a decline in the requirement for labour on farms.

The effect of increasing incomes is that consumers extend their purchases of products such as cars, homes, refrigerators. As many of the resources required to produce these items and even the products themselves, may be factors of production in agriculture, there may be a rise in the price of resources used in the agricultural sector. This describes the familiar problem of the cost/price squeeze in agriculture, which is the way the price mechanism reflects the community's desire for only a fairly constant quantity of output from agriculture, with any resources that can be released from agricultural production being diverted to the production of other commodities.

The cost/price squeeze exerts pressure on the farmer to reduce his unit costs of production[1]. The farmer achieves cost reductions by increasing output, by changing his factor mix, and using more capital, most of which can only be employed economically when combined with a larger area of land, thus creating a continuous pressure for increasing farm size.

In this fashion general economic growth creates pressures for an agricultural industry containing fewer and larger farms with more intense capital useage. In the course of this bulletin, we shall be concerned with the future, and it is therefore necessary to say something of the general economic climate which is envisaged. The basic assumptions are that the present rate of agricultural expansion will continue, without radical changes in government price support policy, that current levels of taxation will prevail; so too will the steady rate of currency inflation.

The agricultural industry is caught between two forces. On the one hand there is the force of increasing size of businesses and towards a more efficiently structured industry and on the other the limitations of the consumers market. These forces apply in an economy subject to policy measures some of which would appear to

[1] To the extent that government policies keep farm prices up, the adjustment problem for farmers may be mitigated. From a national and international point of view this may represent a misallocation of resources but a discussion of the implications of this is beyond the scope of this bulletin.

aid the forces to increasing size of businesses, e.g., amalgamation grants, and others tend to soften the effects of the economic pressures, e.g., the supporting of prices.

Technological innovations are becoming available at an increasing rate, almost always requiring increasing business size for full utilisation, and yet there are many problems associated with enlarging of farm size. These problems are associated with income on the one hand and capital accumulation on the other. The progressive nature of income taxes makes capital accumulation out of income difficult, and the progressive nature of estate duty makes the passing on of capital and therefore the continuity of business units difficult. The barriers to the development and continuation of large businesses in agriculture apply particularly to the passage of real estate from one generation to another within farming or land owning families. This applies also to people choosing to enter the industry and develop such a business, and of course, to those farming in a small way who wish to expand in land holding.

The capital and income problems range over a very broad spectrum of size of business. At one extreme is the income problem of the hill farmers, at the other the problem of the capital continuity of the very large businesses[1].

The most general need over the whole range of agricultural situations is a need for flexibility, or an ability to adapt rapidly to changing economic circumstances. Capital, its availability and its use, is clearly central to this situation and is consequently of importance to the Agricultural Adjustment Unit. This bulletin is the first publication of the Unit dealing with this topic. Its objective is to discuss the role of capital in Agriculture, to isolate any problems and to examine how far the existing institutional framework is appropriate for an industry in course of transformation.

II. THE CAPITAL NEEDS OF THE INDUSTRY

There are three different needs for capital in agriculture. Firstly capital is injected as a substitute for labour and for land under modern methods of farming, including diversification into new lines. Secondly, capital is required to increase the size of business. Thirdly, as land values and prices generally increase, more is needed if only to cover increases in the book value of land. These categories provide a convenient framework for discussing the overall capital needs of the industry.

[1] A large and profitable agricultural estate in the South of England, satisfying all the conventional standards of farm management efficiency, was sold recently because the owner felt that 'however parsimoniously he lived, however hard he saved, he would never accumulate enough to be able to pay off the death duties, even at the agricultural rate, that would be incurred by his family even if he lived to be one hundred'. (*Financial Times*, 8th February 1968. p. 15.)

In looking to the future there are three main questions which must be asked: firstly whether in total there is adequate capital or equity available to the industry; secondly, whether there is an adequate mechanism for providing the capital where it is required; thirdly, at the individual farm level, are the pressures combining to favour farms with specific size or type characteristics.

Table 1, details for agriculture, the movement in output, labour employed, and gross capital formation for recent years.

TABLE 1

NET OUTPUT, LABOUR AND CAPITAL FORMATION: U.K.

Year	*Index*[1] *of net ouput* A	*Numbers of full-time men 000's at 1st June* A	*Capital formation net of machinery depreciation* B £*m*
1953–54	103	578	—
1954–55	95	568	—
1955–56	98	535	—
1956–57	107	510	65·5
1957–58	105	502	54·5
1958–59	102	488	75
1959–60	112	480	96
1960–61	119	462	107
1961–62	115	439	114·5
1962–63	124	420	99
1963–64	127	407	115
1964–65	137	381	130·5
1965–66	136	355	130·5
1966–67	135[2]	332	129
1967–68	144[3]	315	—

[1] Average 1954–55 and 1956–57 = 100.

[2] Provisional.

[3] Forecast.

Sources: A. Cmnd. 3558. H.M.S.O. Annual Review and Determination of Guarantees 1968.

B. National Income and Expenditure 1968. Tables 60 and 68. Machinery Depreciation from Annual Review.

(i) Capital as a Substitute for Labour and Land

A first approximation to measuring the effectiveness of resource use in agriculture is to compare indices between different industries although this has obvious

dangers. Table 2 gives figures of crude labour productivity. The relatively high rate of increase in agricultural labour productivity reflects not only increased efficiency but also that the labour force is falling with a rising output being achieved through increased use of capital.

TABLE 2

AVERAGE ANNUAL GROWTH IN LABOUR PRODUCTIVITY 1954–64*

Agriculture	5·1
Food, drink, tobacco	2·0
Oil refining, chemicals and allied industries ..	4·9
Engineering and electrical goods	2·0
All manufacturing	1·9
Mining and quarrying	1·9
Gas, electricity and water	4·3
Construction..	2·7
Distribution	1·4

* i.e. the compound rate of growth in the volume of gross product per head of labour force, including the self employed.

Source: Sharp, G. and Capstick, C. W. 'The Place of Agriculture in the National Economy' *Journal of Agricultural Economics*, Vol. 17, No. 1, 1966.

The relationship between total output and new capital formation is indicated by the Investment Ration and the Incremental Capital Output Ratio. (I.C.O.R.). These ratios have been calculated for various industries and are shown in Table 3. The calculations show that new capital is being formed in Agriculture at a comparable rate with many other industries and with the whole economy. By relating increments of output to new capital formation (i.e. the I.C.O.R.) the broad results of the investment are indicated. Criticism has been made of this measure however, because of the use of constant prices in measuring output. Since output prices in Agriculture have not risen as fast as those in other sectors then constant price I.C.O.R.s would tend to understate the additional capital requirements for a given increase in output. In addition to this the ratios for various industries take no account of the extent to which new capital is required to replace labour a very important factor in Agriculture. Thus the evidence of the I.C.O.R. calculations is inconclusive and does not provide a reliable guide as to whether additional capital should be directed into agriculture, into manufacturing, or into any other industry. There is a clear need for further research into methods of inter and intra industry comparisons of resource use.

TABLE 3

INCREMENTAL CAPITAL/OUTPUT RATIOS OF SELECTED INDUSTRIES 1955/64[1]

	*Investment Ratio**	*Annual average compound rate of growth of output*	*I.C.O.R.*
Agriculture	15·7	2·9	5·4
Mining and quarrying ..	14·5	—1·0	—
Manufacturing	12·7	3·3	3·8
Construction	5·3	3·6	1·5
Gas, Electricity and Water	75·5	5·1	14·8
Distributive Trades ..	9·3	3·0	3·1
Whole Economy ..	18·1	3·2	5·7

* Investment in Fixed Assets as percentage of Gross Product.

[1] Source: K. Dexter *Productivity in Agriculture* in 'Economic Change and Agriculture' ed. Ashton and Rogers; Oliver and Boyd 1967 p. 70.

There are dangers in using these crude indices in an indiscriminate fashion, but the main point to note here is that increase in output in agriculture has been achieved through the substitution of capital for labour. A most significant factor is that the changes in technology and farm organisation which have brought this about are likely to continue their present trends because society continues to devote considerable funds to agricultural research, more than £50m per year. If the full return from this investment is to be achieved the industry must be in a position to absorb this technology.

Developments in technology generally call forth increasing amounts of capital for new productive processes. It is important that the industry is aware firstly that changes in technology will continue and secondly that market relationships may change, so that whenever possible new production systems should be sufficiently flexible to adapt to changing conditions.[1]

(ii) Change in the Acreage of the Farm[2]

Much of the new technology in agriculture requires increased size in terms of acres for the most efficient utilisation of resources. Significant economies of scale are associated with most types of agricultural production so that there is a continued pressure at the production level for increased farm size. (See Section 4.) Table 4 shows how there has been quite a considerable increase in the number and proportion of farms over 300 acres.

[1] For example it may be unwise to invest a lot of fixed capital in a dairy installation of a certain specialised design when it may become outmoded fairly soon and market forces may force a change to beef production. This example only serves so illustrate the principle for obviously building flexibility into farms would soon reach a point where the gains from flexibility are outweighed by the losses from not having an efficient farm system.

[2] A fuller treatment of the land tenure aspects of agricultural adjustment is to be found in Bulletin No. 6.

TABLE 4

NUMBERS OF HOLDINGS IN THE U.K. AND THEIR DISTRIBUTION BY SIZE GROUPS 1959 and 1967

	'000 *holdings* *Size Group (acres)*							
	0–19	20–49	50–99	100–299	300–499	500–999	1,000 *and over*	*Total*
1959 No:	199·9	92·9	74·8	76·9	11·8	4·2	0·7	461·2
Per Cent:	43·3	20·1	16·2	16·7	2·6	0·9	0·1	100
1967 No:	160·0	75·8	67·8	71·9	12·8	5·4	1·1	394·8
Per Cent:	40·5	19·2	17·2	18·2	3·2	1·4	1·3	100
Change								
No:	—39·9	—17·1	—7·0	—5·0	+1·0	+1·2	+0·4	—66·4
Per Cent:	—20·0	—18·4	—9·3	—6·5	+8·5	+28·6	+57·1	—14·4

Source: A.A.U. Bulletin No. 6.

The pressure exerted by existing farms for a larger share of what is a declining available land area, due to the steady encroachment by urban development[1], has been one of the main reasons for the rise in the price of land.

