

AN ECONOMIC SURVEY
OF NEW ZEALAND WHEATGROWERS:

FINANCIAL ANALYSIS

1981-82

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PREFACE

This Report is the fifth in an annual series of economic surveys which concentrate on financial aspects of New Zealand wheatgrowing farms. These surveys have been undertaken by the Agricultural Economics Research Unit at Lincoln College on behalf of the Wheat Growers Sub-Section of Federated Farmers of New Zealand Inc.

The principal objective of this survey is to establish, from farm accounts and personal interviews, financial data pertaining to wheatgrowing farms in the 1981-82 financial year. Such data will allow a more comprehensive picture of wheatgrowing in New Zealand, in line with that available for other major New Zealand farming industries.

The accounts analysis was carried out by Roger Lough, computer programming by Patrick McCartin, and the report compiled by Roger Lough and Patrick McCartin.

P.D. Chudleigh
Director.

ACKNOWLEDGEMENTS

The Agricultural Economics Research Unit gratefully acknowledges the co-operation of the wheat growing farmers and their accountants who participated in this survey and made time and information freely available to field staff.

SUMMARY

No one single factor can adequately assess farm or interfarm profitability. It is therefore the intention of this report to evaluate the following factors which influence the profitability of wheat producing properties in New Zealand's arable sector namely:

- a) Capital structure and asset growth
- b) Adjusted farm income and expenditure
- c) Cash resources and farm liquidity

CAPITAL STRUCTURE AND ASSET GROWTH

1. Total farm capital for the average New Zealand survey farm amounted to \$566,825. However the working capital deficit of \$16,279 exceeded produce on hand by \$3,576 resulting in total farm assets including working capital of \$563,249.

2. Total farm liabilities for the average New Zealand survey farm were \$102,272 or 18.1 percent of total farm assets including net working capital.

3. The capital value of land and buildings for the average New Zealand survey farm increased from \$2,407 per hectare to \$3,547 per hectare in the 1981-82 period. Marginal increases in the value of plant and machinery offset a small decline in the value of capital stock allowing total farm capital to increase by \$1,153 per hectare. This capital growth was offset by a \$9 per hectare increase in the working capital deficit and a \$37 per hectare increase in farm liabilities, resulting in farm equity increasing by \$1,107 per hectare.

ADJUSTED FARM INCOME AND EXPENDITURE

4. Gross farm profit for the average New Zealand survey farm was \$98,431. The principal components were livestock (59 percent), wheat (18 percent) and other crops including barley, peas and small seeds (26 percent).

5. Expenditure of \$86,916 for the average New Zealand survey farm was made up of farm working expenses (43 percent), tractor and vehicle expenses including depreciation (24 percent) and debt servicing (17 percent).

6. Net farm profit for the average New Zealand survey farm was \$11,515 or nearly 12 percent of gross farm profit. The highest net farm profit of \$82 per hectare was achieved on those farms where over 50 percent of gross farm profit came from crop production.

CASH RESOURCES AND FARM LIQUIDITY

7. Total available cash for the average New Zealand survey farm of \$45,683 came from direct farm trading (51 percent), increase in term liabilities (26 percent), sale of assets (13

percent) and non farm-income (10 percent).

8. Total cash disposition for the average New Zealand survey farm of \$47,184 comprised capital expenditure (46 percent), personal expenditure (44 percent) and loan repayments (10 percent).

9. The average cash deficit of \$1,501 was financed by a increase in sundry debtors of \$649, a decrease in current account at the stock firm and bank of \$1,876, a decrease in sundry creditors of \$78 and withdrawals from the Income Equalisation Scheme of \$196.

10. The adjusted cash surplus for the average New Zealand survey farm, that is, the cash surplus adjusted for unsold produce and change in livestock numbers was \$2,057. A decrease in the value of livestock of \$354, wool \$187 and crop on hand of \$15 were the principal reasons for the difference between the cash deficit and adjusted cash surplus.

11. The cash deficit of farms with less than 5 percent of gross farm income from crop was \$1,426 which, after adjusting for changes in produce on hand, fell to an adjusted cash deficit of \$ 783. Those farms with 5 to 24 percent of gross farm profit from crop had a cash deficit of \$677 but an inventory change of \$344 resulted in an adjusted cash deficit of \$333. Farms with 25 to 49 percent of gross profit from crop had a cash deficit of \$1,950 but this was offset by a \$540 increase in livestock and crop on hand to give an adjusted cash deficit of \$1,410. Farms with over 50 percent of gross farm profit from crop showed a cash deficit of \$1,728. A reduction in the value of livestock and crop on hand of \$2,924 compounded this deficit with the result that the adjusted cash deficit was assessed at \$4,652.

ECONOMIC INDICATORS

12. The return on total farm capital for the average New Zealand survey farm was 5.1 percent and the return on farm equity 3.0 percent. Farms with 5-24 percent of their gross farm profit from crop had a return on capital of 4.6 percent. Those farms with 25- 49 percent of gross farm profit from crop showed a 5.1 percent return on capital while for those with above 50 percent of gross farm profit from crop the return on farm capital was 5.8 percent. Farms with below 5 percent of their gross farm profit from crop showed a return on capital of 3.8 percent.

13. When adjusted for capital growth the return on farm capital varied from 37.3 percent in group 2 to 51.5 percent for group 4 farms. The return to farm equity adjusted for capital growth varied from 43.5 percent in group 1 to 60.3 percent in group 4 farms indicating that the growth in farm capital offset the inefficient use of borrowed capital.

CHAPTER 1

INTRODUCTION

1.1 Background and Survey Description

The purpose of this economic analysis is to provide financial data relating to those New Zealand wheatgrowing farms that participated in the 1981-82 wheat enterprise survey.¹ The analysis was based upon the annual financial statements prepared for wheatgrowers by their accountants.

Farm accounts for the 1981-82 financial year were collected following the farm visit in 1983. Those available for analysis were grouped, as shown in Table 1, according to the degree of cropping intensity which was determined by expressing crop income as a percentage of gross farm profit. Crop income included income from wheat, barley, small seeds and other crops.

Of the 180 farms in the 1981-82 New Zealand wheat enterprise survey, 58 percent provided financial statements suitable for analysis, 8 percent provided financial statements unsuitable for analysis because of insufficient information while 34 percent either were unable, or refused, for varying reasons to provide financial statements. All farms suitable for analysis were "owner-operator" properties.

Since the 1980-81 financial analysis the various financial measures used, terminology, and procedures have been standardised. Minor changes have therefore resulted from previous reports (1977-78 to 1979-80). Definitions of terminology and procedures used are detailed in Appendix A.

