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The Role of Finance in Adjustment

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THE ROLE OF FINANCE IN ADJUSTMENT

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Financial adjustments - active and passive

Business survival and growth call for continuing adjustment to changing economic conditions. But, many of the financial changes which businesses undergo are imposed on them and are not even of their owners' choosing let alone control for, every change in the economic environment in which a business operates alters prices of factors and products to varying degrees and leads to changes in asset values and in the overall pattern of financial arrangements. Even the most appropriate of financial adjustments cannot guarantee a business will survive.

At the present time, farming in the United Kingdom (as in Western Europe generally) is undergoing far-reaching financial changes in the wake of serious product price and income falls. However, adjusting to changing economic circumstances is not a new thing for farmers.

Agricultural product prices have fallen relative to other product prices and relative to agricultural input prices since 1946. There was some improvement in farming's terms of trade in the mid 1970s, but they have fallen since to show a further 20 per cent deterioration. Although the percentage break-down of costs in 1971 and in 1985 reveals apparently only modest changes (feeds and livestock made up 50 per cent of costs in the earlier year, 44 per cent in the later, machinery, miscellaneous and fertilisers together accounted for 42 per cent of costs in the earlier year, 47 per cent in the later), nevertheless over the longer-term farming has come to be much more heavily dependent on purchased inputs than it was. Moreover, over four decades the total labour force in farming has been reduced by two-thirds and equity recipients now take a mere 30 per cent of gross output, against twice that fraction forty years ago.¹

Not only have farmers moved from higher to lower cost inputs over an extended period of time, capital investment has declined in the face of deteriorating longer-term price movements. More recent rates of gross capital formation are at their lowest levels for thirty years and the net stock of capital has been falling since 1980 (gross capital formation has been less than that needed to maintain the rate of capital consumption). Net capital formation fell in the 1970s and has been negative in five out of the last seven years.

It is evident, therefore, that what is now going on should be regarded as a continuation of several decades of change rather than something novel or revolutionary. But, just as farming has adjusted to changing terms of trade, so also has it been adjusted by them, often quite differently at the macro level from what farmers were aiming to achieve at the micro one. That is no less true of current

changes than of earlier. Nevertheless, there are two fundamental differences between the 1970s and the 1980s so far as farming and its more narrowly financial arrangements are concerned; first, the earlier years were ones of high inflation but of low real interest costs, the later years ones of low inflation but high real interest costs; second, the earlier years were ones in which farming's prospects did not appear to be so seriously inferior to those of other sectors of the economy as they do now. It is to an examination of those differences and their financial implications for farmers in the United Kingdom that this paper is directed.²

Some features of farming change in recent decades

Although official statistics (which are based on holdings) do not allow the survival and growth patterns of particular sizes of farms to be traced in detail, it is quite clear that the numbers of small units have fallen much more than the numbers of large ones, especially in the 1960s and 1970s. (There were 171.4 thousand small holdings in England and Wales in 1964, 87.7 thousand in 1973, compared with 157.4 thousand large ones in 1964 and 125.0 thousand in 1973).³ The result is that the growth in area of the average size of farm greatly overstates the change in size that surviving businesses needed to achieve. That basic arithmetical point is still valid though not to the same degree.

Additionally, there is evidence that the farm businesses which did survive in the 1950s and 1960s, partly by taking over the land vacated by outgoers, were able to rely on a broad family base of financial reserves as siblings and other close relatives identified with the family farm.⁴ Such loyalty diminished as the 1970s progressed (although it has never been studied systematically with an adequate sample of farms) as the years of severe inflation saw land prices reach unprecedented levels and the real value of money payments dramatically eroded. The result was that within-family differences of opinion arose about the division of financial burdens and benefits and led to increased borrowing from commercial sources.

