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Farmer Income and Expenditure Patterns in a Wheat-Sheep Region*

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Information on farm incomes and expenditure patterns for the eight year period 1968–69 to 1975–76 was collected in a survey of 102 farm businesses. Average gross farm earnings varied by up to $20,000 over the period, with marked variations in individual enterprise earnings also being observed. Spending on farm current costs, investment and livestock and consumption closely followed the trends in incomes. A summary of the data collected for 90 of the 102 farm businesses is presented.

1 Introduction

Farm income fluctuations occupy a focal point of Australian agricultural policy, and have done so since the inception of Australia-wide price stabilization schemes during the 1940's. Mandeville and Powell [8] observed that unstable farm incomes were a particularly serious problem for Australian agriculture, arising from both climatic variability and highly volatile prices on world farm commodity markets. Additionally, Harris *et al.* [6] indicated that general economic policies should take account of the fluctuating fortunes of rural industry and recognize the inter-dependence between different sections of the economy.

Mandeville and Powell [8] undertook a regional quantification and analysis of the economic linkages between sections in country towns and the farm sector, in an effort to gain insight into the effects of changing farm incomes on the region as a whole and the various industries located in rural towns. They observed that these inter-sectoral linkages were important to policy makers because of agriculture's need for services, because of welfare considerations, and decentralization issues. Furthermore, rural income fluctuations have on-farm implications for the maintenance and expansion of the capital base. Waugh [10] commented on the importance of investment in Australian agriculture as a factor influencing the rate of growth of rural productivity and for the introduction of new technology. In so far as fluctuations in farm incomes will influence the level of investment, there will be important flow-ons through agriculture which will have a bearing on the overall growth and efficiency of the rural sector. Rural income fluctuations also have implications for farm family welfare.

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At least two information gaps can be perceived at present. Firstly, the Industries Assistance Commission [7] commented that there was little useful empirical evidence on the extent of income fluctuations on individual farmers. This study seeks to provide information on income fluctuations for a region in the wheat-sheep zone of New South Wales. Secondly, farmer expenditure behaviour under conditions of fluctuating incomes is a subject almost devoid of empirical evidence.[1] Mandeville and Powell [8] concluded that one of the main topics for further research was the need to examine how farmers vary their expenditure under conditions of fluctuating incomes. The main thrust of the current work is an attempt to partially bridge that gulf. Information of this kind should allow subsequently a fuller analysis of the likely effects on farm investment, consumption and current spending of policies aimed at stabilizing farm incomes.

Stability of farm incomes also has important implications for the stability of population centres located in rural regions. In particular, small industries and businesses, many of which depend directly on farming for their survival, may be adversely affected by a downturn in farm prosperity. The demise of small country towns which are unable to "ride out" the depressions in farm prosperity is evidence of this fact. Therefore, economic policies which influence farm income stability and farmer expenditure behaviour, will also have an effect on the stability of local business activity. The effects of policies like the investment allowance are thus not limited to the farm sector alone, but have implications for business activity throughout rural regions. Regional information on income and expenditure patterns of farmers should allow a more complete diagnosis of the overall effects of the application of such policies.

The main thrust for the work on farmer expenditure behaviour came from consideration of the needs discussed above. The survey region and data collection method are discussed in the next two sections. It should be emphasized that a regional study provides information useful to pursuing the objectives implicit in the text of preceding paragraphs. The Bureau of Agricultural Economics [2, p. 12] has noted:

> Significant differences occur in survey results within and between zones, reflecting variations in property size, the degree of enterprise diversification and the different patterns of seasonal conditions under which properties operate.

The regional nature of the data presented and discussed in this article means that most of these problems should be overcome. This is one of the chief advantages of a regional study over the more aggregated data sets[2] presented in various documents by the B.A.E. Additionally, the selection of a sample of greater than four per cent of the population (Section 3) means that a quite representative set of data should be available.

2 The Study Area

The region examined comprises the seven shires of the Central Macquarie Statistical Subdivision (C.M.S.S.) of N.S.W.[3] This is the same area studied by Mandeville and Powell [8]. The municipality of Dubbo constitutes the major

1. One notable exception in the Australian context is the work of Campbell and Archer [4] who analyzed farmer expenditure behaviour during and after the wool boom of 1950–51. A more recent study was that undertaken by Girao [5] in the U.S.
2. Bureau of Agricultural Economics (BAE) data sets are usually constructed and presented on Australia-wide and state-wide bases.
3. The shires are Coolah, Coonabarabran, Gilgandra, Mudgee, Talbragar, Timbregongie and Wellington.

town in the region which is a fairly homogeneous wheat-sheep area occupying 34 950 square kilometres of Central New South Wales. Mandeville and Powell selected this region because they felt that it was generally representative of much of the wheat-sheep zone, so that a study of one sub-region will derive structural patterns that will be of general validity for the whole wheat-sheep zone. For this reason, and because a considerable amount of information had already been compiled for the C.M.S.S., it was chosen as the region for the present study.

3 Data Collection and Nature of the Survey

A personal interview survey of 102 farms, randomly selected, was undertaken during 1977. All survey farms were selected on a farm business basis rather than the holding basis.[4] This was considered the pertinent foundation on which to examine farmer expenditure patterns in response to fluctuating incomes, because it permits the full examination of all aspects of the operation of that farm business and household. Financial data were collected from farmers' accountants and tax agents for the eight year period 1968–69 to 1975–76 inclusive—a period of substantial price fluctuations as the fortunes of wool, wheat and beef oscillated markedly. The analysis presented in this paper is of 90 farm businesses. The full eight years of information was not available for 12 of the survey farms and these are excluded from the analysis.

The sample farms are divided into two size groups—Stratum I farms are those with an area of 200–809 hectares, while Stratum II farms are those with an area greater than 809 hectares. No farms of less than 200 hectares were selected for two reasons. Firstly, this group makes up less than five per cent of the total areas of the C.M.S.S., and an insignificant contribution to the output of the major agricultural commodities. Secondly, the emergence of a great number of "hobby farms", particularly in Mudgee Shire, makes this small size group a particularly difficult one to survey. Furthermore, these farmers would be likely to have a markedly different degree of dependence on income earned from farming than is the case for the farms included. Although this small size group is a potentially interesting one to examine, this study focusses on the more strictly commercial farms.

Three basic criteria were used in defining the survey population. The first, discussed above, was that all farms be greater than 200 hectares in size. Secondly, businesses other than those appearing to be commercial wheat-sheep-beef concerns were excluded. Examples here include vineyards, orchards and horse studs. The third criterion was that all sample farms should have been under their present ownership for the duration of the eight year survey period.[5] This strategy was employed in an effort to generate a data base which contained, for every sample business, eight years of information.[6]

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4. A farm business may, in some cases, consist of a number of separate holdings. Sarossy [9, p. 4] commented: "It had previously been thought that the agricultural holding and the economic unit were in nearly every case one and the same thing, but it was soon discovered that in a large number of cases this was not so." Farm managers are likely to make financial decisions on the basis of the whole business (economic unit) rather than on individual portions (holdings) of the business.
5. The exception here is of changed ownership within families, e.g., between father and son.
6. The sample is thus biased, as it excludes farmers who have entered or left the region, and the expenditure patterns of these people may well be different to those of the more static population of farmers. However, the inclusion of new entrants to the region would lead to an incomplete data set, and make inter-year comparisons of incomes and expenditures difficult. The same would apply to people leaving the region, with the added difficulty that many of these would be difficult to locate and survey.