1.2 Physical Characteristics of Farms

The physical characteristics of the four farming groups are summarised in Table 2. The table shows the emphasis on livestock production in group 1 and an increasing area devoted to cropping in groups 2,3 and 4.

1 The wheat enterprise survey is an annual survey undertaken by the Agricultural Economics Research Unit on behalf of the Wheatgrowing Sub-Section of Federated Farmers of New Zealand Inc. Results for the 1981-82 year are contained in Research Report No. 131 and for the 1982-83 year, in Research Report No. 142

2.

TABLE 1

Farm Groups

Group	Crop Income as Percentage of Gross Farm Profit		Number of Farms
	Range	Average	Number
1	Below 5	1.6	11
2	5-24	16.0	27
3	25-49	36.6	35
4	50 and above	71.6	32
All Farms		37.6	105

TABLE 2

Physical Farm Characteristics

Group	1	2	3	4	All Farms
Total Area (ha)	255.1	203.8	196.0	168.4	195.8
Effective Area (ha)	250.5	196.9	185.7	163.8	188.8
Stock Units (no)	3184	2545	1800	1143	1936
Wheat Area (ha)	2.3	12.0	18.4	30.9	18.9
Barley Area (ha)	0.0	4.1	12.7	22.0	12.2
Pea Area (ha)	0.0	0.0	2.8	13.6	5.1
Small Seed Area (ha)	0.6	3.1	2.5	29.5	10.7
Other Crop Area (ha)	1.0	1.7	4.2	4.9	3.4
Crop Area (% of Effective Area)	1.6	10.6	21.9	61.6	26.6

CHAPTER 2

CAPITAL STRUCTURE

The capital structure of wheatgrowing farms in New Zealand is detailed in Table 3. Valuations of land and buildings, livestock, plant and machinery apply as at the start of the 1981-82 financial year.² Definitions of terminology and procedures used are detailed in Appendix A.

2.1 Farm Assets

Total farm assets on the average New Zealand survey farm were valued at \$579,528; 78 percent of total farm assets were invested in land and buildings, 19 percent in livestock and plant and 3 percent in crop on hand. Current liabilities exceeded current assets resulting in a working capital deficit of \$16,279. Total farm assets including working capital therefore amounted to \$563,249.

2.2 Farm Liabilities

Total farm liabilities on the average New Zealand survey farm were valued at \$102,272. The two main sources of farm liabilities in order of importance were private lenders including solicitors (52.0 percent of total farm liabilities) and the Rural Bank (23.1 percent of total farm liabilities).

Group 2 farms had the highest level of farm liabilities at \$119,819, this being 57 percent higher than group 1.

2 Plant and machinery were valued at historical cost ex the financial statements while market values were used for livestock.

TABLE 3

Capital Structure (at Start of Year)

Group	1	2	3	4	All Farms
Farm Capital	\$	\$	\$	\$	\$
Land and Buildings	446,318	477,249	404,174	493,490	454,600
Tractor, Truck, Header	28,937	35,921	38,048	57,923	42,604
Other Plant	8,396	15,684	16,068	22,679	17,180
Sheep	69,597	60,591	42,504	22,519	43,903
Cattle	26,343	13,272	3,229	1,164	7,604
Other	0	0	2,426	410	934
Total Farm Capital	579,591	602,717	506,449	598,185	566,825
Produce on Hand					
Wheat	400	5,027	6,865	10,661	6,872
Barley	0	119	1,182	2,806	1,280
Peas	0	0	0	1,720	524
Small Seeds	182	454	802	8,388	2,960
Other Crops	127	0	918	741	545
Wool	1300	793	369	193	522
Total Produce	2,009	6,393	10,136	24,509	12,703
Total Farm Assets	581,600	609,110	516,585	622,694	579,528
Working Capital					
Bank	-3,343	-5,849	-3,780	-4,524	-4,493
Stock Firm	-1,904	-5,667	-10,675	-6,795	-7,286
Equalisation					
Deposits	1,000	1,522	0	703	710
Sundry Debtors	2,958	3,667	2,828	4,675	3,620
Sundry Creditors	5,862	6,256	7,372	13,617	8,830
Working Capital	-7,151	-12,583	-18,999	-19,558	-16,279
Total Farm Assets Including Working Capital	574,449	596,527	497,586	603,136	563,249

(Table 3 Cont.)

TABLE 3 (Cont.)

<u>Capital Structure</u>					
Group	1	2	3	4	All Farms
Farm Liabilities	\$	\$	\$	\$	\$
Fixed Liabilities					
Rural Bank	12,051	27,298	17,507	31,331	23,666
Govt. Agencies					
Other than the					
Rural Bank	3,647	277	2,232	6,194	3,085
Commercial Bank	1,250	2,463	4,133	3,279	3,141
Insurance Coy.	9,188	12,314	6,604	6,742	8,385
Stock Firm	2,161	0	571	0	417
Private	34,795	66,410	35,667	55,623	49,563
County Council	360	940	1,093	916	923
Hire Purchase	0	1,257	1,660	4,980	2,393
Other Financial					
Institutions	4,364	6,167	7,771	4,971	6,148
Solicitors	7,009	1,171	4,343	4,455	3,841
	-----	-----	-----	-----	-----
Sub Total	74,825	118,297	81,581	118,491	101,562
Specific Reserves	1,000	1,522	0	703	710
	-----	-----	-----	-----	-----
Total Farm					
Liabilities	75,825	119,819	81,581	119,194	102,272
	-----	-----	-----	-----	-----
Farm Equity	498,624	476,708	416,005	483,942	460,977
Non-Farm Assets					
Personal Assets	118	2,137	1,035	169	958
Investments	16,451	11,572	3,759	9,586	8,873
	-----	-----	-----	-----	-----
Total Non-Farm					
Assets	16,569	13,709	4,794	9,755	9,831
	-----	-----	-----	-----	-----
Net Worth	515,193	490,417	420,799	493,697	470,808
	=====	=====	=====	=====	=====

2.3 Movement in Capital Structure and Farm Equity per Effective Hectare

A summary of the change in capital structure and farm equity per hectare³ for the period 1981-82 is given in Table 4. Total farm capital on the average New Zealand survey farm was \$3002 per hectare at the start of the financial year. This increased by \$1153 per hectare during the year to \$4155 per hectare. The value of produce on hand decreased by \$1 per hectare and the working capital position declined by \$8 per hectare to offset the improvement in farm capital with the result that total farm assets adjusted for working capital increased by \$1144 per hectare to \$4127 per hectare over the twelve month period. Farm liabilities, however, increased by \$37 per hectare to \$579 per hectare with the result that farm equity increased from \$2441 per hectare to \$3548 per hectare over the twelve month period. Farm equity as a percentage of total farm assets including working capital increased from 81.8 percent at the start of the year to 86.0 percent by the end. However, the liquidity position, assessed as unsold produce less net working capital, declined from a deficit of \$19 per hectare at the start of the year to a deficit of \$28 per hectare at the end of the year.