(iii) Capital to Finance Increasing Land Values

Steadily rising land prices have come to be accepted as very much part of the agricultural scene particularly over the last decade. Before examining the implications of this trend in relation to capital availability, it is relevant to look at some of the factors which lie behind the demand for land and hence the increase in prices.

Undoubtedly the reduction in risk, arising from the price stability of the Annual Review system[2] has become capitalised into land values, so that commercial farming is able to tolerate higher land prices than before. Also the higher land prices reflect the greater productivity of the land as new technology has been applied to it. In addition land in some instances is purchased as an asset, a hedge against inflation and an opportunity for capital gains, including those available through tax concessions, rather than as a factor of production. This is over and above any 'love for farming' (or land ownership) which may lead land price to a level at which the return on the capital so tied up is abnormally low.

These changes have had profound influences on the price structure of the land

[1] The average loss to urban development in England and Wales between 1962–63 and 1966–67 was 49,000 acres (approx). (Bulletin No. 6).

[2] It could be argued that products not subject to price reviews and liable to wide price fluctuations, e.g. market gardening, invalidates this conclusion. It must be remembered however that the fluctuations are around a much higher level than the average returns per acre for price review products and high prices for land producing these products could be explained on this basis.

market and may result in land ownership being distributed less on the basis of profitability of farming than on the other elements. The price of land is one which equates demand and supply so in this sense the ruling price is one that is determined by economic forces, but many factors are combining to generate a price which is considered 'unrealistic' in terms of normal commercial investment earnings in other sectors.

Land prices obtaining pre-war were considered 'realistic' in that they represented an average return of about 4 per cent on the market value of the land which at that time was a reasonable figure for a safe investment, but, particularly since 1958, there has been a marked upward trend in land prices which is difficult to explain in terms of likely trends in profitability. This can be seen from the movement in the indecies of land prices and farm income in Table 5.

TABLE 5

AGGREGATE FARMING NET INCOME IN THE U.K. AND LAND PRICES IN ENGLAND AND WALES 1953 to 1967[2]

(ALL FARMS VACANT POSSESSION PRICE)*

Year	*Land Price* £/*acre*	*Index*	*Income*[1] £*m*	*Index*
1953	73	100	349·5	100
1954	75	102·74	347	99·28
1955	80	109·59	314·5	89·99
1956	78	106·85	350	100·14
1957	73	100·00	340·5	97·42
1958	85	116·44	376	107·58
1959	101	138·36	333	95·28
1960	123	168·50	362·5	103·72
1961	124	169·86	393	112·45
1962	134	183·56	425·5	121·74
1963	168	230·14	446	127·61
1964	214	293·15	406·5	116·31
1965	235	321·92	476	136·19
1966	242	331·51	463·5	132·62
1967	258	353·42	491·5	140·63

* Source: H. Maunder, 'Farm Land Values in 1967' *Estates Gazette*, 24.2.68. pp. 819 and 821.

1 The income figures for each year are for the financial year, i.e. up to the 30th June for that year.

2 It must be remembered that a comparison such as this is not entirely valid as U.K. income figures have been taken and E & W land prices.

Other important factors are combining to bring about rising land values, some of which are non-economic from the point of view of commercial operation of the farm. These are the attraction of land as an investment in an environment of continuing inflation, the attraction of land by which one can obtain an Estate Duty rebate, allowing a holder of wealth to pass on a larger inheritance if held in agri-

cultural land; and, finally the speculative purchase of land which it is believed will be needed for development purposes.

It is also the case that existing land holders can bid up the price of neighbouring land to a level which would be uneconomic for a purchaser wishing to operate this land as a single commercial unit. From the point of view of an existing land holder the price he is prepared to pay may be economic, for the neighbouring land may have a high marginal value. It may also be possible to sell the house located on the extra land. Similarly the existing holder may have owned his land for some time and it is thus entered on his books at some low historic cost. On purchasing an adjoining high price piece of land he is able to 'average' his land cost and still show an economic return on an average land figure for his enlarged farm. In such cases the person already in agriculture is placed at a competitive advantage, which presents a substantial financial barrier to entry for the person from outside.

The possibilities for 'averaging' will be made more difficult over time, for two reasons. Firstly normal market transactions will result in a revaluation of many farms at contemporary price levels, and secondly it appears that Probate valuations may have to be nearer full market price than has been permitted hitherto. Thus the transfer of ownership will give rise to a revaluation at contemporary values, some part of which, i.e. estate duty, must be supported by a cash injection possibly making it difficult for a farm to continue operating. However provided land prices continue to rise the established farmer will continue to have the advantage of being able to purchase adjoining land and average the land cost. Capital taxes provide many difficulties for farmers as will be seen in Section 5, but to the extent that they make it difficult for successive generations to continue farming, they may result in more land coming onto the market, thus alleviating some of the pressure for rising prices.

Finally the purchase of land for development can lead to rising land prices at two levels. Firstly there is the reduction in available agricultural land. Secondly displaced farmers with large amounts of realised capital can bid up land prices in other areas.

Rising land prices and hence book values of land are only a problem to agriculture if there is a net outflow of capital to other sectors or to the Treasury. As long as land transfers are within the industry, the problem of financing the purchase of land at high prices is not a problem for the industry as a whole. It does, of course, alter the requirements for those wishing to enter the industry and as for individual farmers the rising land prices represent an extra need for capital. Land changing hands will show an increased valuation to the new owner over the previous owner, the amount of this difference depending on the period of time it has been held by the vendor. Some land originally purchased in the 1920s' will be changing hands today but land will also be changing hands purchased within the last ten

years showing a much lower increase in book values. If as little as 1½ per cent of the agricultural land has been changing hands annually between owner-occupiers during recent years, then a conservative estimate of the average book value increase for this land would be £150 per acre or £90m per annum.[1] It is quite possible that the figure is in fact considerably more than this.

In summary, then, the agricultural industry requires capital for three main reasons: substitution for labour and for land, increasing the acreage per farm, and revaluation of land at contemporary prices. The capital position of the industry must be examined to discover what the order of future requirements is likely to be and how existing sources of capital are suited to supply this need, and *inter alia* what equity is available as a base for borrowing and raising capital.

III. THE EXISTING CAPITAL POSITION, SOURCES OF CREDIT AND LIKELY FUTURE DEMAND

(i) The Existing Position

A first approach describing the capital situation of the industry is to construct a Balance Sheet detailing the assets and liabilities for the industry, the separate items of which are set out below.

TABLE 6

THE ASSET STRUCTURE OF U.K. AGRICULTURE 1953 and 1965

(*contemporary prices*)

Assets	1953 £m	1965 £m
Landlords capital in land and buildings ..	1,850	6,500
Tenants capital in livestock, crops, machinery, stocks of feed, etc.	1,615	2,700
Total Assets	3,465	9,200
Liabilities		
Clearing Banks..	200	504
Relatives and private mortgages	450	460
Merchants	200	130
A.M.C. and L.I.C.	24	84
Others	5	30
Total Liabilities	879	1,208
Equity	2,586	7,992

Source: C. I. C. Bosanquet—'Investment in Agriculture' *J.A.E.* 1967, Presidential Address, revised. Cheveley & Price, 'Capital in United Kingdom Agriculture Present and Future', I.C.I. 1955.

[1] See Appendix 1.

There are however many problems associated with defining and measuring assets and liabilities and constructing such a balance sheet. (Appendix 1 considers problems of definition and measurement of capital.) There are three main areas of difficulty, the basis for valuation of capital, the size of private debts, and the extent of off-farm assets. Provided 'numbers' (e.g. acres, stock) are known, contemporary valuations can be applied to arrive at an aggregate figure for total assets at contemporary valuations. This figure does not represent farmers investment in real estate however, and for exploring capital and credit needs it would be desirable to calculate the actual investment of farmers (i.e. the book value of their assets). The landlord tenant/owner occupier split also creates a problem for asset valuation because of the wide difference between values with possession and values subject to tenancy. Little reliable information is available about private debts and assets and more up-to-date information is required.[1] On the asset side the breakdown of capital into landlords and tenants can only be considered an approximation. Bosanquet's figures are based on the estimates by Cheveley and Price made in 1955 which illustrates the difficulty of obtaining information in this field.

Accepting the shortcomings of the various estimates it is evident that there is a large amount of equity held by the industry. The relatively low debt ratio would appear to indicate ample resources against which to raise credit, and throws doubt on the statement that 'agriculture is short of credit', however, as will be seen the position is not as straightforward as this.

(ii) Sources of Credit

There are three ways in which capital can be raised to finance the increasing needs of the industry, firstly by running down farmers non-agricultural assets, secondly by forming capital from current income and thirdly by increasing the liabilities of the industry, by borrowing.

(i) *Non-Agricultural Assets and Sale of Development Land*

It has been said that farmers apparently no longer lend to the banks as much as the industry borrows. The only evidence that can be drawn comes from observations of particular cases. Bosanquet[2] points out cases where a substantial portion of the capital needed for improvements on two large estates came from the sale of stock exchange securities. But the evidence is too slender to be able to generalise.

[1] Cheveley and Price presented what they admitted as a 'very crude estimate', of credit owed to Private sources, e.g. solicitors, relatives, etc. at £450m out of a total debt of £879m (over 50 per cent) in 1955. See Stephen Cheveley and O. T. W. Price. 'Capital in U.K. Agriculture Present and Future', I.C.I. Ltd. 1955. Cobham and Strong make an estimate of £460m for 1966 which again they admit as being 'a very approximate figure which may well be an overestimate', see R. O. Cobham and W. O. Strong 'The Farmer and the Lender' I.C.I. Ltd., 1966.

[2] C. I. C. Bosanquet, op. cit. p.8.

There is an average loss of Agricultural land for various types of development of almost 49,000 acres in the U.K.[1] The sale of the land may represent a considerable additional source of capital for the agricultural industry. An estimate has been made that in the period from 1945 to 1960 farmers could have purchased 3·75 million acres of normal agricultural land or 12 per cent of the total cultivated land of England and Wales[2] from the receipts of land sold for development. More information is needed on the extent of realised capital held by farmers after urban development and the manner of its subsequent deployment.

(*ii*) *Capital Investment from Farm Income*

Farmers appear to be reluctant to borrow and have traditionally been investors out of income, so that the surplus of income remaining after the payment of income tax and maintenance of some normal level of consumption becomes important.