The survey population was difficult to delineate. The use of a farm business basis induced one difficulty. Pasture Protection (P.P.) Board lists were used as the sample frame, and it was often hard to distinguish multiple holdings, especially where different blocks were held in the names of different members of a family. Furthermore, Shire and P.P. Board boundaries do not always coincide, and thus some businesses listed on the P.P. Board lists used, actually fell outside the C.M.S.S. For this reason, all selected farms were cross-checked with Shire lists before the survey commenced. The further requirement that all farms selected should have been under their present ownership for the whole eight years meant that farms were selected from the 1975–76 P.P. Board lists, and then cross-checked against the same lists for 1968–69.

The survey population was approximately 2 200 farm businesses. About 58 per cent of these were in Stratum I, while the remaining 42 per cent were in Stratum II. Sample farms were drawn from each size stratum on a proportionality basis. The 102 farms finally surveyed represent a sample of 4.6 per cent of the population. The response rate for the survey was 54 per cent.[7] All rejects were replaced by businesses which were also randomly selected.

For the present analysis, the number of farms in each stratum, classified by type of ownership, are summarized in Table 1. The figures in parentheses are percentages of the total 90 farms in each category.

Table 1: *Number and percentage of farms by type of ownership*

Type of ownership	*Stratum I* (200–809 ha)	*Stratum II* (> 809 ha)	*Total*
Sole owners	19 (21)	6 (7)	25 (28)
Family ownerships	29 (32)	26 (29)	55 (61)
Others	3 (3)	7 (8)	10 (11)
All farms	51 (56)	39 (44)	90

Twenty-eight per cent of the survey businesses are operated by sole owners, with these being concentrated in the smaller farm group, while 60 per cent of businesses are operated as family partnerships.[8] This form of ownership is

7. Two distinct groups of rejects exist—those who did not wish to participate in the survey, and those who were rejected by the interviewers. Of the total rejects, about 50 per cent fall into each category. Several reasons were put forward by the former group for not participating. Fears of lack of confidentiality, the belief that such surveys achieved nothing, and just not wanting to be bothered were the three main reasons advanced. For the latter group, some were rejected because they did not in fact run a commercial wheat-sheep-beef enterprise, but used the land for enterprises like timber. In addition, some sample properties had changed hands since 1975–76, and the previous owners moved out of the region. For a small group, accountant's records were not available, usually because of a change of accountants. Further rejections were due to accountants' records being destroyed by fire, and because of the death of a principal partner in the last two years. Some very difficult cases were also rejected—e.g. in the case of a network of interwoven companies or partnerships where complete financial records were impossible to obtain. (A forthcoming paper will give a more detailed account of all aspects of the survey, such as the problems encountered, the cost and other logistics.)

8. Campbell and Archer [4] noted the creation of a number of family partnerships for taxation purposes during their survey period. Nineteen per cent of their farms were listed as partnerships.

common to both size strata. The remaining 11 per cent of businesses, noted as "others", are operated principally as family companies or estates.

4 Farm Income Levels and Composition

Average gross income in each year is given in Table 2, along with the minimum and maximum gross incomes earned by individual farms and the standard error of the mean. Gross income by main components is shown in Table 3, and in Table 4, the component incomes are presented as percentages of gross earnings.[9]

Table 2: Minimum, Maximum, Mean and Standard Error of Incomes of Surveyed Farms

Year	Minimum	Maximum	Mean	Standard error (Mean)
1968–69	3 601	89 877	25 939	1 776
1969–70	4 675	130 857	24 586	2 272
1970–71	1 983	85 341	22 137	1 796
1971–72	3 099	72 060	22 617	1 713
1972–73	4 798	100 218	26 586	2 068
1973–74	3 459	147 950	37 228	2 862
1974–75	2 998	133 897	37 185	2 729
1975–76	4 810	148 948	42 812	3 139

Referring to Table 3, gross income, defined as total cash earnings in each financial year, declined from 1968–69 to 1970–71 as wool prices slumped and wheat production was curtailed.[10] Income remained low in the following two years as market prices were slow to recover, and because of dry conditions in 1972–73. It then rose rapidly to $37,228 in 1973–74 when wool, beef and wheat were enjoying buoyant markets, and fell slightly in 1974–75 as wool, and more significantly beef, lost ground on world markets. However, increased prices and additional production of wheat offset the adverse trends in livestock incomes so that gross income reached the highest point of $42,812 per farm in 1975–76. Net cash surplus, defined as gross income less total farm business expenditure[11] (listed in Table 7), followed a similar trend to that of gross income, with a low of $3,131 in 1969–70, rising to $12, 942 per farm in 1975–76. These trends are illustrated in Figure 1.

9. It should be emphasized that income and costs have been reported in money rather than real terms, that gross income has been measured as gross cash receipts and that all income and costs have been recognized as such in the financial year in which they are received or incurred. This means that for some enterprises some costs are recognized in one year with the remaining costs and income recognized in the next year. No satisfactory solution to this problem was apparent.

10. No distinction can be made between price and output contributions to the income earned by any enterprise. During pilot surveys an effort was made to collect output data, acreage data, and so on, but proved largely unsuccessful. This lack of success can be attributed mainly to the general unavailability of farm physical information for the duration of the time period studied. In discussing changes in income levels, general knowledge of the prevailing situation has been used to attribute changes to price or quantity effects.

11. Net cash surplus is thus different to the commonly accepted definition of net income, which also includes depreciation and changes in the value of inventories. Both these items can be quite important, with the latter likely to be particularly important to livestock enterprises. Furthermore, while machinery and equipment disposals were included in the calculation of net cash surplus, not all sales of capital items could be traced in some cases.

Table 3: Composition of Gross Farm Income

	1968–69	1969–70	1970–71	1971–72	1972–73	1973–74	1974–75	1975–76
	$	$	$	$	$	$	$	$
Wool	7,447	7,359	5,278	5,638	10,073	9,089	7,785	8,555
Sheep Sales	4,761	4,898	3,438	3,707	5,594	6,252	5,117	5,281
Cattle Sales	1,865	4,466	4,592	4,477	4,344	8,747	3,627	3,877
Pig Sales	387	512	728	947	1,249	1,731	1,780	1,494
Total Livestock Account	14,471	17,248	14,049	14,795	21,278	25,920	18,376	19,301
Wheat	9,076	4,623	4,801	4,382	988	6,326	12,015	15,248
All Other Crops	169	282	632	1,171	1,487	1,694	3,030	4,233
Total Cropping Account	9,246	4,905	5,433	5,553	2,475	8,019	15,045	19,481
Produce Account	1,026	975	981	846	1,436	1,146	1,525	1,334
Leasing and Agistment	52	174	134	173	64	201	69	126
Interest	207	189	206	189	205	262	517	549
Other Income	938	1,094	1,214	1,057	1,128	1,679	1,654	2,022
Gross Income	25,939	24,586	22,137	22,617	26,586	37,228	37,185	42,812
*Net Cash Surplus**	6,135	3,131	5,052	6,324	7,441	10,623	11,592	12,942

* Net cash surplus is defined as gross income minus total business expenditure. It excludes depreciation and other non-cash expenditure items.