Although, in the early 1960s the Retail Price Index increased by a mere two per cent or so a year, by 1969 the figure was over four per cent, yet, even inflation rates of 20 per cent and over in the 1970s did not find lenders insisting that loan indexation should be introduced. The Agricultural Mortgage Corporation offered borrowers more flexible repayment arrangements and the option of variable interest rate loans, but those developments have to be seen against a well developed, farm-business-seeking, banking sector based mainly on overdraft-type lending in which the borrower is strongly placed to increase the sum borrowed as the need arises as well as to allow an overdraft to drift into hard-core debt. The disadvantage is that the interest rate risk is carried by the borrower. As it turned out, costs of borrowing in real (Retail Price Index) terms were reduced to insignificant levels while land values rose rapidly. The result was fixed asset values rose and owner-farmers' liability to asset ratios did not deteriorate in spite of heavy borrowing.

Agricultural Mortgage Corporation
Fixed Interest Rates, Percentage Changes in the Retail
Price Index and Real Interest Rates

	<u>A.M.C. Interest</u> (time weighted average)	<u>% R.P.I. Change</u>	<u>Real Interest Rate</u>
1965-9	8.4%	4.3%	4.1%
1970	9.9%	6.4%	3.5%
1975	14.9%	24.2%	-9.3%
1980	15.5%	18.0%	-2.5%
1985	12.9%	6.1%	6.8%
1986	12.2%	4.1%	8.1%

It is common for economists (following Fisher) to argue that market interest rates will rise with inflation so as to leave a relatively stable 'real' interest component. It can also be demonstrated arithmetically that, when market interest rates include heavy 'inflation' costs then the early years of debt repayment programmes based on them will bear a heavy nominal as well as real burden relative to that borne by later years. For example, if £100 were to be repaid in equal annual instalments over an inflation free period of 20 years at a five per cent (real) interest rate, the first year's repayment would be £5 (principal) plus £5 (interest), a charge of £10 in all while the final (year 20) payment would be £5 (principal) plus £0.25 (interest on the £5 of debt still outstanding), a total of £5.25. However, if there were to be a 10 per cent inflation and this were to be fully allowed for in market interest rates, driving them up to 15 per cent, the time pattern of debt repayments, particularly in real (goods and services) terms would alter radically. In the first year the repayment would be, as before, £5 principal and interest increased to £15 giving a total of £20, while the final year's repayment would be £5 principal and £0.75 interest (15 per cent on the remaining £5 of debt). In that case the ratio of final to first year's repayment would have altered in current pounds terms from 5.2:10 to 5.75:20; however, if those inflated debt servicing burdens are converted to present value terms on the 10 per cent basis assumed, the first year's burden would be £18.18 and the final one £0.86, a ratio of over 20:1 not one of less than 4:1.

This text book style account of how the money market can be expected to respond to inflation does not accord at all well with the facts relating more directly to farming. When fixed interest rates charged by the Agricultural Mortgage Corporation (the country's specialist long-term lender to farmers although it does not operate on nearly the same scale as the banks) are compared with year by year changes in the Retail Price Index, it emerges that net (real) interest charges were around three per cent in 1970 and two per cent in the two following years. Over the rest of the 1970s, however, they were consistently negative except for 1978. In spite of the high rate of inflation - the Retail Price Index rising by 15 per cent and more from 1974 to 1977 inclusive - nominal interest did not exceed them, real interest rates measured on that basis were negative throughout those years.

The market view from 1970 onwards it seemed was that inflation

would not continue at anything like its current level so that what appeared on the basis of short-term criteria to be negative real rates were expected to become positive in real terms shortly. Nevertheless, negative or very low positive real interest costs persisted throughout the 1970s until unprecedentedly high real ones were established in 1981 as inflation abated.