The calculations in table 7b are a revision of similar calculations made by Cheveley and Price for 1951/52[3] (Table 7a). Cheveley and Price assumed that the average farm family consists of the farmer, his wife and two children. Their minimum of £350 for living expenses has been raised to £545 to allow for 3 per cent inflation per annum for fifteen years, and again 20 per cent of profit in excess of these basic amounts is assumed to be used for living expenses. Tax rates used for a man, his wife and two children with earned income subject to normal relief, the rates being taken from the table presented in *The Times*, 8th April 1965.[4] The table is constructed on the basis of the income distribution for England and Wales which is based on returns from the Farm Management Survey.[5] The percentage distribution of income for full-time holdings of the sample was assumed to be typical of the United Kingdom, and these percentages were applied to the number of full-time holdings (i.e. 220,000) from the Structure of Agriculture[6] to determine the number of farmers in each group.

[1] A.A.U. Bulletin No. 6 'Farm Size Adjustment'.

[2] D. R. Denman 'Land Ownership and the Attraction of Capital into Agriculture, A British Overview'. *Land Economics* Vol. XLI, No. 3, Aug. 65 p. 2.

[3] Cheveley and Price, op. cit. p. 25, Table 5a.

[4] In both tables the Net Farm Income has been assumed to be the taxable income. The total available income has been calculated by multiplying the Net Farm Income by the number of farmers in each group. The Annual Review White Paper, Cmnd. 3229 (1967), shows a 'Departmental Calculation of £473m and a 'Raised Sample' calculation of £401m for Aggregate Farming Net Income in the United Kingdom for 1965-66.

[5] Farm Incomes in England and Wales, M.A.F.F., 1966. H.M.S.O. Table 55.

[6] The Structure of Agriculture. H.M.S.O. 1966. p. 8. It must be remembered that the farm incomes as per Farm Incomes in England and Wales are arrived at after an imputed rent charge has been made. For owner occupied farms therefore the investible surplus would be greater and the total surplus greater by the amount of rent which has been charged to owner-occupied farms. The Annual Review and Determination of Guarantees 1967 (H.M.S.O. Cmnd. 3229) shows a total rent figure of £120½m which includes an imputed change for owner-occupiers. The proportion of owner-occupiers is close to 50 per cent therefore there could be an investible surplus of around £180m as opposed to the £119m which we have calculated.

TABLE 7a

AN ESTIMATE OF FARMERS' SURPLUS IN THE UNITED KINGDOM 1951–52

Net Farm Income		*Income Tax and Living Expenses £ per farm*	*Average Surplus*	*Farmers in Each Group*		*Calculated Total Available Surplus £m*	*Calculated Total Available Income*
Range	*Midpoint*			*No.*	*%*		
£	£	£	£				
Over 1000	1,710	1,192	518	123,900	35·4	64·2	211·9
801 – 1000	900	604	296	30,100	8·6	9·9	27·1
601 – 800	700	519	181	37,800	10·8	6·8	26·5
401 – 600	500	451	49	49,350	14·1	2·4	24·7
				Total Surplus	68·9	82·3	
201 – 400	300	350	—50	47,950	13·7	—2·4	14·4
0 – 200	100	350	—250	33,250	9·5	—8·3	3·3
—1 – 200	—100	350	—450	14,700	4·2	—6·6	—1·5
—201 or over	—500	350	—850	12,950	3·7	—11·0	—6·5
				Total Deficit	31·1	—28·3	Total: 299·9
				Net Surplus of Farmers		54·0	

TABLE 7b

AN ESTIMATE OF FARMERS SURPLUS IN THE UNITED KINGDOM 1966

Net Farm Income		Average Income Tax and Living Expenses	Average Surplus	Farmers in Each Group		Calculated Total Available Surplus	Calculated Total Available Income
Range	Midpoint			No.	%	£m	£m
£	£	£ per farm	£				
6000+	7,000	4,207	2,793	9,900	4·5	27·7	69·3
5601 – 6000	5,800	3,322	2,478	1,540	0·7	3·8	8·9
5201 – 5600	5,400	3,109	2,291	2,200	1·0	5·0	11·9
4801 – 5200	5,000	2,895	2,105	3,300	1·5	6·9	16·5
4401 – 4800	4,600	2,649	1,951	2,640	1·2	5·2	12·1
4001 – 4400	4,200	2,435	1,765	3,960	1·8	7·0	16·6
3601 – 4000	3,800	2,235	1,565	5,940	2·7	9·3	22·6
3201 – 3600	3,400	2,021	1,379	6,160	2·8	8·5	20·9
2801 – 3200	3,000	1,808	1,192	8,140	3·7	9·7	24.4
2401 – 2800	2,600	1,709	1,091	10,560	4·8	11·5	27·5
2001 – 2400	2,200	1,405	795	18,040	8·2	14·3	39·7
1601 – 2000	1,800	1,183	617	20,680	9·4	12·8	37·2
1201 – 1600	1,400	974	426	29,260	13·3	12·5	41·0
801 – 1200	1,000	782	218	32,340	14·7	7·0	32·3
601 – 800	700	685	15	14,960	6·8	0·2	10·5
				Total Surplus	77·1	141·5	
401 – 600	500	545	—45	13,933	6·8	0·7	7·5
0 – 400	200	545	—345	18,851	9·2	7·0	4·0
—1 – —400	—200	545	—745	8,401	4·1	6·7	—1·8
—401 –	—600	545	—1,145	6,147	3·0	7·6	—3·9
				Total Deficit	23·1	22·0	Total: 397·2
				Net Surplus of Farmers		119·5	

(iii) Capital Investment from Borrowing

Additional capital requirements can be met by increasing the liabilities of the industry. Two of the major credit sources are private loans, probably obtained from family members, country solicitors and auctioneers, and loans from merchants. Very little is known about either of these two sources. Estimates can be made but it is not possible to say how these have developed over the years. Estimates of private loans are usually based on the figure quoted by the Radcliffe Commission in 1959, a total of £450m. This is a considerable sum and is of the same order as bank lending. Estimates of merchant lending vary between £130 and £200m. In view of the present profit margins in the ancillary industries it is unlikely that there will be any great extension of this source. Indeed the present pattern of the large compounders taking over country millers may lead to a curtailment of this credit.

Table 8 details the movements in some other credit sources since 1957.

Bank advances have more than doubled in the period 1957-1966. Agriculture accounts for between 9 and 10 per cent of total bank lending, however when one takes account of advances to the public sector, local authorities, nationalised industries, etc., agriculture accounts for 16 per cent of the remainder or private sector. The traditional role of the banks is to lend short term, but much of the borrowing is medium or long term and some is in fact 'locked in'. There is no certainty that agriculture will continue to take such a large share of bank advances. In the present day banks are increasingly controlled and directed by government. As an instance of such direction they no longer lend long term for land purchase. Increasingly, bankers lay stress on the ability of borrowers to repay loans from income and less on their equity base. It would seem that banks are not prepared to accept a role analogous to debenture holders.

The Agricultural Mortgage Corporation has increased its lending dramatically in the last decade, but even so this was only £100m in 1968. In order to put such a sum in perspective one must consider it against the relatively large sum of £6,000m, the value of the national estate, or in relation to the acreage of this estate, approximately £3 per acre of crops and grass. Further, the number of borrowers is only in the region of 10,000 in relation to 220,000 full time farmers.

Other sources such as Hire Purchase, and the Land Improvement Company are so small that very large changes would be necessary before they become important as major sources of credit though of course they may be important in particular applications.

(iv) Public Companies

Finally a further possible source of capital for agriculture should be mentioned. Agriculture is unique in that it is the only large industry where the bulk of the

TABLE 8

MAIN SOURCES OF CREDIT FOR AGRICULTURE. £m

	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967
Bank Advances, May:										
Total[1]	212·6	279·1	341·6	337·6	370·9	410·6	471·0	504·9	517·7	
Increase	—13·7	66·5	62·5	36·0	—6·7	29·7	60·4	33·9	12·8	
A.M.C.[2] Total: ..	32·722	33·219	35·635	40·785	47·879	50·642	57·687	64·193	71·462	87·050
Increase	2·195	0·497	2·416	5·150	7·094	2·763	6·945	6·606	7·269	15·588
(Re-Mortgages by existing owners)[2] ..	0·460	0·414	0·812	1·610	1·718	1·335	2·419	2·589	2·868	4·456
LIC Total[2]	1·5	1·5	1·5	1·6	1·7	1·7	1·8	1·9	2·2	2·2
Increase	0	0	0	0·1	0·1	0	0·1	0·1	0·3	0
H.P. Total[3]	8	10	10	12	10	10	11	12	13	13
Increase	2	2	0	2	—2	0	1	1	1	
Total Increase	—9	68	64	43	—1	32	68	41	21	

Sources: [1] National Income Blue Book.
[2] Private Communications.
[3] Private Board of Trade Communication (Unpublished Estimate).

equity capital is that of private entrepreneurs. Other industries have long since moved away from this type of organisation. There are a few public companies in British agriculture but with few exceptions, these are for non-land using enterprises, or at least where the bulk of the output comes from intensive livestock production such as broilers and egg production. Only one land-using farming public company has been identified in the U.K. and there are very special circumstances concerning its formation. The main reason for the absence of public companies would appear to be that current land prices are too high to enable an adequate return to be made, and justify their formation. Land prices are high because capitalised in them are returns which are not available to corporate bodies.[1] Unless land prices fall, relative to farming profitability it is unlikely that an adequate supply of additional capital would be available through the stock exchange and of course if land prices could be reduced, then one of the reasons for requiring additional capital would be removed. (See Appendix 2, 'Public Companies in Agriculture'). Alternative ways of channelling public investment into agriculture are being considered by interested parties, but for the present at least, these possibilities are not yet sufficiently developed to be operational.

(v) *Likely Future Demand for Credit*

It is likely that technical development will continue to mean that increasing sums of money will be required for capital formation in buildings, machinery, stocks, etc. Further, it is likely that funds will be required to finance increased book valuations of agricultural land as mentioned earlier.

Bosanquet[2] has estimated that the annual addition to both landlords' and tenants' capital in the period 1952–3 to 1966–7, is in the order of £100m. Adding this to an estimate made by O. T. W. Price of £89m needed for investment if the objectives of the national plan are to be achieved, the conclusion is reached that agriculture will have to make a net capital investment of approximately £200m per annnm by 1970 compared with £130m which was the 1965–66 net capital formation (Table 1). This capital requirement will increasingly be of a medium and long-term nature.