Table 4: *Farm Income Composites as Percentage of Gross Farm Income*

	1968–69	1969–70	1970–71	1971–72	1972–73	1973–74	1974–75	1975–76
	per cent	per cent	per cent	per cent	per cent	per cent	per cent	per cent
Wool	28.7	29.9	23.8	24.9	37.9	24.4	20.9	20.0
Sheep Sales	18.4	19.9	15.5	16.4	21.0	16.8	13.8	12.3
Cattle Sales	7.2	18.2	20.7	19.8	16.3	23.5	9.8	9.1
Pig Sales	1.5	2.1	3.3	4.2	4.7	4.6	4.8	3.5
Total Livestock Account	55.8	70.2	63.5	65.4	80.0	69.6	49.4	45.1
Wheat	35.0	18.8	21.7	19.4	3.7	17.0	32.3	35.6
All Other Crops	0.7	1.1	2.9	5.2	5.6	4.6	8.1	9.9
Total Cropping Account	35.6	20.0	24.5	24.6	9.3	21.5	40.5	45.5
Produce Account	4.0	4.0	4.4	3.7	5.4	3.1	4.1	3.1
Leasing or Agistment	0.2	0.7	0.6	0.8	0.2	0.5	0.2	0.3
Interest	0.8	0.8	0.9	0.8	0.8	0.7	1.4	1.3
Other Income	3.6	4.4	5.5	4.7	4.2	4.5	4.4	4.7
Gross Income	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