Non-farm assets in groups 1,2 and 4 were similiar at between \$60 and \$70 per hectare at the start of the year increasing to between \$70 and \$85 per hectare by the end of the year. In group 3 farms non-farm assets increased from \$26 per hectare at the start to \$37 per hectare by the end of the year.

3 All figures are on a per effective hectare basis.

TABLE 4

<u>Capital Structure Per Effective Hectare</u>					
Group	1	2	3	4	All Farms
	\$	\$	\$	\$	\$
Start of the Year					
Capital Value					
Land and					
Buildings	1,782	2,424	2,176	3,012	2,407
Livestock	383	375	259	147	278
Plant and					
Machinery	149	262	291	492	317
Total Farm Capital	2,314	3,061	2,726	3,651	3,002
Produce on Hand	8	32	55	150	67
Working Capital	-29	-64	-102	-119	-86
Total Farm Assets Including Working Capital	2,293	3,029	2,679	3,682	2,983
Total Farm Liabilities	303	609	439	728	542
Farm Equity	1,990	2,420	2,240	2,954	2,441
Non-Farm Assets	66	70	26	60	52
Net Worth	2,056	2,490	2,266	3,014	2,493
End Of Year					
Capital Value					
Land and					
Buildings	2,672	3,451	3,103	4,662	3,547
Livestock	362	368	260	141	271
Plant and					
Machinery	133	257	304	566	337
Total Farm Capital	3,167	4,076	3,667	5,369	4,155
Produce on Hand	2	28	59	149	66
Working Capital	-34	-67	-113	-130	-94
Total Farm Assets Including Working Capital	3,135	4,037	3,613	5,388	4,127

(Table 4 Cont...)

TABLE 4 (Cont...)

<u>Capital Structure Per Effective Hectare</u>					
Group	1	2	3	4	All Farms
	\$	\$	\$	\$	\$
Total Farm Liabilities	324	623	470	805	579
Farm Equity	2,810	3,414	3,143	4,583	3,548
Non-Farm Assets	71	86	37	74	65
Net Worth	2,881	3,500	3,180	4,657	3,613
Changes in:					
Total Farm Capital	853	1,015	941	1,718	1,153
Produce on Hand	-6	-4	-4	-1	-1
Working Capital	-5	-3	-11	-11	-8
Total Farm Assets Including Working Capital	842	1,008	926	1,706	1,144
Total Farm Liabilities	21	14	31	77	37
Farm Equity	821	994	895	1,629	1,107
Non-Farm Assets	5	16	11	14	13
Net Worth	826	1,010	906	1,643	1,120
Capital Ratios					
Farm Equity as Percentage of Total Farm Assets including Working Capital					
Start of Year (%)	86.8	79.9	83.6	80.2	81.8
End of Year (%)	89.6	83.8	85.7	85.1	86.0
Produce on Hand less Working Capital					
Start of Year (\$)	-21	-32	-47	31	-19
End of Year (\$)	-32	-39	-54	19	-28

CHAPTER 3

INCOME AND EXPENDITURE

Gross farm profit and expenditure details, along with the disposition of net farm profit, are given in Table 5. Definitions of terminology and procedures used are detailed in Appendix A.

3.1 Gross Farm Profit

Table 5 shows that the gross farm profit for the average New Zealand survey farm was \$98,431 of which 59 percent came from livestock production. The other sources of income were wheat (18 percent) and other crops including barley, peas and small seeds (26 percent). Gross farm profit increased with increasing cropping intensity; gross farm profit of \$118,373 for group 4 farms was 48 percent greater than group 1 farms.

Table 6 details gross farm profit for various enterprises on a per hectare and per stock unit basis. It is seen that:

1. Total gross farm profit per hectare increased with increased cropping intensity.
2. Livestock gross farm profit per stock unit in groups 2 and 3 was similar at around \$28 to \$30 per stock unit. Group 4 farms had a livestock gross profit per stock unit of \$26.60 while on group 1 properties it fell to \$24.40 per stock unit.
3. Increased cropping intensity was associated with increased wheat gross profit per total farm hectare. However, when wheat gross profit was expressed on a per hectare of wheat grown basis, wheat gross profit peaked on group 3 farms and then fell by nearly 17 percent on group 4 farms.
4. Income per hectare of other crops grown increased with increasing cropping intensity. In group 2 other crop income per hectare was similar to livestock income per hectare but less than wheat income per hectare of wheat grown. In groups 3 and 4, other crop income was higher than livestock gross income but lower than wheat income per hectare.

TABLE 5
Gross Farm Profit and Expenditure

Group	1	2	3	4	All Farms
	\$	\$	\$	\$	\$
Gross Farm Profit					
Gross Farm Revenue					
Wool	35,866	33,798	24,124	12,443	24,282
Sheep	36,221	47,145	38,195	24,523	36,123
Cattle	15,794	7,485	1,432	2,412	4,792
Wheat	1,114	10,806	18,796	26,265	17,165
Barley	0	2,583	7,975	14,554	7,758
Peas	0	0	1,531	9,716	3,472
Small Seeds	-12	623	1,704	25,854	8,606
Other Crops	137	1,018	2,673	8,382	3,722
Rebates/Subsidies	826	940	630	628	730
Produce, Milk, Pigs	0	1,517	3,170	1,397	1,872
Sundry-					
Hay, Grazing	305	247	1,474	1,155	939
	-----	-----	-----	-----	-----
Sub Total	90,251	106,162	101,704	127,329	109,461
Less Livestock Purchases					
Sheep	7,271	10,433	9,888	7,379	8,989
Cattle	2,866	1,619	1,001	989	1,352
Other	0	0	1,529	588	689
	-----	-----	-----	-----	-----
Total Purchases	10,137	12,052	12,418	8,956	11,030
Gross Farm Profit	80,114	94,111	89,286	118,373	98,431

(Table 5 Cont...)