[1] These returns refer collectively to the attractions of land ownership mentioned on page 11 e.g. the amenity value, capital appreciation, the Estate Duty Rebate, etc.

[2] Bosanquet op. cit. p. 11.

IV. CAPITAL REQUIREMENTS AND RETURN ON CAPITAL BY SIZE AND TYPE OF FARM

If one considers the value of all agricultural assets at contemporary prices and relates this to the management and investment income of the industry as a whole then the overall return on capital is not very high. This is very largely due, however, to the high price of land and the relatively low return to this as rent. It is perhaps somewhat artificial still to distinguish between landlord and tenant capital in this way, since slightly over half the farmers are now owner-occupiers and it is only the remainder who pay rents and provide the basis for imputation. The owner-occupier is unlikely to distinguish between the two elements in his capital structure and will look to the overall return rather than any division into a landlord and a tenant return. Admittedly part of the overall return is the non-farming return of land and this is some justification for continuing the arbitrary division of capital and income between landlord and tenant elements.

Bosanquet made a calculation of overall return on tenants' capital for 1966. He estimated that the 220,000 full-time farmers employed about £2,430m of tenants' capital and had an aggregate management and investment income of £340m thereby earning 14 per cent on this capital. Bosanquet further estimates the net rent for the same period to be £108m on a current value of £6,000m for the national estate or landlords capital, a return of less than 2 per cent. If the two incomes and valuations are combined, then the total management and investment income is £448m and the total capital £8,430m and the overall return 5·3 per cent. These returns relate to contemporary values, the actual returns on historic capital will be higher.

Within this overall situation there will of course be a wide range of returns representing the variation in standards of management. There are other reasons why there should be a range of returns about the average, for example if advantages of scale exist then one would expect to find higher returns on larger and more specialised types of farm.

In the Table 9 below the return on tenants capital increases with size in virtually all type classification. In Table 10 it can be seen that if rent is added back and total management and investment income expressed as a percentage of total capital (including land at contemporary prices) then, though much lower, the return still improves with size. Some types of farming are excluded from Tables 9 and 10 because of the difficulty of obtaining a price for land. In the assessment seasonal fluctuations of tenant capital between valuation dates are ignored, but are unlikely to affect the total significantly. It is also important to note that the tenants' capital estimates are at book values rather than replacement.

TABLE 9

MANAGEMENT AND INVESTMENT INCOME AS A PER CENT OF TENANTS CAPITAL 1966

A[1] *Type*	*B*[1] *Size S.M.D.*[2]	*C*[1] *Tenants Capital —average of opening and closing valuations £ per acre*	*D* *Management and Investment Income* £ per acre*	*E* *Return on Tenants Cap.* $\frac{D}{C} \times 100$
Specialised Dairy	275 – 449	52·7	4·0	7·7
	450 – 599	57·3	9·3	16·2
	600 – 1199	60·2	9·3	15·4
	1200 – 1799	64·3	10·5	16·3
	1800 –	64·1	15·3	23·9
Mainly Dairy	275 – 449	45·4	3·5	7·7
	450 – 599	40·4	4·9	12·1
	600 – 1199	51·0	7·6	14·9
	1200 – 1779	57·5	6·2	14·3
	1800 –	54·8	8·7	15·9
Livestock Mainly Sheep	275 – 449	19·1	—	—
	450 – 599	15·0	—	—
	600 – 1199	12·8	0·5	3·9
	1200 – 1799	13·3	1·6	12·0
	1800 –	7·6	0·9	11·8
Livestock Cattle and Sheep	275 – 449	33·3	0·1	0·3
	450 – 599	31·9	1·2	3·8
	600 – 1199	39·0	3·3	8·5
	1200 – 1779	33·9	4·2	12·4
	1800 –	17·4	2·2	12·6
Cropping Mainly Cereals	275 – 499	39·8	1·8	4·5
	450 – 599	37·1	3·8	10·2
	600 – 1199	41·8	6·1	14·6
	1200 – 1779	40·8	6·9	16·9
	1800 –	41·0	9·0	22·0
General Cropping	275 – 449	50·0	9·4	18·8
	450 – 599	50·1	11·5	23·0
	600 – 1199	56·4	14·6	25·9
	1200 – 1779	49·4	13·2	26·7
	1800 –	52·3	13·6	26·0
Mixed	275 – 449	47·7	0·6	—
	450 – 599	42·0	4·7	11·2
	600 – 1199	50·2	6·3	12·5
	1200 – 1779	56·8	9·2	16·2
	1800 –	59·8	9·1	15·2

* Excludes the labour of the farmer and his wife for which an imputed value of £500 is deducted.
Source: [1]Farm Incomes in England and Wales 1966. H.M.S.O.
[2] Standard Man Day size groups are defined as follows:
Standard labour requirements are the annual requirements of manual labour needed on average for the production of crops and livestock with an addition for essential maintenance and other necessary tasks. The requirements are expressed in terms of 'standard man-days' (per acre of crops or per head of livestock) which represents 8 hours manual work for an adult male worker under average conditions. Two hundred and seventy-five standard man-days (smd's) is taken to be the equivalent of a year's work for one man.

TABLE 10

RETURN ON TOTAL CAPITAL BY SIZE AND TYPE 1966

Type *A*[1]	*SMD*[3] *Size* *B*[1]	*Av. Acres* *C*[1]	*Rent* £/*acre* *D*	*M. & I.* £/*acre* *E*	*Total Income*[1] *D+E =F*	*Price Land*[2] £/*acre* *G*	*Tenant Cap.* £/*acre* *H*	*Total Cap.* £/*acre* *I*	*Return* % $\frac{F}{I} \times 100$
Dairy	1	50	3·6	4·0	7·6.	332	52·7	384·7	2·0
	2	71	3·9	9·3	13·2	253	57·3	310·3	4·3
	3	123	4·3	9·3	13·6	230	60·2	290·2	4·7
	4	201	4·9	10·3	15·4	212	64·3	276·3	5·6
	5	334	4·7	15·3	20·0	235	64·1	299·1	6·7
Mainly Dairy	1	68	2·9	3·5	6·4	253	45·4	298·4	2·1
	2	99	2·6	4·9	7·5	253	40·4	293·4	2·6
	3	146	3·8	7·6	11·4	230	51·0	281·0	4·1
	4	245	4·9	8·2	13·1	212	57·5	269·5	4·9
	5	484	5·1	8·7	13·8	235	54·8	289·8	4·8
Cropping Mainly Cereals	1	133	4·4	1·8	6·2	230	39·8	269·8	2·3
	2	193	4·9	3·8	8·7	212	37·1	249·1	3·5
	3	306	5·0	6·1	11·1	235	41·8	276·8	4·0
	4	480	4·6	6·9	11·5	235	40·8	275·8	4·2
	5	839	4·7	9·0	13·7	235	41·0	276·0	5·0
Gen. Cropping	1	65	4·6	9·4	14·0	253	50·0	303·0	4·6
	2	80	4·3	11·5	15·8	253	50·1	303·1	5·2
	3	151	5·3	14·6	19·9	212	56·4	268·4	7·4
	4	275	4·8	13·2	18·0	212	49·4	261·4	6·9
	5	478	5·8	13·6	19·4	235	52·3	287·3	6·8
Mixed	1	63	3·0	—0·6	2·4	253	47·7	300·7	0·8
	2	110	3·0	4·7	7·7	230	42·0	272·0	2·8
	3	182	3·4	6·3	9·7	212	50·2	262·2	3·7
	4	265	4·9	9·2	14·1	212	56·8	268·8	5·2
	5	501	4·8	9·1	13·9	235	59·8	294·8	4·7

Sources: [1] Farm Incomes in England and Wales 1966.
[2] H. Maunder, op. cit. pp. 819 and 821.
[3] SMD size groups as col. B, Table 9.

V. TAXATION AND CAPITAL AVAILABILITY

(i) Income Tax

Farmers have traditionally been investors out of income. Income tax must, therefore, be an important factor conditioning capital availability. The progressive nature of income tax and surtax could become a strong disincentive to maximise cash profits. Once the marginal tax rate rises the agricultural entrepreneur will,

in making his decisions, tend to be influenced more by the net return after tax than by the gross income produced. Where tax rates rise above 15/– in the £, farmers may be influenced in their decisions by non-economic motives. The desire to own land, the desire for relief from management anxiety, technical perfection of operation, prestige projects and other personal motives may supercede the blunted profit motive and inhibit the growth of the farm business.

An industry such as agriculture and particularly its owner-occupiers where the ratio of capital employed to profits earned is high, at contemporary values, will experience difficulties in an inflationary environment. The industry is taxed upon 'profits' based upon realisation in excess of historic cost. Merely to retain an existing asset structure requires continuous injection of additional capital, either from profits, taxed progressively on the above basis, or from outside the business. There obviously comes a point with a large and successful business where the marginal tax rate may leave insufficient funds to finance the asset replacement at the current inflated price. Thus high marginal rates of tax, coupled with price inflation could make it difficult if not impossible to sustain growth from retained profits.

The levels of income tax and farm size may be approaching a position where, under the present atomistic structure of the industry, further increase in business size through capital investment out of income, may not be possible. It appears, therefore, that other methods of financing investment must be explored with greater emphasis on borrowing and also a change in business structure allowing group-financing through the formation of partnerships and companies.

(ii) Capital Gains Tax and Rating

Capital Gains Tax is a tax upon realised capital profits. However, given continuing inflation, it is in practice akin to a capital levy, the incidence of which varies with the rate of currency inflation. The Capital Gains Tax was introduced under the Finance Act of 1965, providing for the taxing of capital gains accruing after the 6th April 1965.

These gains when accruing to individuals are liable to capital gains tax; when they accrue to companies they are liable to Corporation Tax. Briefly and ignoring transitional provisions, Short Term Gains realised on the disposal of chargeable assets within twelve months of acquisition, are taxed as income, and Long Term Gains realised on the disposal of chargeable assets acquired more than twelve months previously, are taxed as Capital Gains, normally at 30 per cent of the gain (limited liability companies 42½ per cent).