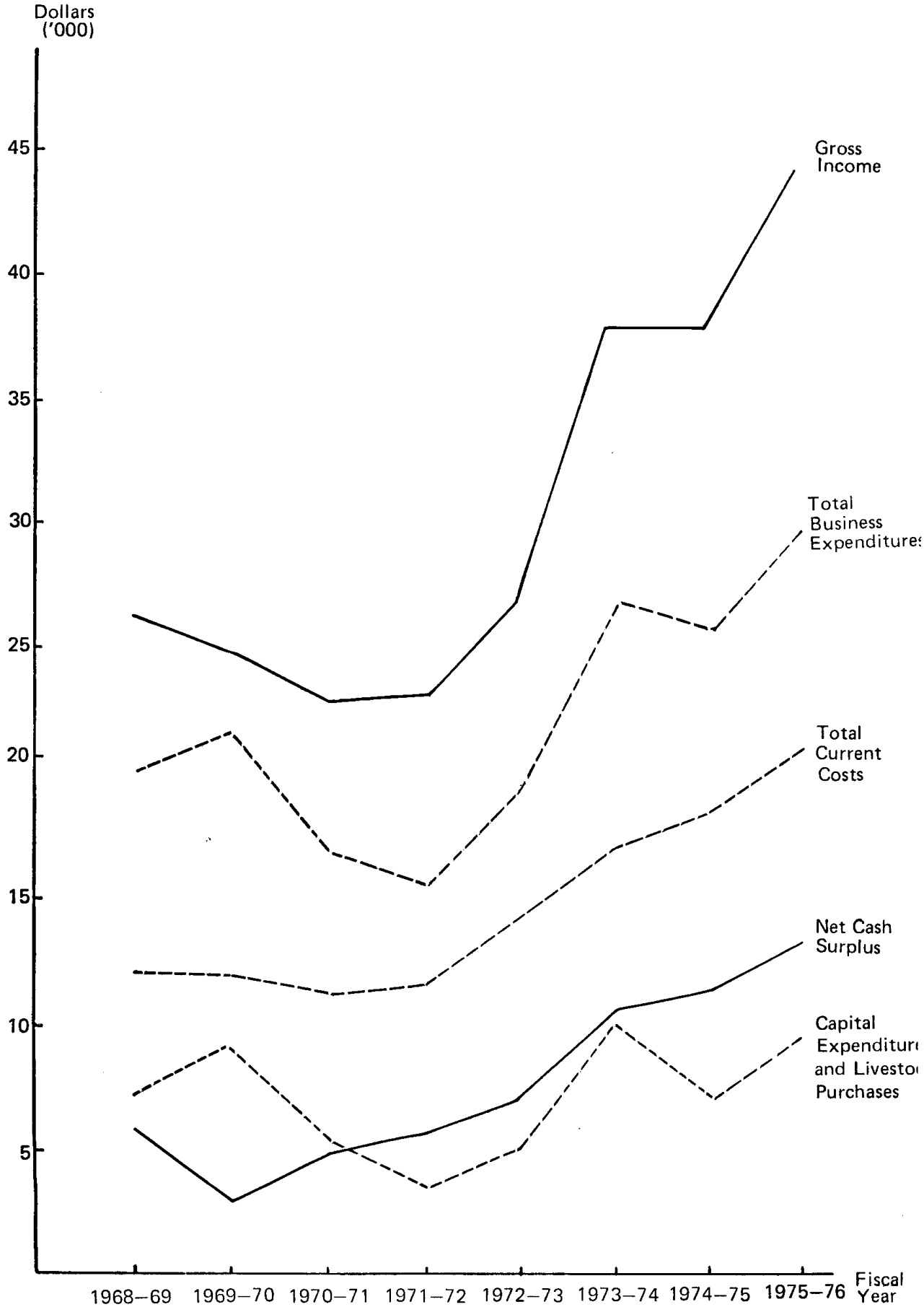

Figure **1**: *Gross Income, Business Expenditure and Net Cash Surplus*

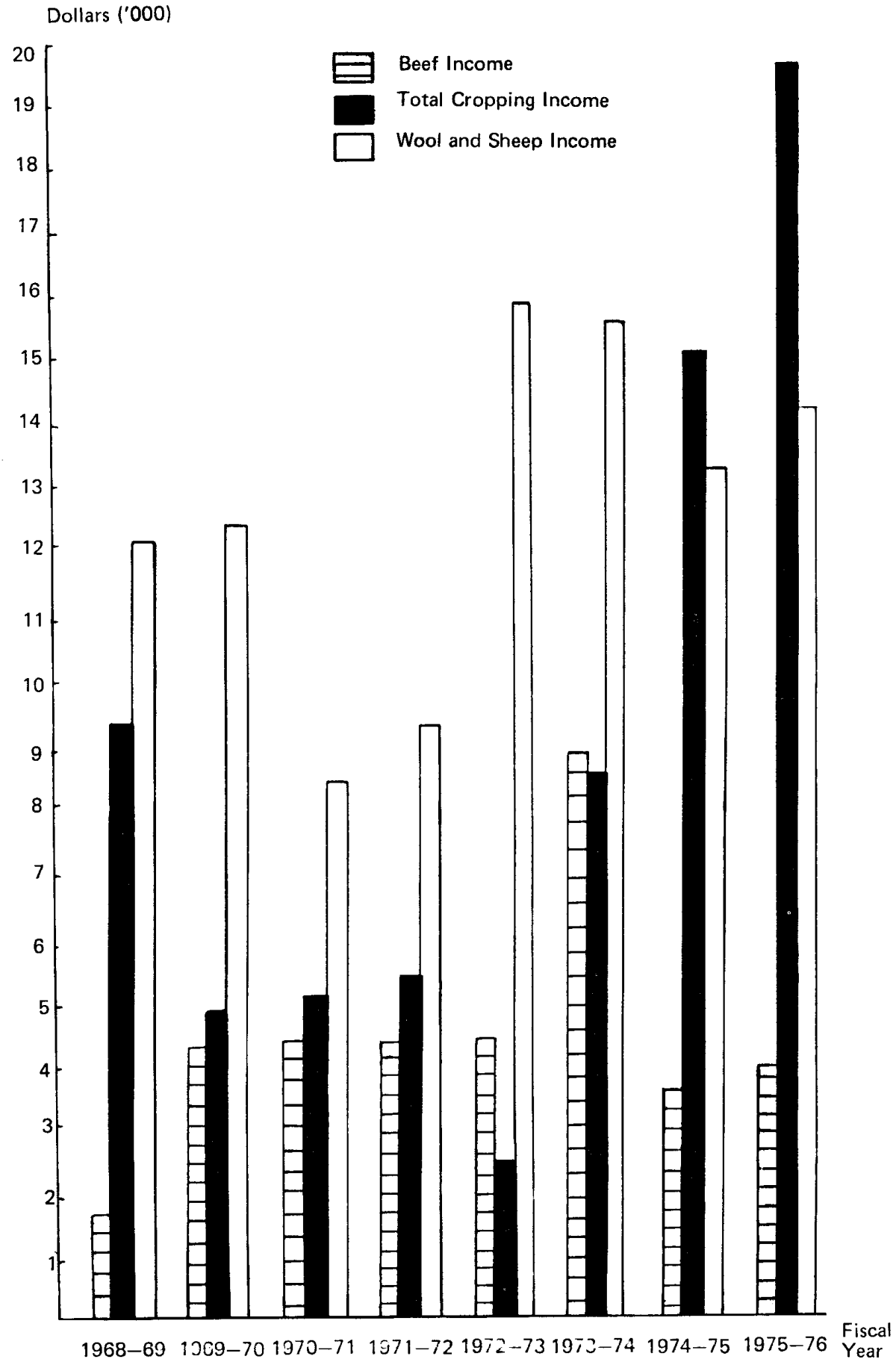

Figure 2: Distribution of the Main Components of Gross Income

The main sources of income are summarized in Figure 2 while more detailed data are presented in Tables 3 and 4. In all years income from sheep[12] has been a major component of total income, and it is only in the recent years, 1974–75 and 1975–76, that income from cropping has been more important. Even in the wool slump years, sheep income was still the main income source. Furthermore, sheep income and its share in gross income appears to be rather more stable than cropping incomes and perhaps also beef—a characteristic that warrants further investigation. Income from beef has been relatively constant apart from the 1968–69 and 1973–74 years. Certainly these income data do not support the idea that there has been a general swing from sheep to beef, although average cattle numbers did increase continuously throughout the survey period. Income figures suggest, however, that from 1973–74 there has been increased resources directed to crop production, particularly wheat, no doubt in response to higher grain prices. But, after allowing for changes in the prices received for farm output, it would seem that farmers in this region have not made substantial shifts between enterprises. Some aspects pertaining to income earned from particular sources are considered in more detail in subsequent paragraphs.

Average wool income[13] for the 90 farms varied from $5,278 in 1970–71 to $10,073 in 1972–73 (Table 3). The wool boom of 1972–73 is reflected in these figures, and although wool income was a low percentage of total income in 1974–75 and 1975–76 (*see* Table 4) this reflects the high wheat prices and swing to wheat production in the mid 70's rather than a decline in wool production. Gross sheep sales closely followed the trend exhibited by wool earnings and climbed from a low of $3,438 per farm in 1970–71 to a high of $6,252 per farm in 1973–74.

Cattle sales remained relatively constant until 1973–74, when receipts from this enterprise almost doubled. Cattle earnings then slumped in 1974–75 to $3,627—more than $5,000 less than the average for the previous year. As shown in Table 4, 24 per cent of gross income came from cattle sales in 1973–74, while the corresponding figure in 1974–75 was less than 10 per cent. This sharp downturn in the relative contribution of cattle to gross farm earnings occurred for three reasons: first, and most important, the slump in cattle prices in this period; second, because of the lower prices producers tended to hold stock back from market in the hope that prices would rise; and third, there was an upturn in wheat earnings in 1974–75.

Wheat, as an income earner, showed greater variability than wool, sheep or cattle. In 1968–69 wheat income (i.e., wheat payments received) per farm was $9,076, and represented 35 per cent of gross farm income. With the imposition of delivery quotas and continuously declining world prices, average wheat earnings declined slowly to $4,382 in 1971–72, and then plummeted to $988 in 1972–73, equivalent to only four per cent of gross earnings. An important contributing factor here was that 1972 was a year of poor seasonal conditions in the C.M.S.S. Because of dry weather, sowings were down on previous years as were yields. Since 1972–73, earnings from the wheat enterprise increased

12. Generally, about 60 per cent of "sheep income" has been drived from wool, and 40 per cent from sales of sheep (mostly for slaughter). Only in 1970–71 did these figures deviate markedly, with 52 per cent being drived from wool and 48 per cent from sheep sales.
13. The wool income figure also includes skins but the amounts involved are quite small, being always considerably less than $50, and usually in the range of $5 to $20.

rapidly throughout the remainder of the survey period, and reached $15,248 per farm in 1975–76. Wheat earnings thus rose from 4 to 36 per cent of gross income in a four-year period. The high world prices previously mentioned were the major contributing factor to this turnabout, along with better seasons, the introduction of semi-dwarf, higher yielding varieties and the irrelevancy of delivery quotas throughout the early 1970's which led subsequently to their abolition.

Income earned from other crops rose continuously throughout the eight-year period. These other crops, principally sorghum and sunflowers, and to a lesser extent barley and oats,[14] contributed only $169 of income per farm in 1968–69. This increased to $4,233 in 1975–76, equivalent to 10 per cent of gross income. The increasing contribution of crops other than wheat to farm earnings can be explained by two factors. Firstly, the increased acceptance by farmers of these crops, particularly as prices were considered favourable and wheat quotas were in effect. Secondly, the slack in machinery usage for much of the year has always provided the capacity to produce summer crops as well, and the acceptance of these crops caused some realization of this potential.

Reference to Figure 2 and Tables 3 and 4 shows that livestock enterprises are the most important in the C.M.S.S. Total livestock income varied from $14,049 per farm in 1970–71 to $25,920 in 1973–74. The importance of the wool slump in 1970–71, and the wool and beef booms of 1972–74 are apparent. On a proportional basis, livestock earnings peaked at 80 per cent of gross income in 1972–73, and reached a low of 45 per cent in 1975–76 as the contribution of wheat increased. Total earnings from cropping were highest in 1975–76, when 46 per cent of gross income came from these enterprises. The average crop earnings of $19,481 represented a massive increase over the $2,457 average in 1972–73.

Other farm produce varied from three per cent to five per cent of gross farm earnings. Items which may be included as produce include seed wheat, fodder, timber, gravel, vegetables, fruit, honey and so on. No significant trends are discernible, and only a few farms earned significant amounts of income from these sources.

Leasing and agistment are only small income earners in the C.M.S.S. with no apparent trends. Interest earned does show some movement, however, particularly in the latter years of the survey period. This would appear to be related to the higher rates of interest available on fixed and interest bearing deposits in the latter years and the tendency for farm families to hold funds in this fairly accessible form (*see* Section 8).