TABLE 5 (Cont...)
Gross Farm Profit and Expenditure

Group	1	2	3	4	All Farms
	\$	\$	\$	\$	\$
Gross Farm Expenditure					
Farm Working Expenses:					
Wages	14,862	11,232	8,120	10,055	10,216
Animal Health	1,764	2,394	1,747	1,279	1,773
Seed and Fertiliser	7,377	8,363	9,059	12,916	9,878
Freight	2,438	2,099	1,454	2,660	2,090
Other	9,399	12,276	10,890	19,458	13,701
Sub-Total	35,840	36,364	31,270	46,363	37,658
Repairs and Maint.	6,371	6,996	5,901	7,765	6,800
Tractor & Vehicle Expenses:					
Repairs & Maint.	3,952	4,469	5,720	6,480	5,445
Fuel & Oil	3,712	4,798	5,276	7,024	5,522
Admin., Rates					
Insurance	5,700	5,481	4,936	6,147	5,525
Debt Servicing	10,160	13,929	15,306	16,365	14,736
Total Cash Expenditure	65,735	72,037	68,409	90,149	75,686
Depreciation					
Buildings	1,148	998	922	948	973
Motorised Plant	5,787	7,184	7,605	11,509	8,496
Non-Mot. Plant	839	1,737	1,607	2,268	1,761
Gross Farm Expenditure	73,509	81,956	78,543	104,874	86,916
Net Farm Profit					
- \$	6,605	12,155	10,743	13,499	11,515
- % Gross Farm Profit	8.2	12.9	12.0	11.4	11.7
Used As Follows:					
Personal					
Drawings	10,439	12,568	11,888	12,568	12,118
Taxation	3,206	4,473	5,861	6,177	5,322
"Savings"	-7,041	-4,888	-7,001	-5,248	-5,927

TABLE 6

<u>Gross Farm Profit-Enterprise Analysis</u>					
Group	1	2	3	4	All Farms
Gross Farm Profit:					
Livestock (\$/ha)	310	388	276	186	287
Wheat (\$/ha)	4	55	101	160	91
Other Crops (\$/ha)	1	22	76	358	125
Sundry (\$/ha)	5	13	28	19	19
	---	---	---	---	---
Total Gross Farm Profit (\$/ha)	320	478	481	723	522
Livestock (\$/stock unit)	24.40	30.00	28.50	26.60	28.00
Livestock (\$/ha Pasture)	318	426	320	329	363
Wheat (\$/ha wheat grown)	484	901	1,022	850	908
Other Crops (\$/ha other crops grown)	78	474	625	836	750

3.2 Gross Farm Expenditure

Table 5 shows gross farm expenditure for the average New Zealand survey farm to be \$86,916; the main components are farm working expenses (43 percent), tractor and vehicle expenses including depreciation (24 percent) and debt servicing (17 percent).

Table 7 gives a summary of gross farm expenditure on a per hectare basis. Gross farm expenditure per hectare increased with increasing cropping intensity. In group 4, farm working expenses were twice the farm working expenses on group 1 farms, while tractor and vehicle expenses were two and a half times greater.

3.3 Net Farm Profit Disposition

Table 5 shows net farm profit (gross farm profit minus gross farm expenditure) on the average New Zealand survey farm to be \$ 11,515 or nearly 12 percent of gross farm profit. Personal drawings and taxation exceeded this net farm profit thereby resulting in a deficit per farm of \$5,927.

Table 8 gives a summary of the disposal of net farm profit on a per hectare basis. Gross farm expenditure increased with increasing cropping intensity partly offsetting the increased gross farm profit characteristic of the more intensively cropped properties. This resulted in the average New Zealand survey farm having a net farm profit per hectare of \$63 which though similar to groups 2 and 3 farms was \$19 per hectare lower than group 4 but \$37 per hectare greater than group 1.

Personal expenditure and taxation which on the average New Zealand survey farm amounted to \$92 per hectare exceeded net farm profit per hectare, a factor common to all farm groups.

TABLE 7

<u>Gross Farm Expenditure Per Effective Hectare</u>					
Group	1	2	3	4	All Farms
	\$/ha	\$/ha	\$/ha	\$/ha	\$/ha
Farm Working Expenses:					
Wages	59	57	44	61	54
Animal Health	7	12	9	8	9
Seed and Fertiliser	29	43	49	79	52
Freight	10	11	8	16	11
Other	38	62	57	119	73
Sub-Total	143	185	167	283	199
Repairs & Maint.	25	36	32	47	36
Tractor & Vehicle Expenses:					
Repairs & Maint.	16	23	31	40	29
Fuel and Oil	15	24	28	43	29
Admin., Rates, Insurance	23	29	27	38	29
Debt Servicing	41	71	82	100	78
Total Cash Expenditure	263	368	367	551	400
Depreciation	31	50	55	90	59
Gross Farm Expenditure	294	418	422	641	459

TABLE 8

Net Farm Profit Disposition Per Effective Hectare

Group	1	2	3	4	All Farms
	\$/ha	\$/ha	\$/ha	\$/ha	\$/ha
Gross Farm Profit	320	478	481	723	522
less Gross Farm Expenditure	294	418	422	641	459
Net Farm Profit	26	60	59	82	63
Used as Follows:					
Personal					
Drawings	42	64	64	77	64
Taxation	13	23	32	38	28
"Savings"	-29	-27	-37	-33	-29

CHAPTER 4

CASH FLOW STATEMENT

The cash flow position of wheat growing farms in New Zealand for the 1981-82 season is given in Table 9.

4.1 Source and Disposition of Cash

Table 9 shows that the available cash on the average New Zealand survey farm was \$45,683, 51 percent of which came from direct farm trading. The other sources of available cash were an increase in farm liabilities (26 percent), sale of assets (13 percent) and non-farm income (10 percent). Total cash disposition on the average New Zealand survey farm was \$47,184. The components of this expenditure were capital expenditure (46 percent), personal expenditure (44 percent) and loan repayments (10 percent). A reduction in the value of produce and crop on hand at the end of the year compounded the cash deficit of \$1,501. Livestock on hand decreased by \$354, wool by \$187, while crop on hand decreased by \$15 giving a decrease in total inventory of \$556 and an adjusted cash deficit of \$2057.

In group 1 the cash surplus from farming covered personal drawings, taxation and 2 percent of sundry investments. The balance of the sundry investments, existing loan repayments and capital expenditure amounting to \$16,303 was financed by an increase in farm liabilities (\$7,339), sale of assets (\$3695), and non-farm income (\$3,843), leaving a cash deficit of \$1,426. This cash deficit was partly offset by an increase in unsold produce on hand of \$643 leaving an adjusted cash deficit of \$783. The increase in farm liabilities (\$7,339) was greater than loan repayments (\$2,297), therefore an increase in future debt servicing is expected.

In group 2 the cash surplus from farming covered personal drawings, taxation, sundry investments and 7 percent of the loan repayments. The balance of the loan repayments and the capital expenditure amounting to \$16,908 was financed by an increase in farm liabilities of \$7,325, sale of assets of \$4,955 and non-farm income of \$3,953, leaving a cash deficit of \$677. This cash deficit was offset by an increase in livestock and crop on hand estimated to be \$344. The increase in farm liabilities exceeded loan repayments by \$3,373.