The tax is not retrospective. Capital losses may be set against gains in the same year and net losses of a year may be carried forward without time limit and set

against gains of later years. Realised capital losses cannot be relieved against profits or income, which will include short term capital gains which are chargeable as income. There is exemption up to the first £5,000 for gains tax at death, and a total exemption of £10,000 at death and retirement together. Gains of £5,000 or less may be taxed on half of the gain as income, if this produces a result which is advantageous to the taxpayer, otherwise they are taxed at the standard rate of 30 per cent[1] so that these concessions will favour the smaller farmer. The main feature of Capital Gains Tax is that it has made transfer of ownership, formation of trusts, and other methods of estate duty avoidance far more difficult, as a change in ownership will require a revaluation of assets, and if a gain is shown this gain will be taxed.

Paradoxically this tax while a burden to farming, especially where capital gains may not be related to any increased income earning capacity of the farm, may have an opposite effect through its dampening of rising land values.

One way in which rising land prices could be further checked would be through the reintroduction of rating of land. The short and long-run effects of the imposition of rates on land may be considered separately. In the short-run, rating would involve hardship. The extra cost would, if incomes were to be maintained, force a higher intensity of land use, or if farmers were unable to do this they would have to accept a lower level of income, while those that are 'close to the margin' may be forced out of agriculture. The burden would fall hardest on owner-occupiers who would have to bear the direct cost of the rate. In the case of tenanted land the cost would, at least in theory, fall on the landlords, but in fact the degree to which a tenant would be affected would depend upon the extent to which a landlord could pass on this additional cost.

In considering the effect of rating in the long run, land owning must be distinguished from farming. In so far as the demand for land is determined by the rent it is capable of earning, a land tax or uniform rate should fall on rent and therefore have the effect of reducing the demand and lowering the price of land.

Theoretically, in the case of a perfect market response to rating, land at £250 per acre returning 4 per cent (i.e. £10 per acre) would if taxed at £6 per acre, generate a land price of £100 per acre. (£10—£6 capitalised at 4 per cent equals £100.) This merely serves to illustrate the direction of the pressures which the imposition of a land tax would create, and takes no account of the way in which such a change in taxation would work its way through the system.

The owner-occupier coming into the industry would have to meet the added cost of this tax, but because he would only purchase the land at a lower price, his

[1] Whether or not this option is exercised would depend on the Surtax rates payable by the taxpayer.

lower debt servicing obligations may compensate for the cost of the tax. His income stream would be lower, but with the lower land price he could purchase more land with a given amount of capital or invest some capital outside agriculture. The effect of rating would thus be to reduce the capital intensity of agriculture making, in regard to land-finance, more funds available for investment in other factors than land. The adjustment to this change might be difficult, but the tax could be to the ultimate benefit of the industry. An extensive survey of rural estates made in the 1950's found that only 21 per cent were capable of finding sufficient resources out of their own rental income for essential improvements to the farm land. Facts such as this would have to be considered in considering the desirability of reintroducing rating.[1]

(iii) Estate Duty

Estate duty is charged on assets of the deceased at rates which vary from 1 per cent on estates of £5,000 to £6,000 to 80 per cent for estates of £1,000,000+. 'Agricultural land' is allowed a special rebate and is taxed at 55 per cent of the normal rate, although this abatement does not apply where the incremental value of the land has risen because of prospects for development. The reduced rate of duty will only apply to the true agricultural value of the land.

The appreciation in land values means that the capital taxes are placing increasing burdens on the farm business. The object of the 45 per cent abatement, when it was introduced, was to reduce the tax burden and so give relief and greater stability to the owners of land.

The rebate may, however, have had the opposite effect, for land has become a much more attractive means of passing on wealth and so the value of the rebate has become a component of total demand for land bidding up its price. An individual whose wealth was subject to maximum rate estate duty, 80 per cent, could pass on an inheritance in agriculture, two and a half times what it would have been if this wealth had been held outside agriculture. It is possible to make calculations, subject to different assumptions, of this 'other value' of land but at this point it is sufficient to note that there is undoubtedly an estate duty advantage in holding agricultural land, and this will become capitalised into the land price.[2]

The fact remains that estate duty will become a considerable burden from the point of view of the continued operation of a farm business between generations.

[1] D. R. Denman 'Land Ownership and the Attraction of Capital into Agriculture: A British Overview' *Land Economics*, Vol. XLI, No. 3 Aug. 65.

[2] For a discussion on the value of the rebate see Appendix 3.

As Table 11 shows, the burden for an owner-occupied farm will soon run to high levels if the tax is going to be financed out of farm income.

TABLE 11

OWNER-OCCUPIED FARMS
CAPITAL VALUE, INCOME AND ESTATE DUTY LIABILITY 1966

Size of Farm A	*Tenants' Capital* B	*Landlord Capital* C	*Total*	*Estate Duty Liability at 55% of full rate*	*Over 8 years* E	*Reasonable Farming Net Income after tax* D	*Column (6) as proportion*
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(7)
acres	£000	£000	£000	£	£	£	*per cent*
77	3·5	19·5	23·0	1897·5	237·2	687	34·5
118	4·9	27·1	32·0	3696·0	462·0	1066	43·0
190	9·0	40·3	49·3	8405·6	1050·7	1773	59·3
295	15·1	62·5	77·6	19206·0	2400·7	2972	80·7
560	27·4	131·6	159·0	48097·5	6012·2	5664	106·1

A Farm Incomes in England and Wales 1966 Table 2.
B Farm Incomes in England and Wales 1966 Total Tenants Capital p.99.
C *Farmer and Stockbreeder* 6th February, 1968 p. 111 for land price of £242 per acre.
D Farm Incomes in England and Wales Table 3. Tax rates from *The Times*, 8th April 1965, for married man with two children subject to all normal relief.
E Estate duty may be paid in instalments over eight years. Interest is charged at 2 per cent on the outstanding balance which would increase this annual cost by a small amount.

The table is an updating of similar calculations made by V. F. Stewart for 1962.[1] It shows hypothetical charges on owner-occupiers of farms varying in size from 77 to 560 acres. The sizes chosen are the average sizes in the groups used by the Farm Management Survey. This table shows that the estate duty burden spread over the statutory maximum of eight years will soon absorb a sizeable proportion of net farm income after tax.

In no other sector of the economy is the continuity of a business unit so closely affected by the incidence of estate duty, even with the 45 per cent abatement. Looked at from the viewpoint of the business unit, the fact that the family farm unit devotes a considerable proportion of its resources to making provision for its own continuing existence reduces the amount available for investment in improving and developing the asset. This may suggest that the family-farm as a form of business organisation will have to undergo considerable amendment if it is to continue to exist within the present set of institutional factors. The farmer faces a two-edged sword, by making provision for estate duty he will reduce his business investments; however, by investing and increasing his profitability (which would help in paying the duty) he will increase the value of his estate and so increase his estate duty burden.

[1] V. F. Stewart. The Agricultural Problem in Estate Duty Taxation. *The Farm Economist* Vol. X, No. 10 1965 p. 419.

Much can be done, however, if farmers are aware of the problems imposed by estate duty, and they seek legal and financial advice. The main method of coping with Estate duty problems is through a reduction in ownership through the length of a generation coupled with various forms of insurance to cover that estate duty which cannot be avoided.

For gifts to be exempt from assessment for Estate duty, they must be made at least seven years before the owner's death.[1] It would be possible to make provision for death within this time period by taking out a seven year decreasing temporary assurance. Prior to the 1968 Finance Act, the Married Women's Property Act of 1882 provided considerable scope for the avoidance of estate duty[2].

As from 1968, separate policies will be aggregated and taxed accordingly. Policies up to £25,000 in force on budget day will not be aggregated and policies where the wife makes the premium payment will not be aggregated. The whole situation is in a state of flux at the moment as test cases are decided. The definition of what constitutes a payment by a wife (e.g. is it a genuine payment when a wife pays a premium from the proceeds of a wage paid to her by her husband as a housewife) has not yet been defined. The main conclusion at this stage is that the new legislation will make it more difficult to cover an estate for duty through life assurance.

It appears that the Inland Revenue are becoming increasingly rigorous in adhering to contemporary valuations for assessing the value of an estate for probate. This fact, coupled with the rising land prices, especially where these rises are not related to an increase in the profit potential of the land, must present many difficulties to farmers, especially the individual owner-occupiers, and therefore could be a force toward fragmentation of holdings as farmers sell land to pay estate duty.

(iv) The Combined Effects of Taxation

The combined effects of income tax and the capital taxes, in association with rising land prices, must be looked at in relation to the present atomistic structure of the industry and the pressures they are exerting on this structure. There are two

[1] Prior to the 1968 Budget the period was five years. It is less in Northern Ireland. The rates of estate duty are also slightly lower for estates from £10,000 to £125,000.

[2] For example a farm estate of £60,000 would, at the agricultural rate of 19·25 per cent have had to pay estate duty of £11,550 on the death of the owner, leaving an inheritance of £48,450. If the owner took out an assurance policy of £20,000 on his life payable to his executors, the proceeds of this policy would have to be aggregated with the rest of his estate for estate duty. The duty on the land would now be at 24·75 per cent or £14,850 corresponding with the rate for an £80,000 estate, and duty on the policy would be at the normal rate of 45 per cent or £9,000. The total duty payment would be £23,850 leaving an inheritance of £56,150. By taking out this policy the farmer would have increased the inheritance to his family by only £7,700 or 38·5 per cent of the value of the policy.
If, however, the policies were split under the Married Women's Property Act with say £10,000 to a wife, and £5,000 to each of two sons, then the policies would not be aggregated with the main estate. The proceeds from the policies would be £9,600, £5,000, and £5,000. The total inheritance would now be £68,050, or an increase of £11,900.

basic problems facing the individual proprietor. Firstly, if the business is successful and expands to reap the benefits from technological development it soon reaches a position where a high level of income tax becomes an inhibiting factor. Secondly, even if the business does not expand the capital taxes can be expected to present difficulties for the individual proprietor when passing on his land to the next generation.

The agricultural industry is composed of many small capitalists, but it exists in a society which is attempting to redistribute incomes. Rising land prices and inflation generally are bringing about a level of capital intensity on farms which the individual proprietorship cannot support unless initial capital can be acquired easily from relatives or inherited. With Capital Gains Tax and Estate Duty presenting serious obstacles, it may well be that the trend will be away from individual proprietorship as the dominant form of business organisation towards partnership and company farming.