Other income includes gifts and inheritances, rebates and refunds, dividends, off-farm earnings and various sundry items such as cattle compensation. These income sources increased from $938 per farm in 1968–69 to $2,022 in 1975–76. At most, these sources have amounted to six per cent of gross income, which would tend to support the view that in this type of farming area, the opportunities for earning off-farm income are limited. The most important element was off-farm earnings which generally increased throughout the period. Contract farming and working wives were the most important avenues of off-farm earnings.[15]

14. Some soybeans, millet, corn, linseed, cowpeas, rape and sudax were also grown at various times.
15. Some information on off-farm earnings was collected during the survey, and will be examined at a later date.

5 Expenditure on Farm Current Costs

Total current costs, as shown in Table 5 (which also includes the standard error of the mean for each year) and illustrated in Figure 1, declined from $12,543 per farm in 1969–70 to $11,805 per farm in 1970–71.[16] Since then expenditure on current costs increased continuously to a maximum of $21,380 per farm in 1975–76. Current costs as a percentage of gross income remained remarkably stable over the eight-year period, hovering consistently near 50 per cent (Table 6). Farm current costs are divided into 14 categories in Table 5. Accounting procedures preclude any further disaggregation of these expenditure groupings. For example, it would be desirable to analyse expenditure on fertilizer by itself. However, fertilizer is very often grouped with seed, fodder and agistment and cannot be isolated.[17] Individual current costs are discussed further in the following paragraphs.

Business deductions includes items like accounting fees, telephone and other office costs and bank charges. Expenditure on these items has generally increased over the eight-year period, although there was a decrease in 1970–71.

General expenses includes contract farming, freight and cartage, shearing and crutching, and other farming or livestock expenses not listed under any other current cost grouping. General expenses and animal health and pest destruction show very similar trends in terms of farm spending. There was an increase from 1968–69 to 1969–70, and then a steady decline to 1972–73. Spending on these items then increased over the last three years of the period as the fortunes of wheat-sheep zone farming improved. As a proportion of total current costs, the trends were similar. General expenses, for example, increased to 18 per cent of the total in 1969–70, declined continuously to 10 per cent in 1972–73, and rose again to over 13 per cent in 1975–76.

Expenditure on fuel, oil and grease appears to have closely followed the fortunes of wheat farming, showing some variability to 1971–72, declining in the dry year 1972–73, and increasing over the final three years to a maximum of $1,667 per farm in 1975–76. The increasing costs of petroleum products is obviously very important to this trend,[18] as are increased cropping areas. However, only eight per cent of total current costs were accounted for by this item in 1975–76. The figure was lower in only two other years. In 1969–70 it was seven per cent when wheat quotas and low world wheat prices combined and in the wool and beef boom year of 1973–74 fuels again accounted for under eight per cent of total current costs.

Expenditure on seed, fodder, fertilizer and agistment[19] was quite variable, ranging from $1,128 in 1970–71 to $2,617 in 1972–73. Physical farm information collected during the survey indicated that topdressing was of very little importance, although a few farms did fertilize pastures, principally in the years 1968–69 and 1969–70. The peak of $2,617 in 1972–73 may be partially

16. It was not possible to distinguish between price and quantity changes in any expenditure category for the same reasons as those given in footnote 10. Furthermore, where changes in expenditure levels are attributed to a change in price or quantity separately, this is based on general knowledge of the prevailing situation rather than data collected.
17. Fertilizer costs, as a separate item, were available for almost 50 per cent of surveyed farms, and will be examined more closely in later analyses of the data.
18. B.A.E. prices paid indices indicate that fuel costs doubled in the period 1968–69 to 1975–76, with most of the increase occurring since 1973–74.
19. Agistment was of little importance throughout the eight-year survey period. Fertilizer and fodder appeared to be the most important elements of this group.

Table 5: Farm Expenditure on Current Costs

	1968–69	1969–70	1970–71	1971–72	1972–73	1973–74	1974–75	1975–76
	$	$	$	$	$	$	$	$
Business Deductions ..	499	615	533	588	630	711	936	1,075
General Expenses	2,028	2,221	1,948	1,640	1,441	2,109	2,274	2,821
Animal Health and Pest Destruction	512	566	533	532	502	695	770	1,010
Fuel, Oil and Grease	1,099	879	947	1,104	1,078	1,281	1,440	1,667
Seed, Fodder, Fertilizer and Agistment	1,700	1,217	1,128	1,410	2,617	2,148	1,950	2,181
Seed Grading	79	116	68	99	80	103	92	195
Repairs and Maintenance—								
Fixed Improvements ..	484	540	390	440	486	736	818	857
Machinery and Equipment..	1,732	1,730	1,597	1,748	2,150	2,975	2,849	3,453
Insurances	406	369	354	312	312	650	668	847
Interest Paid	1,185	1,313	1,529	1,527	1,524	1,606	2,154	2,031
Rates and Rents	980	1,024	980	964	989	1,221	1,417	1,516
Salaries and Wages	1,507	1,429	1,502	1,426	1,714	2,203	2,560	3,252
Sundry Expenses	330	354	295	299	316	347	454	477
Total Current Costs	12,543 (1,093)†	12,371 (1,035)	11,805 (1,012)	12,088 (951)	13,838 (1,091)	16,783 (1,264)	18,383 (1,290)	21,380 (1,618)

† Figures shown in brackets are the standard errors of the mean.

Table 6: Expenditure on Current Costs as a Percentage of Total Current Costs

	1968–69	1969–70	1970–71	1971–72	1972–73	1973–74	1974–75	1975–76
	per cent	per cent	per cent	per cent	per cent	per cent	per cent	per cent
Business Deductions ..	4.0	5.0	4.5	4.9	4.6	4.2	5.1	5.0
General Expenses	16.2	18.0	16.5	13.6	10.4	12.6	12.4	13.2
Animal Health and Pest Destruction	4.1	4.6	4.5	4.4	3.6	4.1	4.2	4.7
Fuel, Oil and Grease	8.8	7.1	8.0	9.1	7.8	7.6	7.8	7.8
Seed, Fodder, Fertilizer and Agistment	13.6	9.8	9.8	11.7	18.9	12.8	10.6	10.2
Seed Grading	0.6	0.9	0.6	0.8	0.6	0.6	0.5	0.9
Repairs and Maintenance—								
Fixed Improvements ..	3.9	4.4	3.4	3.6	3.5	4.4	4.4	4.0
Machinery and Equipment..	13.8	14.0	13.9	14.5	15.5	17.7	15.5	16.2
Insurances	3.2	3.0	3.1	2.6	2.3	3.9	3.6	4.0
Interest Paid	9.4	10.6	13.3	12.6	11.0	9.6	11.7	9.5
Rates and Rents	7.8	8.3	8.5	8.0	7.1	7.3	7.7	7.1
Salaries and Wages	12.0	11.6	13.1	11.8	12.4	13.1	13.9	15.2
Sundry Expenses	2.6	2.9	2.6	2.5	2.3	2.1	2.5	2.2
Total Current Costs	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Total Current Costs as a Percentage of Gross Income ..	48.4	50.3	53.3	53.4	52.0	45.1	49.4	49.9

explained by the dry weather conditions in 1972 and the consequent need to buy fodder. The use of fertilizers with crop sowing would have been more important in 1974–75 and 1975–76.