To have borrowed at the fixed interest rates available in the early 1970s would have enabled a farmer-borrower to repay with greatly reduced purchasing power pounds over the ensuing years out of incomes that more than doubled in five years or so in nominal terms, but whose real value went up significantly only in 1973 and has deteriorated seriously over the last ten years. Although farming in general did not generate income which more than matched inflation, a fixed interest borrower in the 1970s would have benefited at the expense of his creditors by paying them in inferior pounds. That would not necessarily have enabled him to meet all his other costs however as, from 1975, farm incomes fell in each of the next five years, not only in real terms but in nominal ones as well.

Aggregate income figures serve as a poor indicator of individual farmers' year by year abilities to meet the costs of debt service agreements already entered into. The larger the group of farms whose incomes are being measured the less marked do year to year changes in group income become relative to those experienced by individual farmers. Nevertheless, movements in aggregate farm incomes in current terms shed some light on this question. Thus, whereas aggregate farm incomes between 1972 and 1977 were between six and sixty per cent higher than they had been two years earlier, between 1978 and 1980 they were two, nine and seventeen per cent lower. Again, in 1985 and 1986 incomes were only 77 and 68 per cent of their nominal values two years previously. The severity of the falls in real incomes that farmers suffered can be judged from the fact that the lowest rise in the R.P.I. (slightly over four per cent) did not occur until 1986 and only in 1978 of the period 1974 to 1981 did that index fail to register a change that was in double figures. Even then the rise exceeded eight per cent.⁵

It is evident from these figures that farmers borrowing on the fixed interest terms available to them would have been embarking on financial contracts which would have enabled them to repay in low purchasing power currency whether or not their own incomes had been maintained (or increased) in real terms. There was no major shift to fixed interest borrowing however, in fact the opposite occurred, a shift to variable interest sources. With it came even heavier borrowing, especially from the Banks, for whereas 'institutional' borrowing by farmers doubled in the first half of the 1970s and also in the first half of the 1980s, it increased some threefold over the second half of the 1970s. The conclusion is that use of credit reserves represented a major part of adaptation strategy in the face of falling incomes.

The shift to variable interest rate sources came about mainly because borrowing from the Banks increased some 12-fold between 1970 and 1986 from £521m. to £6,214m. and to only a lesser degree because A.M.C. variable interest rate facilities were used relatively more than previously. A.M.C. lending was some £163m. in 1970 and around

£600m. in 1986. Whereas Bank lending to farmers was only a little over three times A.M.C. lending in 1970, it was well over ten times bigger in 1986.

Growing indebtedness of farmers to the institutional lenders (especially the Banks) is not, therefore, a recent feature of farming - it has continued at a more or less constant rate for the last 15 years or so, through years of expansion and capital creation as well as years of recession and curtailment. Increasing indebtedness has to be seen, therefore, against a pattern of aggregate incomes in farming which have fallen to about a half of what they were worth in 1975 which was itself preceded by a growth in real terms of about a third between 1970 and 1973. The full impact of this fall in earnings is only now beginning to be reflected in farmers' balance sheets as land prices fall from the high levels reached in 1979. The present position is that, while farming's aggregate balance sheet shows total liabilities approaching 20 per cent of the value of total assets and this is a gearing ratio which many other sectors would be happy to face, nevertheless, it represents a serious deterioration. Farming is now very vulnerable to increases in interest charges should income levels register even lower levels than the ones they have already reached.

The total interest to be paid on Bank and A.M.C. borrowing by farmers has risen in current value terms as follows since 1970.⁶

<u>£m.</u>					
1970	64	1976	183	1982	640
71	62	77	192	83	636
72	66	78	242	84	707
73	112	79	415	85	885
74	169	1980	604	86	853
75	169	81	600		

This is a more than thirteen-fold increase over the whole period. In real (G.D.P. deflated) terms, aggregate incomes and total interest on Bank and A.M.C. borrowing indices have varied as follows:

	<u>Incomes</u> (Peak 133 in 1973)	<u>Interest</u>
1970	100	100
1975	96	142
1980	50	255
1985	40	268

The annual interest charge (which takes no account of costs of private trade and other miscellaneous credit taken by farmers) has increased more than sixfold relative to income since 1970 and is at a level where a one percentage point rise in the interest rate on specialist lender institutional debt alone would add almost £70m. to total costs and bring about a roughly 5 per cent fall in total incomes.

