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RECENT PRICE TRENDS IN FARMING

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Readers of these bulletins will need no reminder that the prices of our farm products have taken a tumble in recent years. But prices affect the farmer in more ways than through the products he sells. The goods and services which are used to produce these products are subject to price changes too. Thus if product prices fall and input prices rise at the same time, a very marked fall in farmers' incomes can result. Conversely, of course, windfall increases of product prices can lead to nice increases in farm incomes; these are known to make even the Inland Revenue Department happy. This bulletin discusses farm price trends over the last 10 years, and examines how the different types of farming have been affected.

In this type of analysis, we distinguish between the volume of output, such as wool weight, and the price received per unit sold, i.e., auction prices. Taken together the two make up gross receipts. This distinction is also applied to the goods farmers use in producing the wool; that is, we separate out the weight of fertiliser and the price per bag we pay for it. The total volume of goods used, multiplied by their respective prices, gives us total farm costs. Thus it can be seen that if the number of goods used in farming stays the same, but their price per unit rises (like fertiliser), then costs rise, and net farm income (other things being equal) must fall. If prices of wool fall, and physical output and input stay the same, then again net farm income will fall.

Net farm income is particularly vulnerable to these price changes, as many farm inputs are of a com-

paratively fixed nature and must go on from year to year. Thus a fall in product prices is almost directly transmitted to farm profit or net farm income, as commitments must be met. When product prices increase unexpectedly, net farm income also tends to rise rapidly and many farmers then resent the large portion of farm income that is removed by income tax. Some stability in prices is thus highly desirable in farming, and schemes for the spreading of income tax over a period of years are also relevant.

Prices for the products we sell overseas are largely governed by the state of demand in international markets. We have little control over them. We can accumulate reserves and use them to modify the influence of overseas demand as in the present case of wool, or we can use a Reserve Bank overdraft to even out these fluctuations, as in the case of dairy products.

Prices of goods used in production are determined partly overseas and partly within New Zealand. Import prices again tend to be out of our control, and we have to judge our needs in the light of what we can afford to pay. But the general movement of prices within New Zealand is caused by internal inflationary pressures arising out of full employment, the protection of industries, and price-linked wage arbitration. If these prices rise faster than the export prices our produce receives, then we are worse off in terms of net farm income. If the movement is in the other direction, then farming is better off.

This analysis concentrates on price changes. It does not cover other factors that affect the level of farm output. The important counter-balancing factor to adverse movements in the farming terms of exchange is productivity. We have estimated at the College that the long run increase in productivity in New Zealand agriculture is 0.7 per cent per year. This productivity increase allows more physical output to be produced from a given volume of inputs. Thus when this increased volume of output is multiplied by the appropriate prices, we have a greater level of gross receipts out of which to meet farm expenditure and maintain or increase net farm income.

The trend in "prices received" and "prices paid" by farmers since 1921 is shown in the graph. The terms of exchange measures the ratio of prices received to prices paid. An improvement in our lot is represented by an upward movement of the terms of exchange and a decline or "squeeze" in prices by a downward movement.