Repairs and maintenance on both fixed improvements and machinery and equipment show similar dollar trends throughout, being at their lowest in 1970–71 and peaking at $857 in 1974–75 and $3,453 in 1975–76 respectively. There are, however, some proportional differences. Machinery repairs and maintenance increased gradually throughout the period, from 14 per cent to 18 per cent of current costs.[20] Repairs to fixed improvements, however, declined as a proportion of the total in the mid-years of the period, increased in 1973–74 as the prices of wool and beef improved, and declined again in 1975–76 as wheat became more important. Insurances[21] show very similar trends to those for repairs and maintenance of fixed improvements. There is a marked decline from 1968–69 to 1972–73, followed by a rapid upturn to 1975–76. Examination of B.A.E. indices of prices paid shows that the cost of insurance more than doubled in this latter period, explaining much of the increased expenditure on this item.

Interest paid on borrowed moneys increased from $1,185 in 1968–69 to $1,529 in 1970–71. After three years of relative stability, interest payments then increased to $2,154 in 1974–75, with a slight fall to $2,031 in 1975–76. Interest payments therefore almost doubled over the eight years. Reference to Table 9, where total liabilities are listed, gives a different picture. Total liabilities, on average, were only about $400 more in 1975–76 than in 1968–69. This apparent paradox may be explained in three ways. First, interest rates changed substantially over the period. The maximum overdraft rate, for example, increased from 7.25 per cent as at June 30th, 1969, to 10.50 per cent as at June 30th, 1976 [3]. Second, the sample on which Tables 5 and 9 are based is quite different, with Table 9 being based on 57 farms, as distinct from the 90 upon which Table 5 is based. Third, the terms of loans may have changed to some degree over the period.

Rates and rents generally increased over the survey period, although there was a slight fall from 1969–70 to 1971–72. As a proportion of total current costs, this largely unavoidable expenditure item was highest during the least prosperous years of the period, with the exception of 1974–75 when it was eight per cent of the total. Salaries and wages, however, both on a dollar and proportional basis rose almost continuously from 1968–69 to 1975–76.

Sundry expenses include donations, subscriptions, travelling expenses, and any other current costs not accounted for elsewhere. There was a fall in this expenditure group in 1970–71, and then a steady increase throughout the remainder of the survey period.

Summarizing, it seems that expenditure on farm current costs has been subject to two major influences. The relative buoyancy of the enterprises to which a particular cost is most closely related is one factor, while the other is the effect of price increases.

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20. Accounting procedures again presented some problems with repairs and maintenance. Generally, repairs of improvements and machinery were disaggregated. When they were not, total repairs and maintenance have been included in the machinery item. This strategy should have little or no effect on the general trends in expenditure on these items.
21. This item includes all insurances except life—i.e., worker's compensation, buildings, machinery, crops, etc.

Table 7: Capital Expenditure, Livestock Purchases and Total Farm Business Expenditure

	1968–69	1969–70	1970–71	1971–72	1972–73	1973–74	1974–75	1975–76
	$	$	$	$	$	$	$	$
Machinery and Equipment* ..	3,897	2,432	1,958	1,299	2,780	3,892	4,731	5,962
	(722)§	(377)	(353)	(347)	(430)	(528)	(833)	(753)
Constructions†	620	599	549	232	168	184	258	1,216
Sheep Purchases	1,676	2,485	558	696	835	2,013	1,501	1,266
Cattle Purchases ..	1,644	3,537	2,369	2,004	1,912	3,813	1,135	700
Pig Purchases	47	163	116	80	68	199	188	132
Total Livestock Purchases ..	3,382	6,197	3,055	2,794	2,866	6,191	2,893	2,204
	(570)	(1,451)	(503)	(463)	(489)	(1,342)	(620)	(346)
Total Farm Business Expenditure‡	19,804	21,455	17,146	16,293	19,318	26,744	25,593	29,870
	(1,779)	(2,322)	(1,410)	(1,271)	(1,473)	(2,270)	(1,800)	(2,231)
	per cent	per cent	per cent	per cent	per cent	per cent	per cent	per cent
Machinery and Equipment as per cent of Gross Income ..	15.0	9.9	8.8	5.7	10.5	10.5	12.7	13.9
Total Business Expenditure as per cent of Gross Income ..	76.3	87.3	77.5	72.0	72.7	71.8	68.8	69.8

* Gross purchases—not net of disposals.
† Including earthworks.
‡ Total Farm Business Expenditure is defined here as current costs plus capital expenditure plus livestock purchases.
§ Figures shown in brackets are standard errors of the mean.

6 Investment Expenditure and Livestock Purchases

The expenditure items included under this heading are shown in Table 7 and illustrated in Figure 1. Table 7 also includes the standard errors of average expenditure on machinery and equipment, livestock purchases and total farm business expenditure. Machinery and equipment purchases averaged $3,897 per farm in 1968–69, and then fell away rapidly until 1971–72 when the average was $1,299 per farm. The reverse trend occurred from 1972–73 to 1975–76 when it peaked at $5,962 per farm. Farm spending on machinery as a proportion of gross incomes follows a similar pattern to wheat income. It declined from 15 per cent in 1968–69 to only six per cent in 1971–72 and then increased to 14 per cent in 1975–76.

Expenditure on farm constructions like sheds, yards and silos shows a similar trend to that of machinery and equipment.[22] This item declined to $168 per farm in 1972–73, then rose slightly until 1975–76 when it increased sharply to $1,216 per farm. This sudden increase is difficult to explain, but again is most likely related to the prosperity of the wheat enterprise. A "catching up" phase in constructions may have also occurred at this time after two exceptionally good wheat harvests. Many farmers were earning relatively high incomes at this stage, and this, combined with the re-introduction of the investment allowance in 1975, may largely explain the upturn in expenditure on capital items. Further analysis of investment patterns and behaviour will be undertaken in the immediate future.

Land buying,[23] as an investment activity, was influenced to some degree by the availability of suitable land. Decisions to purchase additional farm property appear to have come from two main directions—the desire to increase farm area, and more importantly, because of family considerations, e.g. setting a son up on his own holding. For the 90 sample businesses reported here, land buying was of least importance in 1970–71, with the greatest activity occurring in 1969–70, 1973–74 and 1975–76. Sales of land were almost negligible, reflecting the sampling procedure adopted as discussed in Section 1.

Sheep purchases, as expected, follow closely the fluctuating fortunes of the wool industry. Only $558 per farm was spent on sheep buying in 1970–71. This increased in line with the wool boom to $2,013 in 1973–74. Subsequently, with the position of livestock industries relative to farming deteriorating, sheep purchases were down to $1,256 in 1975–76. Cattle purchases also closely paralleled the profitability of that enterprise, reaching a peak of $3,813 in 1973–74, and then falling away to $700 in 1975–76. Total livestock purchases clearly follow the trends discussed above, rising and falling as the buoyancy of the livestock industries fluctuated.

7 Total Farm Business Expenditure

Total business expenditure, shown in Table 7 and Figure 1, includes all spending on current costs, machinery, construction and livestock purchases.

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22. Construction of sheds and yards using on-farm labour and materials makes this item a difficult one to measure. The figures in Table 7 are calculated on the basis of information collected from accountant's records only.
23. Land purchases are not reported in any tables or figures because of the small number of businesses involved so that average calculations could be misleading and not representative of farmer expenditure behaviour.