The introduction of a wealth tax would reinforce the pressures exerted by the existing capital taxes. A wealth tax would bear heavily on low risk, low yield wealth such as land and could force investors to seek high returns elsewhere. As a result of the squeezing of an extra percentage from the already low return from land at contemporary values the price of land would be forced down. The desirability of a wealth tax should be considered in relation to the existing level of taxes. If the overall level of taxes was to remain the same, that is if there was an equivalent reduction in estate duty and capital gains tax, an annual tax on net wealth could yield the same revenue to the government at less real cost to the farming community as a result of the tax burden being spread and not occurring as a sudden once and for all payment. In addition the necessary frequent valuations would also enable a more up-to-date picture of the asset structure of the industry to be drawn.

VI. PARTNERSHIP AND COMPANY FARMING

The principal factors stimulating joint enterprise in farming are the economics of large scale production, rising land prices, and taxation considerations. Through devising different forms of partnership and company organisation farmers on the one hand can obtain access to greater amounts of capital, and landlords or capital-providers may obtain relief from taxation on earned income. It is however very difficult to make generalisations of any kind in this field. For example it is felt that the formation of partnerships and companies can allow considerable savings in current tax payments. These savings in current tax payments must be weighed against the very heavy and usually two-tier taxation that will be imposed upon a company should it ever be wound up.

A detailed list of forms of joint enterprise is not possible here but the following example serves to illustrate the considerations involved. In some cases the landlord and tenant may form a partnership or company which then becomes a tenant of the landlord. In considering whether the organisation should take over the land or farm it as a tenant the landlord will have to weigh the cost of having his rental income taxed at unearned rates and yet having the benefit of his land assessed at 'without possession' rates for estate duty, against having a higher income from the partnership, gaining the earned income allowances. In the latter case, however, as the major shareholder he would have his land assessed at 'vacant possession' prices in the event of his death.

The considerations involved in deciding on the appropriate form of business organisation can be quite complex, but broadly speaking fall into three categories: income tax, capital gains tax and estate duty. In relation to income tax it appears that a partnership liable to income tax and surtax will soon reach a level of profitability, where corporation tax at the flat rate of 42½ per cent even subject to the 'close company' provisions requiring a 60 per cent distribution of profits after the payment of corporation tax, will favour a company. As mentioned earlier however it is difficult to make generalisations as, if the company exists for only a relatively short number of years and is then put into liquidation, there would be many circumstances in which the close company would in fact pay considerably more tax than any other structure. The formation of companies allows greater scope for a wider participation, all directors will have the benefit of earned income relief, which is not the case for a sleeping partner. A partner is better off with regard to interest payments since interest on a loan from him is treated as earned income. A company is in a less happy position, no deductions for interest payments being made when income tax is assessed. The interest payments are treated as if they were dividends. Therefore, by the time they reach the shareholder the Inland Revenue has had two bites at the cherry. The partnership, therefore, allows more flexibility in a business, where unequal amounts of capital have been contributed by allowing the profits to be distributed unequally as interest on capital.

Short term capital gains are, in partnerships, taxed as income and may be liable to surtax; a partnership could therefore be at a disadvantage compared to a company where the gains will be taxed at the flat corporation rate of 42½ per cent. Long term gains for partners are taxed at 30 per cent subject to the usual relief, whereas a company is taxed on long term gains at 42½ per cent charged to corporation tax and not separately to capital gains tax. The gain cannot reach the shareholder unless it comes as a dividend and is thus taxed at 8/3 in the £ in addition to the 42½ per cent already charged. If retained by the company the gain will, on liquidation, increase the value of the shares and would, therefore, be hit by the

normal 30 per cent capital gains tax again over and above the 42½ per cent already paid by the company.

As stated earlier, the main estate duty considerations involve the possibility of having the estate assessed at the lower 'without possession' valuation. The 45 per cent abatement will apply to land that has been occupied by a partnership, while in the event of the death of a shareholder in a company probate is assessed at normal rates on the value of share capital. This does not apply universally, however, and in some cases where the holdings of a company have to be valued by reference to the value of the company's assets, then reduced rate relief may apply to that proportion of the assets which have an 'agricultural value'.

It is a truism to say that the decision as to the most desirable form of business organisation would depend on the circumstances.[1] A partnership is generally more suitable for smaller scale businesses. The increased flexibility in terms of varying ownership gives the limited liability company an advantage for larger businesses.[2] The private company may provide a step in the evolution toward public company farming.

The success of a joint activity will call for close co-operation, which may be difficult to achieve amongst independently minded farmers. The dissolution of an unsuccessful partnership or company may be much more difficult than its formation.

A successful example of what joint activity can achieve was mentioned in the *British Farmer* of 2nd December 1967. This article reported how some tenant farmers on a southern estate had co-operated with their landlord in a joint enterprise to make the most of a much bigger unified farm. The overall production from the combined farms was substantially greater after combination, as several economies of larger scale production became possible. The individual tenancies had been safeguarded, while a limited company of which the landlord is a shareholder, has become a tenant of the landlord. The company is not treated any more favourably than other tenants in relation to rent levels and this rent would be taxed at unearned rates. This would to some extent be made up by the fact that the income of the

[1] There are many complications which cannot be considered here. For example in a landlord/tenant limited company relationship usually the landlord would want to be in a position where he or his executors can re-obtain vacant possession. To be certain that he can always do this, the landlord would have to be in a position of controlling 75 per cent of the company's shares, which is the majority required to pass a special resolution by any limited liability company. Even to retain only ordinary day to day control he must control at least 50 per cent of the shares. In both cases for Estate Duty purposes the company would be valued on an assets basis which may cause difficulties if the landlord's family are not readily able to turn the shares of the company into cash to enable them to meet the estate duty liability. Once shares are held by persons outside the family many difficulties can arise on the death or even on the disagreement of the shareholders.

[2] 'The general advice of the accountancy profession has been that if a farming business has less than £15,000 net farm income per annum it is doubtful whether there is any advantage in forming a company' see H. A. Thomas, 'Aspects of the Economics of Land Ownership', *Journal of Agricultural Economics*, Vol. XVIII, No. 2 May 67. p. 199.

landlord as a director of the company would be taxed at earned rates. The formation of a private company in which the landlord did not have a controlling interest would be unwise, since under existing law this company would exist in perpetuity and thus the tenancy would be everlasting.[1] The article concludes by pointing out that the most important factor is the personal relationship between landlord and tenants, and the mutual trust and confidence which have grown up. It is difficult to imagine schemes such as this lasting for several generations because of these personal relationships involved. More impersonal forms of joint activity will therefore continue to be of importance.

Other Forms of Joint Activity

Section 4 has indicated that a higher return on capital can be achieved as farm size increases. Farmers can obtain many of the benefits of large scale through co-operative action while still retaining control of their separate farms. Co-operation in the U.K. has not developed to the same extent as on the continent. In the main the co-operative activity of farmers is in the provision of requisites, most of the 4,000 societies registered under the Industrial and Provident Societies Act are primarily concerned with selling requisites to members. There are some co-operative organisations concerned with selling members produce, but only a few concerned with co-operation in production. Further most of these few production co-ops are concerned with a particular activity, e.g. grain drying, rather than fully integrating the business. In considering the advantages of co-operation it should be noted that one of the main economies of scale is likely to be in management. Since few of the principals of constituent farm businesses have, or desire, other occupations there is little likelihood that a large extension of co-operation will take place. Because of this and because of the organisational complexity of co-operatives the possibility of this type of business grouping is not further considered in this bulletin. A rather more radical form of business organisation which has possibilities for agriculture is the Franchise system.

A franchise is a special privilege granted to an individual. As applied to production the term was used initially in England when the crown would grant a franchise for the production of a particular good which it required. The good would be produced by the franchisee, subject to the specifications of the franchisor (i.e. the Crown). The concept of franchising was developed extensively in the United States of America and involves the sale of management and technical knowhow by a franchising firm to those who wish to buy this knowledge. Developed to its full extent it can take many of the risks out of going into business for a small man and will improve his competitive position in relation to knowhow, purchasing power, advertising, selling, etc.

[1] For full description of legal and financial considerations involved in Joint Enterprise Farming, see C.L.A. publication *Joint Enterprise in Farming*.

Broadly speaking franchising involves the specialised production of a particular good, line of goods, or services, under a contractual arrangement. The franchise company draws up detailed and specific plans as to how the good is to be produced. It does this as a skilled and expert producer of the good making available this expertise at a fee. In the case of the poultry industry in the U.S.A., Franchise companies have initiated the setting up of companies composed of producers, feed compounders, and egg packers. The Franchise company is a shareholder in the franchisee company its contribution in terms of capital being its 'Manual for Production'. This manual is a step by step account of the way in which to develop and operate a profitable egg farming company.[1]

The product is promoted and sold under the brand name of the franchise company, thus the farmer benefits from large scale advertising, provided he conforms to the quality specification of the product. The feed compounder has the advantage of guaranteed sales and is thus able to plan more effectively; similarly the egg packer has a guaranteed source of supply. Collectively they can work for the increased profitability of the company. Large vertically integrated firms have the various stages of production under their control and are able to benefit from a reduction in costs. What franchising enables is a development along similar lines with the farmers at the production stage, retaining their individual identity, though losing some degree of freedom of operations. It is an effective method by which small scale producers can compete with the larger combines. This system is well suited to egg or broiler production which is of a specialised nature and for which it is possible to detail a manual of production, specifying type and quality characteristics for the end product. It would obviously be a more complicated and difficult process to draw up a standard blueprint of production for a dairy farm. The Franchise system is, however, merely one possible type of business structure which could enable farming to adapt to changing technology.

This bulletin has highlighted the problems of capital accumulation for the small independent unit. In general it appears likely, in the absence of any radical change in government policy, that there will be a trend towards co-operative and joint enterprises in farming. Considerable ingenuity may be necessary to devise suitable forms of business organisation for a changing agriculture.