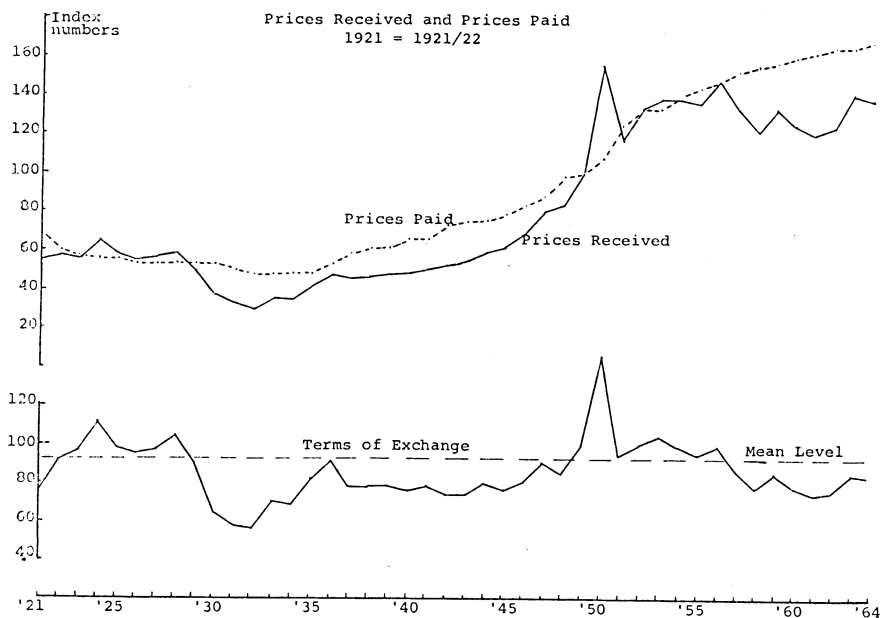
It can be seen that prices received fluctuate more than prices paid. Prices received fell in the early 1930's, recovered slowly in

the 1940's and reached a peak in the 1950's. Since 1955 they have steadied or declined slightly.

Prices paid by farmers for their everyday inputs remained comparatively steady through the 1920's and 1930's and have since risen quite rapidly in line with world trends. In recent years, they have moved well above prices of products sold.

The terms of exchange show that in the 1960's we have roughly returned to a position equivalent to the 1940's, but nowhere near the position of the early 1930's. Our data only takes us up to the 1964-65 farming season, but it is likely that in 1967/68 we will drop nearer the 1930 price level, especially in the case of wool. Against this, however, there has been a thirty per cent increase in productivity since 1930 which means that farm incomes could still be 30 per cent higher in 1967/68, even if we do return to the relative price position of 1933.

If we express the price ratios of 1955/56, 1956/57 and 1957/58 as 100, then the following index numbers show the movements for the last ten years shown in the graph:



(1) All Farming
1955/58 = 100

Season	Output Prices	Input Prices	Terms of Exchange
1955/58	100.0	100.0	100.0
1956/57	105.7	99.6	106.1
1957/58	95.7	103.2	92.8
1958/59	87.0	104.4	83.4
1959/60	96.4	105.8	91.2
1960/61	89.9	107.8	83.4
1961/62	86.3	109.2	79.0
1962/63	89.2	110.9	80.4
1963/64	101.4	111.5	90.0
1964/65	99.3	113.7	87.3

This table represents the position for all farming in New Zealand, and expresses a lot of different prices for products and inputs as index numbers. The input price index is based on the range of goods and services used by farmers in 1948/49 and 1949/50 and is calculated by the Research Unit. In general, prices received declined from 1955/58 to the early 1960's but recovered to the level of the mid-fifties in 1963/64 and 1964/65.

Input prices have risen at a rate of about 1½ per cent per year. The terms of exchange for all farming thus fell more than output prices up to 1962/63 and then recovered

somewhat. Over the whole period, the terms of exchange have worsened by 10-20 per cent in different years. We do not have data available on the all New Zealand basis for the last two seasons, so we now turn to the different types of farming for which data is available in these years.

DAIRY FARMING

The next table shows the position for dairy farmers on butterfat supply. The average payout for butter is the basis of prices received, and prices paid are based on a recent series published by the Dairy Board.

(2) Dairy Farming
1955/58 = 100

Season	Butterfat Payout	Input Prices	Terms of Exchange
1955/58	100.0	100.0	100.0
1956/57	101.0	99.6	101.5
1957/58	97.8	102.5	95.4
1958/59	86.9	103.1	84.3
1959/60	100.2	103.2	97.0
1960/61	88.8	105.6	84.1
1961/62	87.8	107.1	82.0
1962/63	87.2	108.4	80.5
1963/64	92.8	109.0	85.2
1964/65	97.6	110.7	88.2
1965/66	98.6	112.9	87.4
1966/67	98.6	116.8	84.4

Owing to the price stabilisation activities of the Dairy Board, prices received by dairy farmers have fluctuated less than for other systems of farming. Furthermore, the average payout in the last three

years compares very closely with those of the mid-fifties. Thus the terms of exchange declined in the late fifties and early sixties as the payout dropped, but have stabilised in recent years with the improve-

ment in the payout but steady increase in input prices. With a 15 per cent decline in the terms of exchange up to 1966/67, dairy farmers are better off than sheep farmers at the moment, but we would probably find that they are not doing as well as cropping farms if the data were available.