In group 3 the cash surplus from farming covered personal drawings, taxation and 96 percent of sundry investments. The balance of the sundry investments, loan repayments and capital expenditure amounting to \$21,833 was financed by an increase in farm liabilities (\$9,827), sale of assets (\$4,838), and non-farm income (\$5,218), leaving a cash deficit of \$1,950. This cash deficit was partly offset by an increase in the value of produce on hand estimated to be \$540. The increase in farm liabilities exceeded loan repayments by \$5,566.

TABLE 9

Cash Flow Statement

Group	1		2		3		4		All Farms	
	\$	%	\$	%	\$	%	\$	%	\$	%
Cash Sales										
Wool	37,166		34,264		23,742		12,636		24,469	
Sheep	36,403		45,933		37,518		26,419		36,183	
Cattle	13,360		7,405		2,669		3,256		5,186	
Wheat	1,114		11,308		17,507		29,102		17,729	
Barley	0		2,354		7,985		13,175		7,282	
Peas	0		0		1,418		9,808		3,462	
Small Seeds	170		833		2,167		25,596		8,755	
Other Crops	265		1,018		3,186		7,080		3,509	
Rebates and Subsidies	826		940		630		628		730	
Sundry -- Produce	0		1,517		2,870		1,397		1,772	
-- Hay, Grazing	305		247		1,474		1,155		939	
1 Total Cash Farm Income	89,609		105,819		101,166		130,252		110,016	
Stock Purchases	10,137		12,053		12,418		8,956		11,030	
Cash Farm Expenditure	65,735		72,038		68,406		90,150		75,687	
2 Total Cash Expenditure	75,872		84,091		80,824		99,106		86,717	
Cash Surplus from Farming (1-2)	13,737	48.0	21,728	57.2	20,342	50.6	31,146	48.6	23,299	51.0
Non-Farm Income:										
Contracting	0		1,049		2,269		1,060		1,349	
Interest, Fees etc.	1,675		1,500		581		1,764		1,292	
Insurance Claims etc.	1,820		1,235		2,037		1,630		1,684	
Tax Refunds	348	13.4	169	10.4	331	13.0	0	7.0	190	9.9
Increase in Farm Liabilities:										
Rural Bank	4,461		2,142		2,286		7,289		4,001	
Private	609		1,133		797		1,831		1,179	
Other	2,269	25.7	4,048	19.3	6,744	24.4	10,502	30.6	6,727	26.1
Sale of Assets:										
Mechanised Plant	32		2,070		4,141		7,917		4,586	
Non-Mechanised Plant	86		757		143		658		452	
Investments	3,577	12.9	1,128	13.1	554	12.0	244	13.8	924	13.0
3 Total Available Cash	28,614	100.0	37,959	100.0	40,225	100.0	64,041	100.0	45,683	100.0

(Table 9 Cont...)

TABLE 9 (Cont....)

Cash Flow Statement

Group	1		2		3		4		All Farms	
	\$	%	\$	%	\$	%	\$	%	\$	%
Capital Expenditure:										
Buildings	6,530		1,535		1,726		3,573		2,743	
Mechanised Plant	1,590		5,608		9,986		28,223		13,539	
Other Plant	1,193		3,602		3,346		4,500		3,538	
Car	0	31.0	2,480	34.2	2,410	41.4	1,700	57.8	1,959	46.2
Loan Repayments:										
Rural Bank	995		785		705		862		804	
Private	656		1,462		1,245		2,334		1,571	
Other	646	7.7	1,703	10.2	2,311	10.1	3,240	9.8	2,263	9.8
Personal Expenditure:										
Personal Drawings	10,439		12,568		11,887		12,568		12,118	
Taxation	3,206		4,473		5,861		6,177		5,322	
Sundry Investments	4,785	61.3	4,420	55.6	2,698	48.5	2,592	32.4	3,327	44.0
4 Total Cash Disposition	30,040	100.0	38,636	100.0	42,175	100.0	65,769	100.0	47,184	100.0
5 Cash Surplus/Deficit (3-4)	-1,426		-677		-1,950		-1,728		-1,501	
Change in Produce on Hand:										
Livestock:										
Sheep	-182		1,212		678		-1,897		-60	
Cattle	2,434		81		-1,237		-844		-394	
Other	0		0		300		0		100	
Wool	-1,300		-466		383		-193		-187	
Crop:										
Wheat	0		-502		1,289		-2,837		-564	
Barley	0		229		-10		1,379		476	
Peas	0		0		113		-92		10	
Small Seeds	-182		-210		-463		258		-149	
Other	-127		0		-513		1,302		212	
6 Total Inventory Change	643		344		540		-2,924		-556	
7 Adjusted Cash Surplus/Deficit (5+6)	-783		-333		-1,410		-4,652		-2,057	

In group 4 the cash surplus from farming covered personal drawings, taxation, sundry investments, loan repayments and 9 percent of capital expenditure. The balance of the capital expenditure amounting in total to \$34,623 was financed by an increase in farm liabilities (\$19,622), sale of assets (\$8,819) and non-farm income (\$4,454). The resulting cash deficit was \$1,728. This cash deficit was compounded by a \$2924 decrease in the value of produce on hand. The increase in farm liabilities exceeded loan repayments by \$13,186.

4.2 Financing the Cash Deficit

Table 10 shows that the increase in working capital deficit on the average New Zealand survey farm resulted in a \$1,876 decrease in cash resources held in the Bank and Stock Firm current accounts, a decrease of \$196 in Income Equalisation deposits, a decrease of \$78 in sundry creditors and an increase of \$649 in sundry debtors.

TABLE 10

Financing the Change in Working Capital

Group	1	2	3	4	All Farms
	\$	\$	\$	\$	\$
Changes of Funds in Current Account:					
Bank	2,545	-1,232	847	-3,424	-811
Stock Firm	-2,490	2,271	-1,300	-3,118	-1,065
Sundry Debtors	789	-215	454	1,546	649
Income Equalisation Deposits	364	-485	114	-484	-196
Sundry Creditors	-2,634	-1,016	-2,065	3,752	-78
Cash Surplus/Deficit	-1,426	-677	-1,950	-1,728	-1,501

CHAPTER 5

ECONOMIC INDICATORS

This chapter presents the financial productivity and financial stability of wheat growing properties in New Zealand. The data are summarised in Table 11 with a more detailed analysis in Appendix B. Definitions of terminology and procedures used are detailed in Appendix A.

5.1 Financial Productivity

The economic farm surplus which includes an adjustment for unconsidered revenue and debt servicing is related to the factors of production namely land, labour and capital.