VII. CONCLUSION

Farmers are in continuing need of more capital per business unit if they are to maintain their efficiency. There are three causal factors involved in this, to substitute capital for labour, to increase the size of business and thirdly to keep pace with the inflation of price-levels generally, but particularly land prices. Bearing in

[1] C. B. Jensen-Chickman Press Conference, 4th March 1968.

mind that there are now some 200,000 full-time farmers and that these are responsible for 90 per cent of the output—and can, therefore, be expected to utilise some 90 per cent of the capital of the industry, Table 6 would suggest that the average capital employed per full-time farm in 1965 was approximately £40,000. This is almost three times the corresponding figure for 1953, which is a striking change in so short a period. Equally significant, though, is the debt structure of the industry—where total debts have not increased in proportion to capital usage, although it must be admitted that the figures are subject to errors of estimation. The industry has, then, undergone a major transformation of its capital structure without any deterioration of its relative equity position.

In looking to the future, however, there are reasons for supposing that the development of the industry may give rise to difficulties which may impede the full management potential unless the impediments are recognised and remedied in time.[1] Taking the three factors influencing the demand for capital, there are no grounds for supposing that the force of any of these will weaken. Inflation, the current effects of which have not worked themselves through the whole industry, seems likely to continue. Technological advance shows no sign of slowing down and generally favour the substitution of capital for labour and an increase in size of farming enterprises. It has sometimes been argued that most economies of scale are achieved at a relatively modest-sized farm, but this may be an ephemeral judgement—and the full implications of the sophistication of highly developed technology may not yet have become apparent. As yet there are so few farming giants that it is impossible to generalise about this. Even if this possibility is ignored, an examination of the existing structure of agriculture confirms that much of the industry is based on units which are known to be too small. In short the pressure for the individual farm to employ more capital is likely to continue unabated. At the same time, the industry is still largely in the hands of individual proprietors, who—in common with the rest of society—are facing a taxation policy designed to reduce inequalities in wealth and income. Not surprisingly, therefore, it is possible to see some conflict between the needs of the industry for capital and the ability of individual proprietors to provide it. The changing capital requirement of the industry has been so recent, as too have been some of the taxation measures, e.g. Capital Gains Tax, that it is not an easy matter to assess the pattern which may emerge over the next ten or twenty years.

In any considerations the most important single item in the capital situation is land and land prices, the latter of which are affected by many variables. A combination of technical progress and government price supports have not only increased the earning power of land but have also reduced, substantially in some cases, the

[1] For example the problems of debt repayment which may face a farm that has undergone amalgamation may severely restrict its operations.

risks in farming. An industry with a low risk element can normally expect a low return on capital—and since the way of 'buying into farming' is to acquire land, one would expect its price to be on the increase—to reflect this change in risk. The individual with wealth may be attracted into land by the Estate Duty rebate afforded to landowners. Again, this advantage can be expected to become capitalised in land values. Thus, in a paradoxical way, measures which are intended to assist agriculture may be contributing to rising land values and, hence, to the industry's capital problems. With high levels of marginal tax on incomes, those who have large incomes may be less concerned with additional remuneration than with non-monetary satisfaction. Those who enjoy the amenities of rural life may be prepared to deploy some of their resources into farming, notwithstanding the lower return on pre-tax income.

For a complex set of reasons, then, land values may be subject to pressures which result in a low return on capital for the land-purchaser. For the individual who wishes to buy land in order to expand his farm this presents problems.

Thus if the individual proprietorship is likely to put the industry at some economic disadvantage in the years ahead, it may be desirable to consider some alternative business organisation. Some possibilities have been mentioned earlier in the text, as have also the limitations of these alternatives. For example, in looking at ways of introducing public funds into farming, by way of the joint-stock company, it is striking that with barely an exception, companies now in existence are based on intensive production, usually poultry, and are not extensive land-users. It is true that to utilise capital of the order of magnitude associated with public companies thousands of acres are required and blocks of this size are seldom available. But how far is this the real limitation, rather than the fact that Estate Duty relief and amenity value are benefits which are unattainable by shareholders?

It is regrettable that any discussion of capital in farming is usually conducted in generalities or on the basis of fragmentary evidence. This is inevitable, however, because of the lack of information on the issue. Insufficient is known, at the level of the individual farm, of how capital is acquired and how it is deployed. Moreover the determinants of land value, although appreciated in general terms, are too imprecise to provide a satisfactory explanation of these values. It is quite clear that in recent years the agricultural industry has had a major change in its capital structure. There are some grounds for wondering whether the existing pattern of proprietorship and the existing institutional and taxation framework may be the most appropriate for the industry in the future. Before such questions can be answered, a more accurate picture is required of the way in which development is taking place. It is hoped that this bulletin at least provides a starting point from which this examination could move.

APPENDIX 1

PROBLEMS OF DEFINITION AND MEASUREMENT OF CAPITAL

By Capital is meant the value in money terms of the physical assets of a business or individual. In certain cases the money value will be at contemporary prices and in others at historic or cost price.

There are several problems of identification and measurement. In constructing a 'Balance Sheet' for agriculture, some items are relatively easily identified and measured both in physical and money terms, e.g. acres, numbers of livestock, etc. However there are items for which little or no information is available, external non-farming assets of farmers and the private loans received by farmers being the most important. Whether historical cost or contemporary price should form the basis of valuation is a fundamental problem. A knowledge of both is necessary if one wishes to estimate the funds needed to support increased prices as assets change hands in a continuing period of inflation, this being particularly important in the case of real estate. In the case of tenants' capital, estimates based on book values will also be written down by depreciation allowances, and will thus be considerably less than the amount of capital that would be needed to start business anew. The major problem of estimating values is in relation to real-estate, where there have been dramatic price increases during the period of tenure of the majority of landowners. It is in land sales that a considerable amount of new capital will be required to support the difference between the price obtained and original cost to the vendor. It is easy to say that at contemporary prices the national estate is worth £6,000m but the present book value of the land is not known.

An attempt has been made by John R. Brake, in 'Impact of Structural Changes on Capital and Credit Needs' in J.F.E. Vol. 48, December 1966 on p. 1536, to estimate the book value of land in the U.S.A. He takes 1925 as a base year, with real estate values representing actual investment, and for each year after 1925 the proportion of ownership transfers per year was used with the real estate values in that year to update the book value. He arrives at a book value for farmers' real estate investment in 1965 of $87·6 billion as compared with a contemporary valuation of $159·4 billion.

This type of analysis would be difficult for the U.K. for three reasons: the lack of adequate information on land sales, the problem of two different ruling land prices, reflecting vacant possession and tenanted land, and the absence of any base period of static land price long enough to ensure that the majority of land had the same book value.

In spite of this limitation it is possible to make a crude estimate of the annual financial requirement to support increases in book values. Between 3 and 5 per

cent of farms change occupancy each year and since more than half the total land area is now owner-occupied, at least 1½ per cent of the land is subject to sale at market price each year and therefore its book value increased. From 1952–1958 £78 per acre was the average price of land with vacant possession, hence a low value of £78 per acre or less if purchased prior to 1952. (Much land having been bought at low sitting tenant prices an even lower book value might be reasonable.)

Thus the current annual increase in book value of land can be estimated as follows:

	£/ac.
Current price of land	235
'Average' book value	78
Increase in book value at sale	157 or say £150

Applying this to the national U.K. estate of 40m ac.

$$\frac{157 \times 1{\cdot}5}{100} \times 40{,}000{,}000 = £94\text{m or say } £90\text{m.}$$

This does not take into account farms sold in the tenanted sector without vacant possession, where also there must be increases in book values, nor the number of farms where tenure has changed from being tenanted to being owner-occupied—where the proportional change will be even larger.

APPENDIX 2

PUBLIC COMPANIES IN AGRICULTURE

As stated in the text the principal factor inhibiting growth of public company enterprise in agriculture is the low return on capital resulting from the high prices which must be paid for land. Land prices are high because they include 'capitalised incomes' which are not available to corporate bodies.

Public companies do exist in the agricultural sector but in most cases the land is not a significant component of their total capital structure. An investigation was initiated into those public companies involved in agriculture on the basis of large scale farming without a supporting degree of vertical integration, i.e. farms owned solely by public companies, and where the company did not have income from other sources. It was hoped that an investigation of the factors determining the existence of these companies might highlight the reasons for their scarcity in agriculture. It was not possible, however, to identify a sufficiently large group of farms for valid empirical conclusions to be drawn.

A brief investigation was carried out in another country, Australia, where there is some development of public company farming, in the hope that an examination of the explanatory factors there would highlight some of the reasons for the lack of similar development in the U.K.

The principal conclusions were as follows:

(1) Most Australian land legislation has encouraged the continuation of the family farm as the basic unit, however a great deal of rural land outside the more closely settled areas is leased by the Government on long term leases at relatively low rentals. Under this low land cost form of tenure companies have established operations over extensive pastoral areas in the northern and inland areas of Australia.

(2) In many cases the farming operations of a company are supported by other activities such as stock and wool dealing.

(3) In cases where the company is engaged solely in farming, there are often extensive development projects underway with a capital gain envisaged after the breakdown and sale of the land to individuals. There are significant economies associated with the large-scale development projects which would be beyond the scope of most individual proprietors. In this case the companies can be thought of as land developers rather than farmers.

(4) Taxation considerations are an important factor in public company activity in the rural sector. The primary producing company as a taxable entity in its own right is assessed for tax purposes in much the same way as an individual primary producer and is thus eligible for the usual special considerations, including deduction of operating expenses, certain capital expenditure, depreciation allowances, investment allowances and employee superannuation deductions, available to primary producers. It is in the calculation of net tax payable that the incorporated enterprise differs from that of the unincorporated enterprise and where there are important differences with the situation in the U.K. The criteria laid down in the various companies acts to distinguish between public and private companies make it possible for a company to be classified legally as 'private', and yet for taxation purposes be ranked as a public company. This helps to explain the structure of many public companies carrying out their activities through many subsidiary private companies. The subsidiary companies benefit from certain legal advantages available to private companies (control of shares, etc.) but as they qualify as public companies for taxation purposes, although subject to a higher primary rate of tax than private companies, they are not obliged to distribute excess profits. The company is thus able to accumulate revenue for reinvestment or pass profits on to the holding company for distribution to shareholders as dividends. The splitting of companies is further encouraged by the tax on public company profits on the first A$10,000 being at 37·5 per cent with a differential flat rate of 42·5 per cent for profits in excess of this. As in the U.K. an important taxation consideration is that a company existing in perpetuity is not liable for estate duty.