Less is known about how this aggregate burden of debt is distributed among farmers than might be wished, but studies in the early 70s concluded it was highly skewed (less than 10 per cent of borrowers

were responsible for some 60 per cent of debt) and this general conclusion has been borne out by recent banking observations that perhaps no more than 20 per cent of farmers are 'seriously' indebted. It seems likely that among the heavily indebted minority is a high proportion of relatively recent entrants who bought their land at what have subsequently proved to be injudiciously high prices. Moreover, it is clear from Official Statistics that between 1979 and 1986 there was a tendency for heavily indebted farms (those with liabilities of over 50 per cent of assets) to become more common among all farm types. (As it had been of pig and poultry farms before 1979)⁷.

To a first inspection it seems that the development is a result of tenancy in some way or other, maybe reflecting the fact that rents have continued to increase in real terms each year up to the present though at a diminishing rate as fewer farmers have had rent increases and the increases negotiated have fallen. However, the apparently strong association between high gearing and tenancy is misleading since, when land and buildings are excluded from total assets, it is the farms with more owned land rather than less which are shown to be heavily indebted relative to the working capital they employ (rented farms 31 per cent, wholly and partly owned farms 44 and 46 per cent respectively).

Some evidence of recent financial changes on farms

In spite of the evidence of farmers' deteriorating fortunes, a study which the author is currently conducting⁸ shows that few farmers have already sold or are involved in negotiations to sell land in order to reduce their borrowing. Such reluctance to sell reflects that owners have traditionally attached reserve values to their land well in excess of market prices and accords well with recent aggregate land sale statistics which show that, whereas in 1980 individuals were net sellers of some 16,000 hectares of farmland, five years later they were net sellers of scarcely any; at the same time, however, it contrasts with farmers' frequent claims that, as and when the need arose, they would sell land to raise funds. That this is so reflects also the inferiority of land as an asset which can be turned quickly into liquid funds without either high transaction charges or loss of value. The same study also shows that farmers planning to retire 'for financial reasons' are no more than the three per cent or so who would be expected to retire annually anyway.

In contrast to the very few farmers who are making or planning to make changes of a directly financial nature to improve their business prospects (by selling land or other fixed assets to pay-off debt, by lengthening mortgage repayment periods, by borrowing from cheaper sources or by introducing equity capital), by far the most frequent policies they have adopted are to improve the enterprise mix, to increase output from existing enterprises and to cut costs. Over 40 per cent of the farmers surveyed reported they had already cut general costs, 30 per cent had cut labour costs and over 35 per cent had cut machinery costs. Moreover, over a half of farmers completing the questionnaires declared that cost cutting was to be part of their adjustment programme during the next two years.

That adjustment to change should be seen by farmers in such

specific enterprise and factor employment terms is in line with the role accorded financial measures in the overall pattern of adjustment in this paper. Evidence that changes are needed in a farm business is very likely to reveal itself in financial terms, but the reasons why such changes are needed are likely to stem from many possible causes. Moreover, putting them right is not necessarily easy. Over 40 per cent of farmers surveyed acknowledge that they need to make changes to improve business performance, but almost three-quarters of them had yet to decide precisely how to set about doing so.

Whereas few farmers are planning to retire, or to take up some form of part-time farming, one in five is planning to expand the area farmed, and this in spite of the fact that it is the larger farms that have experienced the biggest percentage falls in income and the smaller which have seen it stay as it was or rise. Whether farmers have yet to adjust positively to the lower income levels in farming at present few seem to be looking to getting out or to take up outside sources of incomes. Much will depend on prospects outside farming and be looked at differently depending on age; time will be needed to reconcile outgoers to the lower capital sums they will obtain on selling up. Those capital sums will depend in turn on the strength of demand for land. Although that will be settled largely between farmer and farmer the general outcome is no easier to predict on that account.