5.1.1 Economic Farm Surplus.

The average New Zealand survey farm gross farm profit, assessed at \$522 per hectare, when adjusted for unconsidered revenue items gave a gross farm income of \$548 per hectare. Gross farm expenditure assessed at \$459 per hectare when adjusted for debt servicing and unconsidered expenditure gave total farm expenses of \$328 per hectare. Economic farm surplus (gross farm income less total farm expenses) was assessed therefore at \$220 per hectare.

The economic farm surplus increased with increasing crop intensity being \$136 per hectare for Group 1 farms increasing to \$291 per hectare for Group 4 farms. The expenditure ratio was constant despite increasing cropping intensity.

5.1.2 Return to Land.

The average New Zealand survey farm specific land rent return was 3.6 percent which increased to 49.8 percent when adjusted for the capital increment associated with land and buildings. While groups 2 and 3 farms had similar land rent returns of 3.0 and 3.6 percent, group 1 land rent return was 1.9 percent while in group 4 it was 4.4 percent. When the land rent was adjusted for capital growth the land rent return increased from 44.8 percent on group 2 farms to 57.6 percent on group 4 farms.

5.1.3 Return to Labour and Management.

The return to labour and management has been assessed on a reinvestment basis, that is, the economic surplus is related to the opportunity cost of investing the owner-operator's equity in an investment returning 15.5 percent per annum.

The average New Zealand survey farm owner's surplus was

TABLE 11
Economic Indicators

Group	1	2	3	4	All Farms
<u>Financial Productivity</u>					
Gross Farm Profit \$/ha	320	478	481	723	562
+ Unconsidered Revenue \$/ha	20	25	26	30	26
= Gross Farm Income	340	503	507	753	548
Gross Farm Expenditure \$/ha	294	418	422	651	569
- Debt Servicing \$/ha	41	71	82	100	78
- Unconsidered Expenditure	49	47	40	79	53
= Total Farm Expenses	204	300	300	462	328
Economic Farm Surplus \$/ha	136	203	207	291	220
Expenditure Ratio	0.60:1	0.60:1	0.59:1	0.61:1	0.60:1
<u>Returns to Factors of Production</u>					
<u>Return to Land (%)</u>					
Specific Land Rent Return	1.9	3.0	3.6	4.4	3.6
Land Rent Return Including Capital Increment of Land and Buildings	49.9	44.8	45.5	57.6	49.8
<u>Return to Labour and Management (\$)</u>					
Owner's Surplus	-53,431	-47,555	-41,413	-43,632	-44,896
Wages of Management	11,932	12,490	12,322	13,042	12,545
Owner's Excess	-65,660	-60,045	-53,735	-56,674	-57,441
Owner's Excess Return Including Capital Increment	139,766	136,835	117,611	216,673	155,096
<u>Return to Capital (%)</u>					
Return to Capital	3.8	4.6	5.1	5.8	5.1
Return to Farm Capital Including Capital Increment	39.2	37.3	39.0	51.5	42.6
<u>Return to Equity (%)</u>					
Return to Farm Equity	2.4	2.9	2.6	3.8	3.0
Return to Farm Equity Including Capital Increment	43.5	44.2	43.8	60.3	49.2

Table 11 Cont....)

TABLE 11 (Cont...)

Group	1	2	3	4	All Farms
<u>Financial Stability</u>					
Capital Increment:					
Total Farm Capital (\$/ha)					
Start of Year	2,314	3,061	2,726	3,651	3,002
End of Year	3,167	4,076	3,667	5,369	4,155
Working Capital (including Produce on Hand) (\$/ha)					
Start of Year	21	32	47	31	19
End of Year	32	39	54	19	28
Total Farm Liabilities (\$/ha)					
Start of Year	303	609	439	728	542
End of Year	324	623	470	805	579
Farm Equity (\$/ha)					
Start of Year	1,990	2,420	2,240	2,954	2,441
End of Year	2,810	3,414	3,143	4,583	3,548
Liquidity:					
Financial Gearing (%)					
Start of Year	13.2	20.1	16.4	19.8	18.2
End of Year	10.3	15.4	13.0	14.9	14.0
Working Capital Ratio					
Start of Year	0.54:1	0.65:1	0.59:1	1.20:1	0.83:1
End of Year	0.40:1	0.56:1	0.59:1	1.11:1	0.77:1
Liquidity Ratio					
Start of Year	0.19:1	0.13:1	—	0.06:1	0.06:1
End of Year	0.26:1	0.10:1	0.01:1	0.01:1	0.04:1

\$44,896 less than if he had invested his equity in another form of investment returning 15.5 percent. If the opportunity cost of the owner's labour is valued at \$12,545 (wages of management) then the owner's excess, that is, the return to the owner's management, was \$57,441 less than the opportunity cost of an alternative form of investment. However, if the capital increment was also included this total return was \$155,096 greater than the alternative form of investment. The owner's excess adjusted for capital increment increased from \$117,611 in group 3 to \$216,673 in group 4.

5.1.4 Return to Capital.

The average New Zealand survey farm's return to capital was 5.1 percent and return to farm equity was 3.0 percent. This would indicate that debt servicing amounting to \$78 per hectare exceeded incremental production resulting from this level of borrowing by \$41 per hectare (Basis of assessment given in Appendix A 13). Group 1 farms showed a 3.8 percent return to capital and a 2.4 percent return to farm equity thereby indicating that the debt servicing of \$41 per hectare exceeded incremental production resulting from this level of borrowing by \$23 per hectare. Group 2 farms showed a 4.6 percent return to capital and a return to farm equity of 2.9 percent, thereby indicating the debt servicing of \$71 per hectare exceeded incremental production from this level of borrowing by \$31 per hectare.

Group 3 farms showed a 5.1 percent return to capital and a return to farm equity of 2.6 percent. Debt servicing of \$82 per hectare therefore exceeded incremental production resulting from this level of borrowing by \$48 per hectare. Group 4 farms showed a 5.8 percent return to capital and a return to farm equity of 3.8 percent. Debt servicing of \$100 per hectare therefore exceeded incremental production resulting from this level of borrowing by nearly \$42 per hectare.

When adjusted for capital increment, return to capital for the average New Zealand survey farm was 42.6 percent while the return to farm equity was 49.2 percent indicating that capital growth compensated for the poor utilisation of borrowed funds.

5.2 Financial Stability

The change in total assets, fixed liabilities and working capital is assessed over the twelve month period ending June 1982.

5.2.1 Capital Growth.

The average New Zealand survey farm showed a growth in farm capital of \$1153 per hectare. This was offset by a \$9 per hectare decline in the net working capital position and a \$37 per hectare increase in farm liabilities resulting in farm equity increasing by \$1107 per hectare.