Table 2.1 shows the number of companies in agricultural production in Australia but as the note indicates the data should be treated with caution. Table 2.2 shows the performance of six companies engaged exclusively in farming production. It is interesting to note that one of these has been taken over by Dalgety and New Zealand Loan, a large wool broking and stock and station agency company.

The contribution of companies to agricultural income in 1964–65 was $52m (including private companies) compared with $669m from sole proprietors, $554m from partnerships and $32m from Trusts.[1] The position of public companies is thus small in total.

The principal factors explaining the existence of the companies are, the low land cost element in the capital structure, and, in the absence of capital gains tax, the possibility of large scale capital gains associated with developing virgin land for productive use.

[1] Source: Communication from Bureau of Agricultural Economics, Canberra, A.C.T.

TABLE 2.1

NUMBER OF COMPANIES ENGAGED IN AGRICULTURAL, GRAZING AND DAIRYING INDUSTRIES[1]

Income Year	*Private*	*Public*	*Taxable Companies Total*	*Non-Taxable Companies Private and Public*[2]	*Taxable and Non-Table Private and Public*
1953–54	1,094	81	1,175	557	1,732
1954–55	1,082	81	1,163	751	1,914
1955–56	1,118	79	1,197	848	2,045
1956–57	1,295	94	1,389	873	2,262
1957–58	1,005	78	1,083	1,472	2,555
1958–59	1,121	81	1,202	1,636	2,838
1959–60	1,498	112	1,610	1,598	3,208
1960–61	1,687	113	1,800	1,830	3,630
1961–62	1,732	108	1,840	2,136	3,976
1962–63	2,044	105	2,149	2,126	4,275
1963–64	2,346	127	2,473	2,082	4,555
1964–65	2,253	108	2,361	2,553	4,914

[1] Resident and Non-Resident Companies.

[2] Not available separately.

NOTE: Data extracted from *Taxation Statistics* relating to companies in rural industries should be used with caution. Private companies which are subsidiaries of public companies are generally treated as public companies for taxation purposes. Furthermore, the commercial farming activities of a number of public companies are offshoots of other activities; stock and station agencies, sugar factories, cigarette manufacture, building and construction. It is possible therefore that a number of public companies with farming interests are classified in *Taxation Statistics* under industry categories other than primary production.

Source: Bureau of Agricultural Economics, Canberra.

TABLE 2.2

PROFITS AS A PERCENTAGE OF CAPITAL—PUBLIC COMPANIES ENGAGED IN PRIMARY PRODUCTION(d)

Public Company	*Marra Developments Ltd.*	*Aust. Beef Cattle Dev. Co. Ltd.*	*Newstead South Holding Ltd.*	*Squatting Investment Co. Ltd.*	*Australian Stock Breeders Ltd.*	*Whale Industries Ltd.* (e)
Nature of Business	Pastoralists	Beef Dev.	Graziers	Graziers	Pastoralists	Pastoralists
	$	$	$	$	$	$
Net Tangible Assets (a)	2,161,296	457,600	1,024,198	2,279,100	662,194	1,677,760
Market Value (b)	2,102,560	348,400	1,168,224	1,727,696	442,118	961,716
Pre Tax net Profits as % of Net Tangible Assets (c)	17·3	3·9	16·1	6·7	5·3	5·5
Pre Tax Net Profits as % of Market value of company (c) ..	17·8	5·1	14·1	8·9	8·5	9·7
Earning Rate % (f)	21·8	n.a.	9·9	n.a.	n.a.	n.a.

(a) Net Tangible Assets per share × No. of shares as at 30/6/63.

(b) Market price per share (av. for year 1963) × No. of shares.

(c) Av. 3 years 1960–61 to 1962–63.

(d) The companies listed are exclusively engaged in primary production.

(e) Taken over by Dalgety and New Zealand Loan in 1967.

(f) Earning rate on ordinary capital after deduction of preference charges—av. 3 years 1962–63 to 1964–65.

Source: Analysis based on information published in the 'Digest' Year Book of Public Companies of Australia and New Zealand for 1964 Jobson's Financial Services Pty. Ltd., North Sydney. From the Bureau of Agricultural Economics, Canberra, A.C.T.
A$ 1·00 = £·465.

APPENDIX 3

THE VALUE OF THE ESTATE DUTY REBATE

Estate duty is charged on assets which change hands on death. The value taken is the market value of the assets concerned, the full rates of duty varying from 1 per cent on estates of £5,000 to £6,000 to 80 per cent for estates of £1,000,000 plus. 'Agricultural land' is taxed at 55 per cent of the normal rate[1]. The abatement allowable for agricultural land does not apply where the value of the land has risen because of prospects for development, the reduced rate only applying to the true 'agricultural value' of the land.

If it is accepted that the desire to pass on wealth is a basic force governing the economic activity of individuals, the rebate must impart to land a value which is not held by other forms of wealth. For example an individual whose wealth was subject to the maximum rate of estate duty (i.e. 80 per cent) could pass on an inheritance in agriculture approximately two and a half times what it would have been if this wealth had been held outside agriculture (i.e. from an estate of £1m in agriculture an inheritance of £560,000 could be left, while outside agriculture only £200,000). This 'value' of agricultural land is an important component of the demand for land and therefore affects the price for land.

It is possible to make estimates of the value of the rebate subject to different assumptions about the size of an estate and the time periods involved.

Method A: Column (1) in Table 3.1 is a list of different sized estates. Columns (2), (3), (4) and (5) show the rate of estate duty and the payment for normal estate duty and agricultural rate estate duty respectively. Column (6) subtracts (5) from (3) and represents the direct value of the rebate to the owner of the land in terms of his ability to pass on an increased inheritance to his heirs. Taking a land price of £235 per acre, an average size for the estate can be calculated which when divided by the value of the rebate will show the value of the rebate as a component of land price as in column (7) (Column 12 shows the acreage size of the different estates). In column 8 the values from column 7 are discounted to allow for the fact that the Estate duty relief is not an 'income' until the owner dies. Twenty-five years has been taken as an average period of time between purchase of the land and death. In fact there will be a wide range of values depending on individual circumstances such as life expectancy and alternative investment opportunities.

[1] In fact under the 1954 Finance Act (Section 28) the 45% rebate has been available for all "industrial herediments plant and machinery" in private businesses. It is much more difficult to make a "death bed purchase" of a share in a private company however, so that the "value" of the rebate is less in comparison with agricultural land.

TABLE 3.1

THE VALUE OF THE ESTATE DUTY REBATE

					METHOD A			*METHOD* B			
1	2	3	4	5	6	7	8	9	10	11	12
Value of Estate	*Normal Rate Estate Duty*		*Agricultural Rate Estate Duty*		*Value of Rebate* £	£/*acre**	*Life expectancy 25 yrs Discount at 4% (·3751)*	*Value of Rebate*	£/*acre**	*Life expectancy 25 yrs Discount at 4% (·3571)*	*Acreage Size of estate @ £235/ac.*
	%	*Absolute* £	%	*Absolute* £							
5,500	1	55	·55	30	25	1	0·37	25	1	0·37	23
7,500	3	225	1·65	124	101	3	1·12	104	3	1·12	32
11,500	6	690	3·3	379	311	6	2·25	330	7	2·63	49
18,750	12	2,250	6·6	1,237	1,043	13	4·88	1,151	14	5·25	80
37,500	24	9,000	13·2	4,950	4,050	25	9·38	5,329	33	12·38	160
47,500	31	14,725	17·05	8,099	6,625	33	12·38	9,603	48	18·00	202
87,500	45	39,375	24·75	21,656	17,719	48	18·00	32,216	87	32·43	372
250,000	60	150,000	33	82,500	65,500	62	23·26	162,500	153	57·39	1,064
625,000	70	437,510	38·5	240,625	196,875	74	27·76	656,250	247	92·45	2,660
1,000,000	80	800,000	44	440,000	360,000	85	31·88	1,800,000	423	158·67	4,255

A Value of Estate subject to assumptions for method A.

B Value of Estate subject to assumptions for method B.

* An arbitrary land price of £235 is taken. The size of the estate in acres can then be determined and the value of the rebate per acre determined for different sized estates.

Method B: A different value could be calculated by considering the value of owning agricultural land from the point of view of leaving an inheritance of a particular size, A by creating wealth of two different magnitudes B and C according to whether this wealth is accumulated in the form of agricultural land, or elsewhere. The value of the rebate in this case is the additional capital which a person outside agriculture requires to leave an inheritance of the same size as the person in Agriculture.

e.g. Size of Estate	£1,000,000
Agricultural rate estate duty @ 44 per cent i.e. the maximum rate	440,000
Inheritance	£560,000

To leave an inheritance of £560,000 subject to normal rate duty at 80 per cent the estate size required is £2,800,000.

∴ The value of the rebate is £1,800,000.

Column 9 shows for the different sized estates the additional capital which a person not receiving the 45 per cent rebate would have to accumulate to leave an inheritance of the same size as somebody receiving the rebate. Column 10 shows this value on a per acre basis and as can be seen the progressive nature of estate duty will impart a very high value at the upper levels. For a millionaire setting out to leave an inheritance of £560,000 the estate duty rebate on agricultural land would alone be worth to him, for land selling at £235 per acre, £423 per acre. Column 11 is column 10 discounted in the same way as column 8.

The two methods of calculation give different results, particularly at the upper levels, and it is admitted that the underlying assumptions may be a little too crude and over simplified.

The following must be kept in mind.

(1) The gains in wealth will be tax free, which gives them an additional value.

(2) In relation to the effect on the demand for land and land price although the significant effect is at the high levels it must be remembered that it is after all the highest bidder who determines the land prices. That is, although the value of the rebate for the majority of farms at the lower levels will not be high, provided there are bidding in the land market a few individuals who will be subject to much higher estate duty and for whom the value of the rebate will thus be much higher, then this same value must be a strong force causing rising land prices.

It is possible to visualise different situations applicable to both sets of assumptions. For a small farmer who owns a farm of 23 acres the value of the rebate is of little significance. At the other extreme a young wealthy person who has time to create additional capital must realise that in order to leave as large an inheritance as possible, investment in land subject to the 45 per cent rebate is a more profitable proposition than investment elsewhere.

The 45 per cent rebate designed initially to assist stability in land ownership through a reduction in the estate duty burden, may be having a contrary effect by causing a rise in the price of land.

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