As land prices and interest rates fall, so demand for land from existing farmers who wish to expand and from would-be entrants can be expected to increase. However, the present situation would seem to be one of relatively weak demand since, although prices are lower than in the 1970s, interest rates are high in real terms and prospects for farm incomes are scarcely a matter for optimism. Land prices regularly out-performed the Financial Times All Share Index in the late 1970s and early 1980s, but more recently the reverse has been the case. Land prices in the last year or two have halved in real terms, share prices have registered approximately 50 per cent gains.⁹

Just as in the middle 1970s double figure percentage increases in the Retail Price Index were not fully reflected in market interest rates, so the present relatively modest single figure general price increases are not being regarded as good longer-term indicators. Real interest rates appear high by current inflation rates but not by historical ones. When allowance is made for the rates of change of the Retail Price Index now and ten and twelve years ago, real interest rates at present are six and more times what they were in the 1970s. It is not surprising, therefore, that would-be purchasers of land feel unable to offer prices which overcome owners' traditional reluctance to sell. Paradoxically, now that inflation rates are low, market interest rates are at levels which not only appear certain to involve heavy front loading of debt servicing payments in the traditional text book sense, but which the farmer fears will remain high real burdens over the full term. Additionally, now that borrowing is heavily weighted towards variable rates should inflation re-appear and cause market interest rates to rise, borrowers will find themselves having to meet the costs. Unfortunately also the odds on farmers' incomes matching inflation rates are less in the farmers' favour than they were.

The basic arithmetic of developments since 1970 is evident in the following indices of Aggregate Farm Incomes, Land Prices and Costs of Mortgaging Land (real values, G.D.P. deflated).

	<u>Incomes</u>	<u>Land Prices</u>	<u>Mortgage Cost</u>
1970	104	81	60
1975	100	100	100
1980	53	150	151
1985	41	115	102

The fall in land prices and in interest rates since 1980 has significantly reduced the land purchase (mortgage) cost index from its high figure of 162 in 1979 but, farm incomes in real terms have fallen even more rapidly. The result is that, whereas the mortgage cost index stood at roughly 0.6 of the incomes index in 1970, it was two and a half times that figure in 1985 having peaked at three times higher in 1980.

Notes

1. See Chapter 3 of Professor D. R. Harvey's working papers, The Future of the Agricultural and Food System based on a study mounted by EPARD (Economics Panel, Agricultural and Food Research and Development) from the Department of Agricultural Economics and Management, University of Reading, and funded by the Agricultural and Food Research Council.
2. The United Kingdom of Great Britain (England, Scotland and Wales) and Northern Ireland are treated as a single unit for the purposes of many of the major official reports on and studies of agriculture (e.g. Farm Incomes and the Review of Agriculture each year), although most statistics tend to be raised separately for the four countries concerned.
3. For a helpful account of the problems of comparability of 'holdings' and other agricultural statistics for the U.K. see the Wye College Statistical Handbook of U.K. Agriculture edited by Alison Burrell, Berkeley Hill and John Medland.
4. See Some Features of Farm Business Structure, J.A.E., Vol. XVI, No. 3, and Farmers and Farm Businesses in England, University of Reading, Department of Agricultural Economics Misc. Study No. 62, by Alan Harrison.
5. Author's figures based on Farm Incomes in the U.K., Annual Reviews of Agriculture and Economic Trends.
6. Author's own calculations based on Bank and A.M.C. published figures.
7. Farm Incomes in the U.K., H.M.S.O., 1987, Tables 2.24 and 2.25.

8. The study is being conducted jointly with R. B. Tranter of the Centre for Agricultural Strategy at Reading University into the changing financial structure of farming in England.
9. Overall trends are helpfully summarised in Chapter 4 of Harvey op cit., Note 1.