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MOVEMENTS IN SHEEP AND BEEF

FARM INPUT PRICES

1982 TO 1983

Paper No. 1875

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WRIGHT

INTRODUCTION

The on-farm inflation rate is related to changes in the prices paid for farm inputs and not the level of total farm expenditure.

Total farm expenditure varies from year to year according to the volume of inputs used and the prices of these inputs. In this analysis the objective is to isolate the input price changes for the various expenditure categories. An overall price change (or inflation rate) is then derived by weighting the individual category price changes according to their proportion of total farm expenditure. These latter proportions are based on a three-year moving average.

In summary this survey of input prices is designed to measure changes of unit prices for a range of input items used in sheep and beef farming which are weighted according to their proportion of total farm expenditure.

SHEEP AND BEEF FARM INPUT PRICE CHANGES 1982 to 1983

The prices of inputs used on sheep and beef farms increased between January 1982 and January 1983 by 10.1 per cent. This rate of increase is significantly below the 17.1 per cent increase for the previous 12 month period.

This slower rate of increase in prices paid for farm inputs directly reflects the Government's 12 month wage and price freeze. This freeze became effective on June 22 1982, half-way between the January 1982 and January 1983 points for which price increases are measured in this paper. As a result of the freeze and general recessionary downward pressure on prices the pattern of price increases has altered from the previous 12 month period. In the previous 12 month period 14 of the 15 sheep and beef farm expenditure categories had double digit price increases. For the following period, January 1982 to January 1983, six of the expenditure categories had single digit price increases.

Details of the percentage movements for the individual expenditure items and the relative weightings, in terms of the pattern of their use, are presented in Table 1.

The comparative movements for the individual expenditure items in earlier years are shown in Appendix 1.

TABLE 1: ITEMISED CHANGES IN INPUT PRICES BETWEEN JANUARY 1982 AND JANUARY 1983

Item of Expenditure	Percentage Increase or Decrease in Each Item From 1982 to 1983 (Col.1)	Average 3 yr Percentage Pattern of Expenditure for all Sheep & Beef Farms (Col.2)	Share of Each Item in the Weighted Increase (Col.3)
Wages	6.4	10.7	0.68
Shearing Expenses	17.5	7.7	1.35
An. Health, Weed & Pest Control	5.2	4.8	0.25
Fertiliser, Lime & Seeds	5.3	12.5	0.66
Vehicles, Fuel & Power	12.6	11.0	1.39
Feed & Grazing	12.9	1.7	0.22
Contract	13.0	4.8	0.62
Repairs & Maintenance	5.4	11.5	0.62
Railage & Cartage	11.9	2.6	0.31
Administration Expenses	16.0	3.3	0.53
Insurance	2.8	2.0	0.06
Rates	21.2	3.2	0.68
Interest	12.0	14.3	1.72
Rent	8.0	0.8	0.06
Depreciation	10.0	9.1	0.91
TOTALS		100.0	10.06

Note:

Col. (3) equals Col. (1) multiplied by Col. (2) and the product divided by 100, the result being rounded off to the second decimal place, e.g.,

$$\text{Depreciation } \frac{10.0 \times 9.1}{100} = \frac{91.0}{100} = 0.91$$

ITEMS OF SIGNIFICANCE

The items which are of most significance in contributing to the overall 10.1 per cent movement in input prices are listed below.

(a) Interest

Interest continues to be the most important expenditure item (proportionally) of the items listed. The net effect of the weighting given to this item and increased borrowings on the input price index is substantial with interest contributing 17 per cent of the overall movement.

(b) Vehicles Fuel and Power

This item contributed 14 per cent to the overall movement. Price increases for petrol (+12%) diesel (+24.5%) and electricity (+13.6%) were the most significant contributors to the increase for this item.

(c) Shearing Expenses

The 17.5 per cent increase in this item was the result of increased award wages for shed hands and shearers. As a consequence of these increases contract shearing rates also increased.

(d) Wages

Wage rate increases slowed to 6.4 per cent and can be compared with the 19.2 per cent in the previous year.

(e) Rates

Though the rates item has only a proportionally small weighting, the 21.2 per cent increase for rates made this item fourth equal to the wages item as a contributor to the overall increase of 10.1 per cent.

(f) Fertiliser Lime and Seeds

This item of expenditure has fallen from a 21.9 per cent increase in the previous year to an increase of 5.3 per cent. Ranked by percentage contribution to the overall increase in prices paid this item has fallen from second place in the previous year to sixth place.

(g) Repairs and Maintenance

Prices paid for the wide range of items included in this expenditure category fell from an increase of 14 per cent in the previous year to an increase of 5.4 per cent.

HISTORICAL TRENDS

The annual percentage movement in input prices paid over recent years is shown in Table 2 below for the all classes average sheep and beef farm.