Life assurance premiums, other non-farm investments, taxation payments, loan repayments and depreciation are not included. Total business expenditure increased to $21,455 in 1969–70, declined to $16,293 in 1971–72, and rose to a peak of $29,870 in 1975–76. On a proportional basis, as shown in Table 7, total expenditure was 81 per cent of gross income in 1969–70, 78 per cent in 1970–71, and was otherwise of the order of 69 to 73 per cent of gross earnings. The relative stability of total business expenditure as a proportion of gross income is the outstanding feature, and shows that farmers quickly adjust their expenditure as incomes fluctuate.

8 Taxation, Cash Assets and Cash Liabilities

Table 8 is based on 30 survey farms only. Not all accountants had carefully prepared balance sheets available, and thus cash assets in particular were often difficult to trace. For those farms for which this could be done, bank and savings deposits of various kinds are shown in Table 8 and illustrated in Figure 3. These closely parallel farm prosperity, with a low of $1,542 in 1969–70, and a high of $9,105 in 1974–75. The lower figure of $7,173 in 1975–76 is unexpected and difficult to explain, although the lag in second and subsequent payments for wheat delivered to the Grain Elevators Board may be an important factor. Other cash assets consist primarily of private loans and sundry debtors. Surprisingly, these are at the highest level of $1,129 per farm in 1970–71, but then fall away to $666 in 1971–72. A general upward trend then occurs to 1975–76.

Taxation payments[24] generally fall due in the financial year immediately following the year on which they are assessed. These payments reached a peak of $2,207 per farm in 1974–75, shortly after the wool and beef booms. They were at their lowest in 1971–72, when average tax paid per farm business was $312.

Farm liabilities are shown in Table 9 and illustrated in Figure 4. These liability details are based on 57 farms. The item "Bank Liabilities" includes bank overdrafts, term loans, and some Rural Reconstruction and Rural Assistance Board Loans.[25] Bank liabilities are obviously the most important, and generally move in the opposite direction to farm prosperity, being $19,873 in 1970–71, and falling to $14,226 in 1974–75. Net farm borrowings, also shown in Table 9, show a very similar trend. Net loan repayments exhibit somewhat different behaviour, and reach a maximum of $3,979 per farm in 1972–73. This may reflect the debts built up in the previous two years, and the desire to reduce these as soon as some surplus income became available. Total liabilities continue to be reduced after 1970–71 but for a small rise in 1973–74, with annual loan repayments being generally greater than $2,000 per farm.

9 Consumption

Farm household consumption proved very difficult to measure. In an effort to gauge how consumption expenditure has varied with income

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24. Taxation figures are calculated on a business basis, partner's payments being added together in the case of family partnerships.
25. This strategy was again forced by accounting procedure, which often did not clearly delineate overdrafts from other kinds of borrowing.

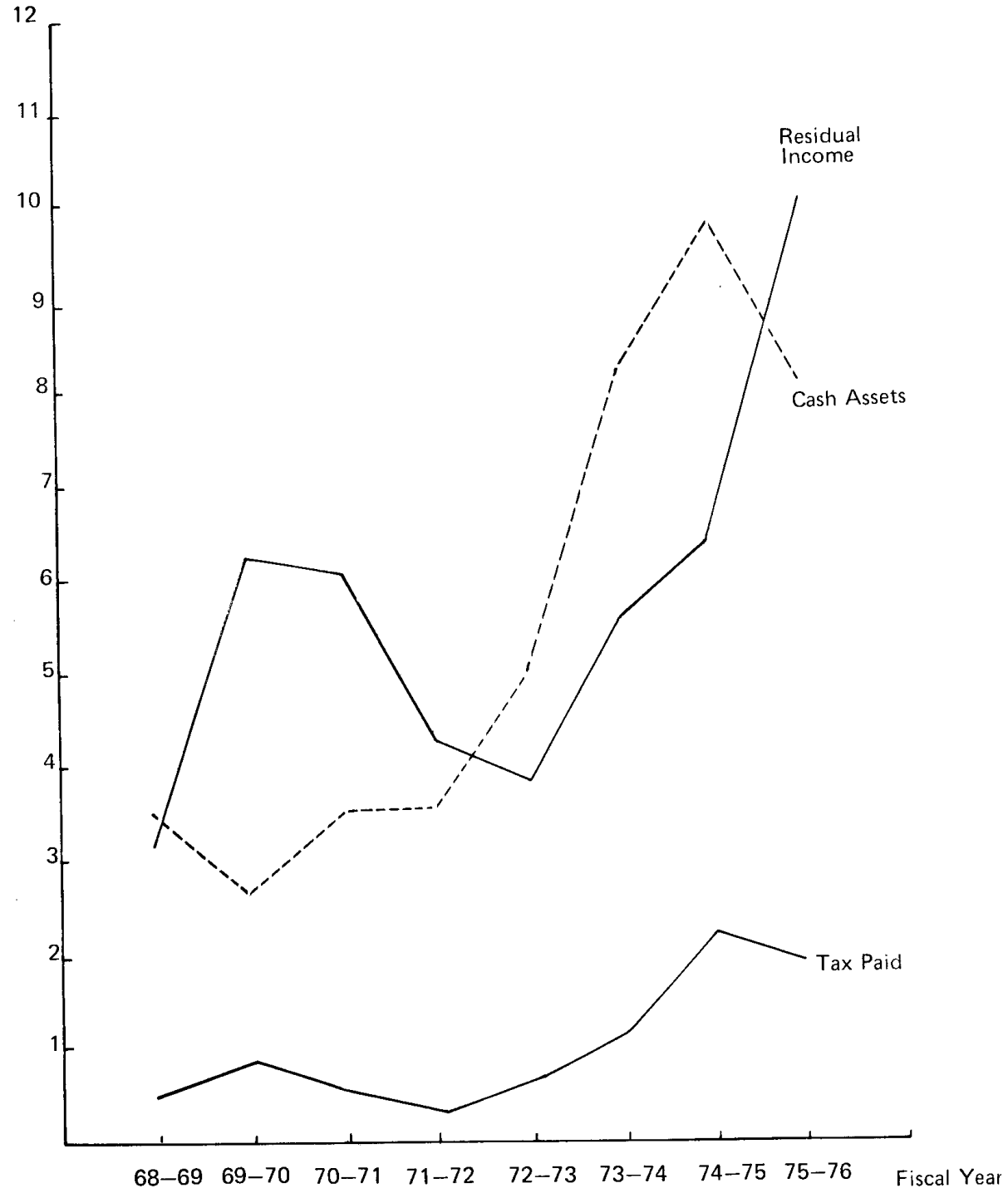

Figure 3*: *Cash Assets*†, *Tax Paid and Residual Incomes*‡

* Figure 3 is based on 30 farm businesses. Complete information on cash assets was not available for the remaining survey farms.

† Includes all savings and interest bearing deposits, sundry debtors, and any other cash assets.

‡ Residual incomes are explained in the text, and used here as a proxy for farm household consumption.