5.2.2 Liquidity.

Despite the increase in farm liabilities, financial gearing for the average survey farm improved from 18.2 percent at the start of the year to 14.0 percent at the end of the year. All groups showed financial gearing which increased between the start and the end of the year.

The working capital ratio for all surveyed farms indicates that current liabilities exceeded current assets by 17 percent at the start of the year and by 23 percent at the end of the year, indicating a deterioration in the net working capital position. The liquidity ratio indicates that the cash resources available to cover current account liabilities was only 6 cents in the dollar at the start of the year and that this fell to 4 cents in the dollar by the end of the year.

Working capital improved with increasing cropping intensity. However, liquidity ratios declined with increasing crop intensity indicating the greater liquidity problems faced by intensively cropped properties.

CHAPTER 6

TRENDS IN FINANCIAL PERFORMANCE

This chapter compares the financial returns of the average New Zealand wheatgrowing farm as determined from wheatgrowers' financial statements. A direct comparison is made between the period 1981-82 and the previous year 1980-81. The base year figures (1977/78) have been included for further comparison. Definitions of terminology and procedures used are detailed in Appendix A.

6.1 Capital Structure

Table 12 shows that total farm assets including working capital increased 23.9 percent over the previous year to \$2983 per hectare, while total farm liabilities increased by 22.9 percent to \$542 per hectare. This resulted in farm equity increasing from \$1967 to \$2441 per hectare. The major factor affecting the increase in total farm assets was a 30.7 percent increase in the value of land and buildings. The net working capital declined by 38.7 percent to a deficit of \$86 per hectare.

6.2 Gross Farm Profit and Expenditure

Table 13 shows that a 45.4 percent increase in gross profit from crops other than wheat was the major factor which contributed to the total gross farm profit increasing by 18.4 percent to \$522 per hectare. Gross farm expenditure increased by 20.5 percent to \$459 per hectare. These movements caused net farm profit to increase by 5.0 percent from \$60 per hectare to \$ 63 per hectare.

6.3 Cash Flow Statement

Table 14 shows that a 24.0 percent increase in cash farm income to \$583 per hectare was partly offset by a 20.8 percent increase in cash farm expenditure. The cash surplus from farming increased by 37.8 percent to \$124 per hectare. Non-farm income increased by 14.3 percent, farm liabilities by 26.0 percent and the sale of assets by 45.5 percent resulting in a 32.8 percent increase in total available cash to \$243 per hectare.

The total disposition of cash resources increased by 24.4 percent to \$250 per hectare. The major factors contributing to this situation were a 25.0 percent increase in capital expenditure, a 8.7 percent increase in loan repayments and a 27.9 percent increase in personal expenditure. The 1980-81 cash deficit of \$18 per hectare was reduced to a cash deficit of \$7 per hectare in 1981-82. This cash deficit however was compounded by a decrease in the value of crop and livestock on

hand estimated at \$3 per hectare. This resulted in an adjusted deficit of \$10 per hectare, significantly lower than the \$4 per hectare surplus in 1980-81.

TABLE 12

Capital Structure Comparisons

	1977-78 \$/ha ^a	1978-79 \$/ha	1979-80 \$/ha	1980-81 \$/ha	1981-82 \$/ha	Change 1980-81 to 1981-82 (%)
Land & Buildings	1,120	1,337	1,390	1,841	2,407	30.7
Plant & Machinery	101	107	145	277	317	14.4
Livestock	156	232	250	298	278	- 6.7
Total Farm Capital	1,337	1,676	1,785	2,416	3,002	24.3
Plus Crop on Hand	40	42	37	54	67	24.1
Working Capital	-46	-49	-49	-62	-86	-38.7
Total Farm Assets inc. Working Capital	1,371	1,669	1,773	2,408	2,983	23.9
Total Farm Liabilities	304	313	366	441	542	22.9
Farm Equity	1,067	1,356	1,407	1,967	2,441	24.1
Non-Farm Assets	55	46	45	43	52	20.9
Net Worth	1,122	1,402	1,452	2,010	2,493	24.0

^a effective hectares

TABLE 13

Gross Farm Profit and Expenditure Comparisons

	1977-78 \$/ha	1978-79 \$/ha	1979-80 \$/ha	1980-81 \$/ha	1981-82 \$/ha	Change 1980-81 to 1981-82 (%)
Gross Farm Profit						
Livestock	140	155	204	243	287	18.1
Wheat	60	52	52	96	91	-5.2
Other Crops	61	57	66	86	125	45.4
Sundry	9	13	12	16	19	18.8
Total	270	277	334	441	522	18.4
Gross Farm Expenditure						
Farm Working Expenses	88	94	110	166	199	19.9
Repairs and Maintenance	13	16	18	24	36	50.0
Tractor & Vehicle Expenses	29	30	36	51	58	13.7
Admin. & Rates	15	17	18	26	29	11.5
Debt Servicing	37	39	42	63	78	23.8
Depreciation	23	24	28	51	59	15.7
Total	205	220	252	381	459	20.5
Net Farm Profit	65	57	82	60	63	5.0
Used as Follows						
Personal Drawings	37	38	43	51	64	
Taxation	23	18	20	24	28	
"Savings"	5	1	19	-15	-29	

TABLE 14
Cash Flow Statement Comparisons

	1977-78 \$/ha	1978-79 \$/ha	1979-80 \$/ha	1980-81 \$/ha	1981-82 \$/ha	Change 1980-81 to 1981-82 (%)
Total Cash Farm Income	291	314	362	470	583	24.0
Total Cash Farm Expenses	<u>210</u>	<u>240</u>	<u>271</u>	<u>380</u>	<u>459</u>	20.8
Cash Surplus from Farming	81	74	92	90	124	37.8
Non-Farm Income	18	15	15	21	24	14.3
Increase in Farm Liabilities	34	34	30	50	63	26.0
Sale of Assets	<u>20</u>	<u>22</u>	<u>16</u>	<u>22</u>	<u>32</u>	45.5
Total Available Cash	153	145	153	183	243	32.8
Capital Expenditure	74	65	62	92	115	25.0
Loan Repayments	20	23	19	23	25	8.7
Personal Expenditure	<u>69</u>	<u>66</u>	<u>70</u>	<u>86</u>	<u>110</u>	27.9
Total Cash Disposition	163	154	151	201	250	24.4
Cash Surplus/Deficit	-10	-9	2	-18	-7	
Inventory Change	7	7	18	22	-3	
Adjusted Surplus/ Deficit	-3	-2	20	4	-10	

APPENDIX A

SURVEY DEFINITIONS AND DATA TREATMENT

Capital Structure

1. Valuation of land and buildings was taken from the latest Government valuation figures and updated using the "Farmland Sales Price Index".