TABLE 2: ANNUAL MOVEMENT IN INPUT PRICES PAID 1970-83

<u>Year</u>	<u>Annual Percentage Movement</u> (<u>'All Classes' Farm</u>)
1970 to 1971	5.0
1971 to 1972	6.4
1972 to 1973	5.2
1973 to 1974	14.0
1974 to 1975	13.4
1975 to 1976	12.1
1976 to 1977	18.6
1977 to 1978	15.6
1978 to 1979	9.1
1979 to 1980	22.4
1980 to 1981	23.0
1981 to 1982	17.1
1982 to 1983	10.1
	<u>Cumulative Percentage Movement</u>
Last 10 years to 1983	320.8
Last 5 years to 1983	111.7
Last 3 years to 1983	58.5
Last 2 years to 1983	28.9

The other historical information of relevance to this exercise concerns the trends in relative weightings of the various expenditure items. This information is recorded in APPENDIX 2, Table A.

THE MOVEMENT IN INPUT PRICES PAID (1981-1982) BY FARM CLASS

In Table 3 changes in sheep and beef farm input prices by class of farm are given. The differential movement between classes is a reflection of the different weightings which are applied to each expense item. For example, the fertiliser, lime and seeds category represents 15 per cent of total expenditure on North Island hill country farms while on South Island mixed finishing farms it represents less than 10 per cent of total expenditure. Any movement in fertiliser prices will therefore affect the North Island hill country to a greater extent.

It is interesting to note that the intensively farmed farm classes experienced cost increases greater than the national average of 10.1 per cent, as measured by the 'all-classes average' farm.

TABLE 3: FARM INPUT PRICES PAID 1982-1983
PERCENTAGE CHANGE BY CLASS OF FARM

<u>Farm</u> <u>Class</u>	<u>Description</u>	<u>Percentage Increase</u> <u>in Price Paid (%)</u>
1	High Country, South Island	10.1
2	Foothills, South Island	9.8
3	Hard Hill Country, North Island	9.8
4	Hill Country, North Island	10.0
5	Intensive Finishing, North Island	10.2
6	Finishing -Breeding, South Island	10.1
7	Intensive Finishing, South Island	10.2
8	Mixed Finishing and Cropping, South Island	10.2
	WEIGHTED AVERAGE INCREASE, ALL CLASSES	10.1

The annual percentage movement for the respective farm classes since 1970 is shown in Appendix 2, Table B.

SUMMARY COMMENTS

1. The prices of inputs used by sheep and beef farmers increased between January 1982 and January 1983 by 10.1 per cent. This is significantly lower than the 17.1 per cent increase in the previous twelve months to January 1982.
2. Over the past three years to January 1983 input prices have risen by a compound 59 per cent. The cumulative percentage movement over the last five years to January 1983 was 112 per cent.
3. Interest contributed most (17%) to the overall 10.1 per cent movement in input prices. Other items which contributed substantially to the overall movement include the vehicles fuel and power category (14%), shearing expenses (13%), wages and rates, both (7%) and fertiliser lime and seeds (6%).

APPENDIX 1

NEW ZEALAND MEAT AND WOOL BOARDS' ECONOMIC SERVICE
ANNUAL PERCENTAGE CHANGES IN SHEEP AND BEEF FARM INPUTS PRICES

(January to January of each year)