The base year payout price for butterfat is equivalent to 37.7 pence per lb, which is very close to the average payout for 1966/67 of 37.2 pence. The recently announced 5 per cent reduction in payout prices should lower butterfat in butter prices from 33.9 pence in 1966/67 to 32.2 pence in 1967/68, bringing the average payout for 1967/68 to 36.1 pence (30 cents).

FAT LAMB PRODUCERS

The next table shows the position for farmers largely dependent on fat lambs. The schedule prices are based on the South Island January payment for prime woolly lambs, 29-36 lbs. The base year average price per lb. is thus 23.5 pence, which was reached again in 1964/65. The 1966/67 payout is 15 pence or 12.6 cents per lb., which compares with the opening price of 11.7 cents for the 1967/68 schedule (on a delivered to nearest port basis). The input price index numbers are taken from the New Zealand Meat and Wool Boards' Economic Service cumulative index of cost movements on fattening farms.

(3) Fat Lamb Farming

1955/58 = 100

Season	Schedule Prices	Input Prices	Terms of Exchange
1955/58	100.0	100.0	100.0
1956/57	100.0	100.1	99.9
1957/58	91.9	102.3	89.9
1958/59	82.6	104.6	79.0
1959/60	79.6	104.9	75.9
1960/61	73.5	106.7	68.9
1961/62	64.3	108.3	59.4
1962/63	66.3	109.3	60.6
1963/64	84.7	109.2	77.6
1964/65	100.0	111.7	89.5
1965/66	90.8	115.2	78.8
1966/67	64.3	118.9	54.1

Lamb prices were reasonably high in the mid-fifties, so the decline in payout appears quite spectacular. On this basis, fat lamb farmers have suffered a far more severe price decline for their product than any other major farming commodity, including wool. With the steadily increasing level of prices for fattening farm inputs, the terms of exchange have fallen by over 40 per cent in three years out of the last ten, and will be no better in the coming season.

WOOL PRODUCERS

Turning to wool farming, the next table compares the average

payout for all New Zealand wool on a greasy basis with the New Zealand Meat and Wool Boards' Economic Service cumulative index of cost movements on all sheep farms. The base year price of wool was 47.37 pence per lb; 1963/64 is equivalent to a greasy wool price of 55.07 pence per lb. and 1966/67 to 35.27 pence per lb. It is difficult at this stage to predict a price for wool for the coming season in view of rapidly changing circumstances, but prudent advisers and farmers should allow a decline of a further fifteen per cent at least.

(4) Wool Farming

1955/58 = 100

Season	Greasy Wool Prices	Input Prices	Terms of Exchange
1955/58	100.0	100.0	100.0
1956/57	115.6	100.0	115.6
1957/58	86.9	102.1	85.2
1958/59	76.1	104.3	73.0
1959/60	94.2	105.0	89.8
1960/61	85.2	106.5	80.1
1961/62	82.7	108.6	76.2
1962/63	90.4	109.3	82.8
1963/64	116.2	109.3	106.3
1964/65	88.9	112.2	79.2
1965/66	87.8	115.8	75.8
1966/67	74.4	119.5	62.2

The index of input prices in sheep farming has not increased any faster than for other types of farming, hence the terms of exchange are again mainly dictated by product prices. Up to 1966, wool farmers have had considerable fluctuations in their terms of exchange, but declining by a maximum of 25 per cent in 1961/62 and 1965/66. More recently, the world recession in textiles has brought about a much lower demand for our wool and the terms of exchange are likely to decline to 50 percent of what they were in the mid-fifties. This world price is not shown in these figures, as they represent prices farmers actually received. Where the Wool Commission has operated in the

market, prices received by farmers are higher than they otherwise would be.