*Table 8: Cash Assets, Taxation, Non-Farm Investment and Residual Income**

	1968–69	1969–70	1970–71	1971–72	1972–73	1973–74	1974–75	1975–76
	$	$	$	$	$	$	$	$
Savings Deposits	2,479	1,542	2,423	2,927	4,362	7,599	9,105	7,173
Other Cash Assets	1,098	1,087	1,129	666	694	628	776	984
Tax Payments	487	902	473	312	551	1,101	2,207	1,942
Tax Refunds	65	38	118	132	61	92	86	193
Life Assurance Premiums ..	489	439	529	523	623	584	554	..
Other Non-farm Investments..	248	282	258	217	231	231	220	241
Residual Income	3,178	6,265	6,116	4,260	3,875	5,553	6,625	10,106

*Table 8 is calculated on the basis of information from 30 farms only. Complete information on the items listed was not available for the remainder of the survey farms.

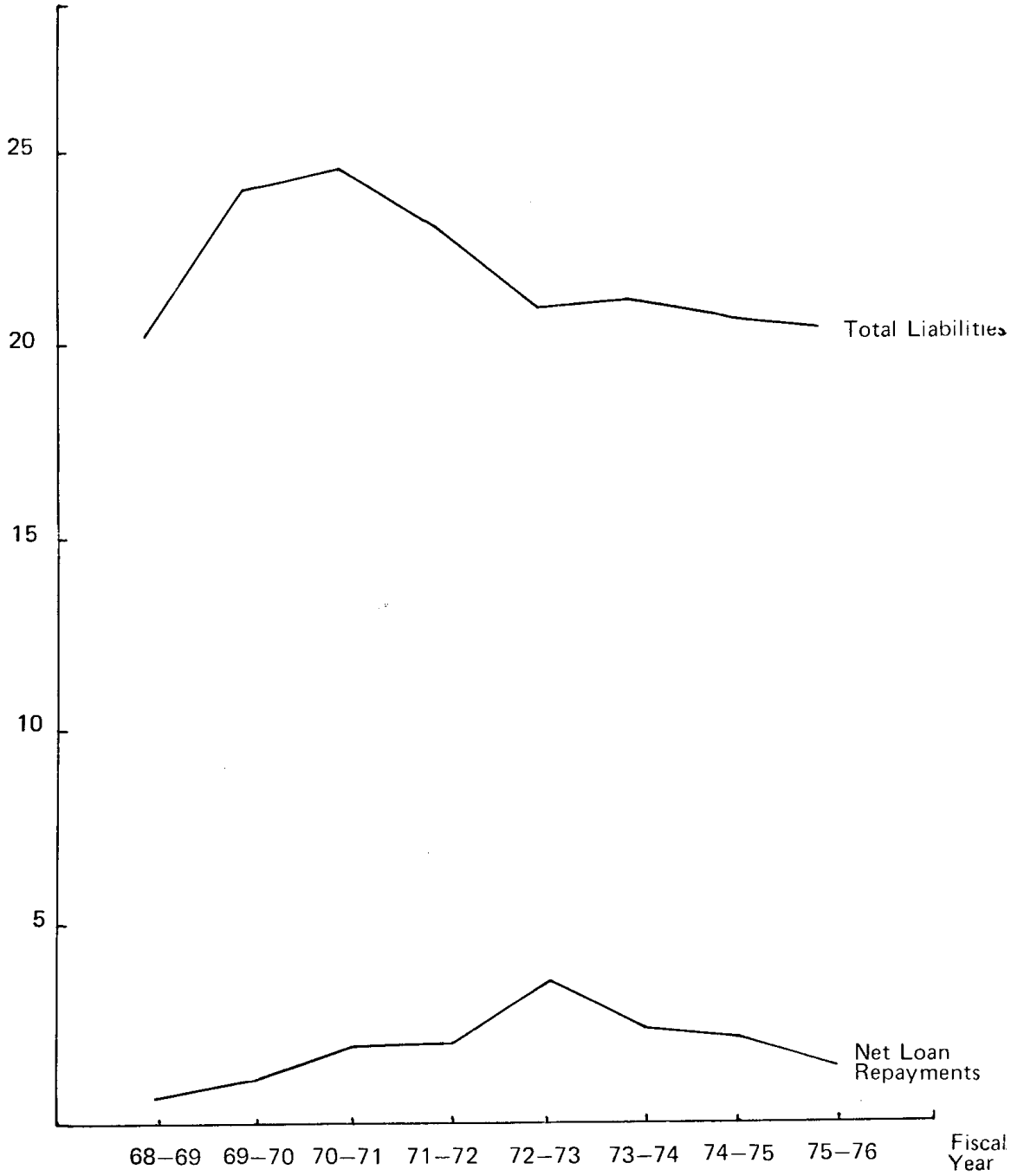

Figure 4*: *Total Liabilities and Net Loan Repayments*

* **Figure 4 is** based on 57 farm businesses for which information on liabilities was available.

*Table 9: Cash Liabilities, Net Loan Repayments and Net Borrowings**

	1968–69	1969–70	1970–71	1971–72	1972–73	1973–74	1974–75	1975–76
	$	$	$	$	$	$	$	$
Total Bank Liabilities ..	14,340	18,578	19,873	18,854	16,484	15,544	14,226	15,280
Stock Firm Loans	1,517	1,390	855	520	484	1,555	1,464	1,233
Other Liabilities	4,556	4,279	4,138	3,907	4,358	4,758	5,483	4,340
Total Liabilities	20,412	24,243	24,865	23,282	21,328	21,856	21,213	20,853
Net Loan Repayments ..	507	1,232	2,161	2,437	3,979	2,848	2,757	2,308
Net Borrowings	1,231	2,735	2,737	898	2,178	3,381	1,821	1,953

* Table 9 is based on 57 farms for which all information on liabilities was available.

fluctuations, a "residual income" figure, shown in Table 8, was calculated. These figures are the average per farm calculations for the 30 farms for which all information on cash assets and liabilities was available. After all expenses were paid, savings deposits increased or reduced, and net loan repayments or borrowings made, it was possible to calculate a residual figure. This residual figure should therefore reflect trends in household consumption spending. As shown in Figure 3, it closely parallels the prosperity of wheat-sheep zone farming, falling to a low of $3,875 in 1972–73, and then climbing continuously to a peak of $10,106 in 1975–76. In comparison, the consumer price index almost doubled over the eight-year period 1968–69 to 1975–76.[26] The 30 farms analyzed here have thus maintained their consumption at a level slightly ahead of the consumer price index. However, this conclusion could reflect some bias in the survey sampling procedure. Further bias could be induced by the way in which the 30 farms analyzed here were selected. In general, the farms for which all information on cash assets and liabilities was available tended to be those with larger areas and higher incomes. The inclusion of a number of smaller and/or lower income farms would doubtless cause the residual figure discussed above to be rather less optimistic. A more detailed analysis of the consumption data will be undertaken in the near future.

10 Conclusions

Gross farm incomes in the region have generally increased over the eight years to 1975–76. The composition of incomes has remained relatively stable apart from the apparent swing to cropping in the latter years. Current costs have remained relatively stable as a proportion of gross incomes. The greatest increases in expenditure have occurred for those items subject to the most rapid price increases, indicating that the demand for many inputs is relatively inelastic. Capital expenditure generally varies positively with income, and this, combined with other business expenditure, causes total expenditure to be reasonably stable as a proportion of gross income. From the information available on assets and liabilities, it is indicated that the equity positions of farmers have generally improved. Apparent consumption levels have tended to follow income patterns.

The immediate further work includes the analysis of farm incomes, the behaviour of expenditure, both current and capital, and a review of the evidence on farmer consumption.

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