1957 to 1983

	1957 to 1958	'58 to '59	'59 to '60	'60 to '61	'61 to '62	'62 to '63	'63 to '64	'64 to '65	'65 to '66	'66 to '67	'67 to '68	'68 to '69	'69 to '70	'70 to '71	'71 to '72	'72 to '73	'73 to '74	'74 to '75	'75 to '76	'76 to '77	'77 to '78	'78 to '79	'79 to '80	'80 to '81	'81 to '82	'82 to '83
Wages	2.6	-1.9	5.0	0.0	0.0	0.0	0.0	5.1	0.0	2.1	0.0	5.0	6.3	10.0	10.0	7.0	16.9	14.5	10.0	13.0	12.5	11.0	13.9	20.2	19.2	6.4
Shearing Expenses*	NA	NA	-4.8	9.2	3.8	-2.8	2.0	11.3	5.1	1.9	-2.5	2.7	0.7	19.6	8.7	8.8	6.2	23.3	9.8	7.4	22.8	13.2	15.9	16.9	17.1	17.5
An. Health, Weed & Pest Control	1.6	1.9	1.8	1.2	4.0	0.0	-1.2	1.9	3.4	0.4	2.3	-0.4	-6.1	0.0	-1.2	2.3	23.7	13.7	10.4	18.0	8.8	7.0	9.9	16.2	13.3	5.2
Fertiliser, Lime & Seeds	4.2	1.5	-1.3	0.2	-1.3	1.2	-4.3	0.7	6.0	8.6	10.9	0.2	5.1	-9.6	-8.3	5.4	45.4	-9.8	-1.7	49.0	11.3	-3.7	72.8	51.7	21.9	5.3
Vehicles, Fuel & Power	-1.0	10.9	-3.3	-2.1	0.8	0.4	0.2	-0.2	3.9	0.8	8.1	0.9	0.0	3.6	9.4	3.3	15.9	21.0	31.1	11.4	15.2	9.0	21.1	19.6	13.4	12.6
Feed and Grazing	2.7	4.0	0.9	0.0	18.7	8.3	-4.5	1.2	2.1	-1.3	2.0	0.2	15.0	2.8	6.7	10.5	8.8	25.5	-5.8	9.0	12.2	12.0	18.1	8.2	20.6	12.9
Contract	0.5	3.2	0.9	0.0	0.0	1.0	0.0	0.0	1.9	2.0	0.0	1.0	2.0	10.0	10.0	5.0	8.9	23.0	19.5	15.5	14.4	13.3	16.5	24.7	19.2	13.0
Repairs and Maintenance	1.2	1.9	-0.4	3.3	1.1	0.8	1.1	1.9	1.7	2.5	2.8	9.4	3.3	10.0	7.9	7.8	12.5	26.6	12.9	23.1	20.9	12.8	27.2	20.6	14.0	5.4
Railage and Cartage	-0.7	3.6	-0.6	0.6	-0.2	2.4	0.0	4.3	0.0	4.4	0.9	5.2	3.0	5.8	13.6	3.4	3.2	11.5	6.7	37.1	13.8	13.4	23.0	20.2	15.2	11.9
Administration Expenses	1.1	0.6	1.2	4.6	3.7	0.0	1.9	2.4	0.7	2.7	10.7	0.0	4.3	0.0	18.5	2.5	2.2	9.3	10.7	18.2	20.3	11.1	10.7	15.3	11.2	16.0
Insurance	1.6	0.0	0.0	3.1	0.0	-0.3	0.7	0.0	0.9	7.5	0.0	1.2	5.5	2.1	18.3	0.0	0.0	1.3	9.6	5.4	8.4	0.0	0.0	15.8	14.1	2.8
Rates	6.3	3.8	2.6	3.8	5.3	4.3	3.5	5.9	5.9	8.1	2.4	2.9	5.7	8.1	4.0	12.3	11.1	14.2	16.1	17.1	20.3	19.2	16.0	23.7	26.9	21.2
Interest	2.2	0.4	0.8	3.3	3.9	2.2	0.2	-0.2	2.6	1.2	1.5	0.0	0.0	0.0	7.0	0.2	2.4	4.5	3.0	9.2	17.1	5.6	9.7	23.4	20.6	12.0
Rent	0.0	2.8	3.3	3.7	3.1	1.5	4.3	2.4	5.8	-0.2	1.7	-0.6	1.0	0.0	4.0	3.6	-2.1	2.8	1.4	6.7	19.9	3.9	26.3	24.3	3.3	8.0
Depreciation	2.6	3.3	1.1	0.7	1.9	1.5	1.2	0.8	3.4	2.7	3.2	6.5	3.7	12.2	11.3	6.1	6.3	18.4	30.1	16.7	14.8	10.1	16.4	13.7	13.3	10.0
Overall Average Increases	2.2	2.0	0.4	1.7	1.6	0.8	0.0	2.7	3.0	3.2	3.5	3.1	3.0	5.0	6.4	5.2	14.0	13.4	12.1	18.6	15.6	9.1	22.4	23.0	17.1	10.1

* First obtained separately in 1959/60

APPENDIX 2 TABLE B:

ANNUAL MOVEMENTS IN PRICES PAID ON
SHEEP AND BEEF CATTLE FARMS 1970 to 1983

Percentage Change from	<u>Farm Class</u>								<u>All</u>
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>Classes</u> : <u>Average</u>
1970 to 1971	: 6.6	5.2	6.1	5.4	4.9	4.7	4.6	4.7	: 5.0
1971 to 1972	: 7.4	6.5	6.6	6.3	6.4	6.4	6.6	6.5	: 6.4
1972 to 1973	: 5.7	5.4	5.6	5.2	5.1	5.1	5.0	5.0	: 5.2
1973 to 1974	:12.8	14.2	14.9	14.3	13.7	14.1	13.6	14.3	: 14.0
1974 to 1975	:14.7	13.4	14.2	13.9	12.9	13.1	13.6	12.9	: 13.4
1975 to 1976	:12.1	11.3	11.6	11.8	11.6	12.1	13.0	12.8	: 12.1
1976 to 1977	:17.5	18.6	18.5	18.7	18.9	18.6	18.0	18.9	: 18.6
1977 to 1978	:15.6	15.6	15.6	15.7	15.7	15.6	15.6	15.4	: 15.6
1978 to 1979	: 9.6	9.0	9.3	9.1	9.2	9.0	8.9	8.8	: 9.1
1979 to 1980	:20.3	22.0	23.3	23.4	22.6	21.8	22.0	21.1	: 22.4
1980 to 1981	:21.9	23.4	23.9	23.7	23.2	22.1	22.5	22.1	: 23.0
1981 to 1982	:17.3	17.4	17.4	17.3	17.2	17.0	16.9	16.9	: 17.1
1982 to 1983	:10.1	9.8	9.8	10.0	10.2	10.1	10.2	10.2	: 10.1