ALL SHEEP FARMING

Most sheep farmers are not dependent on wool or fat lambs entirely so the next table shows the position for sheep farming as a whole. Since these farmers can sell wool, lamb and beef, there is no simple price equivalent for prices received by farmers. Instead an index number of prices shows how average prices have changed in proportion to the lamb, wool and beef sold. The best indication we have of this series is the Government Statistician's index of Export Prices for Meat, Wool and By-products. The index of input prices is the same as for wool farming.

(5) All Sheep Farming

1955/58 = 100

Season	Export Prices	Input Prices	Terms of Exchange
1955/58	100.0	100.0	100.0
1956/57	107.7	100.0	107.7
1957/58	92.9	102.1	90.8
1958/59	86.5	104.3	82.9
1959/60	94.6	105.0	90.1
1960/61	90.7	106.5	85.2
1961/62	86.5	108.6	79.7
1962/63	93.2	109.3	85.2
1963/64	109.5	109.3	100.1
1964/65	103.4	112.2	92.1
1965/66	103.7	115.8	89.5
1966/67	98.1	119.5	82.1

It is immediately apparent that all sheep farming has not suffered the calamitous fluctuations of the individual products. Both wool and lamb prices were relatively low in 1958/59 and again in 1961/62, but

in other years they have moved in different directions. It should be remembered, too, that the lamb payment **includes** an allowance for pulled wool. On average, the terms of exchange for sheep farming have

fallen by 10-20 per cent in most years, and the coming season could see this ratio decline to 75 per cent of that in the mid-fifties.

CROPPING FARMS

We do not have complete information on crop farming, but the record from 1955/56 to 1964/65 can be examined. The prices of grain

and field crops are derived from the gross farm income statistics in the Monthly Abstract of Statistics. The input series was derived in the Research Unit and is based on a typical mixed farm budget for Canterbury in 1959/60 (Canterbury Chamber of Commerce Agricultural Bulletin No. 356).

(6) Cropping Farms

1955/58 = 100

Season	Prices of Grain and Field Crops	Input Prices	Terms of Exchange
1955/58	100.0	100.0	100.0
1956/57	88.2	98.6	89.4
1957/58	91.7	102.5	89.5
1958/59	95.7	103.6	92.4
1959/60	97.3	104.8	92.9
1960/61	95.0	106.6	89.1
1961/62	104.8	108.5	96.6
1962/63	90.0	109.0	82.6
1963/64	93.7	109.8	85.3
1964/65	94.9	111.7	84.9

Compared with the mid-fifties, crop prices have declined by about five per cent over the period. Input prices have increased by about 10 per cent, or little more than 1 per cent per annum. As a result, the terms of exchange for crop farmers have declined fairly slowly but steadily up to 1964/65.

CONCLUSION

This discussion has not set out to analyse the cause of price fluctuations in farming but simply to set out the record for the last ten years. It is exceedingly difficult to judge what the future holds. There may be some steadying of input prices as the Government restrains the economy in the next year or two, but the course of export prices for our main products is hard to predict. A great deal will depend on the success of Britain's application to join the European Common Market and the resulting trading regulations Britain will be forced to adopt.

The analysis of the past price trends suggests four main conclusions. Firstly, input prices have affected all types of farming fairly equally, and have been rising at 1-1½ per cent per year. Secondly, some of our products have more **fluctuating** prices than others. Wool and lamb prices fluctuate more than the dairy and crop prices. This difference is related largely to the methods of marketing employed. Thirdly, our main product prices tend to fluctuate **independently**. Thus 1963/64 was a good wool year, but 1964/65 was a good lamb year. This reduces the impact of fluctuating prices on the economy as a whole. Finally, when the prices of two or more products decline **together**, the economy is in major difficulty. Thus 1967/68 is likely to be such a year, as both wool and lamb are at their lowest levels in the last ten years. These low prices will strongly affect farmer spending, although export receipts may still remain relatively stable through the greater volume of outputs produced.

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