2. Plant and machinery valuations were taken at historical cost from the depreciation schedule of the 1981-82 financial statement. In previous surveys (1977-78 to 1979-80) values were based on book values. The plant and machinery valuations include cars but exclude boats and caravans which are included under Other Assets.

3. The following per head figures have been used to assess the value of livestock on hand at the start and end of the 1981-82 financial year:

		Canterbury and South Canterbury		Southland	
		Start	End	Start	End
		\$	\$	\$	\$
Sheep:	Ewes	20	20	25	27
	Hoggets	25	20	30	28
	Lambs	12	14	12	12
Cattle:	Cows	240	210	240	280
	2 yr. Cattle	335	350	335	340
	Yearlings	290	240	300	280
	Weaners	175	140	200	180
	Bulls	300	300	300	300

4. Values of crop on hand were obtained from the crop accounts for the 1981-82 year.

5. Off-farm assets were valued as presented in the 1981-82 financial statement.

6. Both fixed and current liabilities were as recorded in the balance sheet at the end of the 1981-82 year.

7. Specific reserves relate to funds recorded in the balance sheet as specific reserves e.g. Income equalisation deposits.

Gross Farm Profit

8. Gross income for wool, sheep, cattle, wheat, barley, small seeds, other crops, produce and sundry income, were assessed as follows:

	Cash Sales
+	Stock on hand at end of year at market values
-	Stock on hand at start of year at market values
-	Purchases
=	Gross Farm Profit

9. Rebates, subsidies and contracting are as presented in the financial statements for 1981-82.

Gross Farm Expenditure

10. Gross farm expenditure is as presented in the financial statement for 1981-82 with the following adjustments if applicable:

- (i) Appropriation of private car expenses.
- (ii) Deletion of managerial salaries
- (iii) Deletion of special depreciation allowances
- (iv) Deletion of itemised development expenditure

11. Breakdown of farm expenditure items can be summarised as follows:

- (i) Repairs and maintenance includes that done to buildings, fences, tracks, culverts etc. plus any unitemised development expenditure
- (ii) Tractor and vehicle expenses includes all expenses associated with both mechanised and non-mechanised plant and machinery.
- (iii) Administration, rates, insurance includes all administrative, power, telephone and overhead expenses.
- (iv) Debt Servicing includes all interest and rent charges.

12. Savings is the residual after personal drawings and taxation have been deducted from net farm income.

13. Economic Indicators.

The following are the definitions of terms used:

Gross Farm Profit: See Appendix A 8.

Unconsidered Revenue: An allowance for factors of farm capital for which no income is received, namely:

Farm dwelling rental, assessed at 10 percent of cost
 Farm car, assessed on an appropriate cost per km. basis
 Farm produce used on the farm, adjusted to reasonable market value.

Gross Farm Income: Gross farm profit adjusted for unconsidered revenue.

Gross Farm Expenditure: See Appendix A 10 and 11.

Total Farm Expenditure: Gross farm expenditure (which includes unconsidered expenditure see Appendix A 10) less debt servicing.

Economic Farm Surplus: Gross farm income (gross farm profit plus unconsidered revenue) less total farm expenditure (gross farm expenditure less debt servicing) equals economic farm surplus.

Expenditure Ratio: Total farm expenditure : Gross farm income

Land Rent: This is computed as the residual after an allowance is made for the return to labour (wages of management), and stock and plant (stock and plant rent)

Stock and Plant Rent: Assessed as 10 percent of:

- opening stock at opening values
- + opening plant at opening values
- + plant sales less plant purchases.

Wages of Management: Consists of two components:

a) A married couple's basic wage reflecting the return to labour

b) Management assessed as follows:
 2 percent gross farm profit to allow for scale and intensity

+ 5 percent net farm profit as a guide to the level of financial efficiency.

Return to Labour and Management: Assessed on the basis of owner's surplus and owner's excess expressed in dollar terms.

Owner's Surplus: Is taken as the economic farm surplus less debt servicing less the opportunity cost of investing the owner's equity (taken to be the weighted average of interests charged on current account deficits). In brief, the return to labour and management (owner's surplus) should be at least as great as the opportunity cost of the owner's labour and management in a non-farming occupation.

Owner's Excess: Owner's surplus less wages of management, where wages of management reflects the opportunity cost of the owner's labour. The residual after subtracting the opportunity cost of labour and capital represents the return to the owner's management.

Return to Farm Capital: The economic farm surplus less wages of management (interest surplus) expressed as a percentage of total farm capital.

Return to Farm Equity: The economic farm surplus less wages of management and debt servicing (equity surplus) expressed as a percentage of farm equity.

The relationship between the return to farm capital and return to farm equity indicates the efficiency with which borrowed funds are used. This in turn depends on interest rates charged and the incremental production resulting from the borrowed funds. When the return to total farm capital exceeds the return to farm equity then the incremental production resulting from the borrowing fails to cover the debt servicing commitments. The resulting deficit can be quantified as follows:

All Farms Group	Total Funds \$	=	Equity Funds \$	+	Borrowed Funds \$
Total Farm Capital	566,825		464,553		102,272
Percentage Distribution	100.0		81.8		18.2
Economic Farm Surplus	41,291		33,776		7,514
- Wages of Management					
Basic	10,000		10,000		
Reward	2,544		2,082		463
= Interest Surplus	28,746		21,694		7,051
Return to Total Farm Capital (%)	5.1		4.7		6.9
+ Capital Increment	212,537		173,855		38,682
= Interest Surplus including Capital Increment	241,283		195,549		45,733
Return to Total Farm Capital including Capital Increment	42.8		42.4		44.7
Interest Surplus	28,746		21,694		7,051
- Debt Servicing	14,736				14,736
= Equity Surplus	14,010		21,694		-7,685
+ Capital Increment	212,537		173,855		38,682
= Equity Surplus including Capital Increment	226,547		195,549		30,998

Financial Gearing: Total liabilities expressed as a percentage of total farm assets including working capital.

Working Capital Ratio: Cash reserves, crop on hand plus sundry debtors (current assets) : Current account overdraft plus sundry creditors (current liabilities).

Liquidity Ratio: Cash reserves including Equalisation deposits (cash assets) : Current account overdraft (cash liabilities).

Cash Flow Statement: In assessing the cash flow statement, an attempt was made to delete from the financial statement:

- (i) All non-cash transactions
- (ii) All current assets subject to valuation, that is, livestock and crop on hand.

APPENDIX B

PROFITABILITY ANALYSIS

Economic farm surplus is assessed as follows:

TABLE 15

<u>ECONOMIC FARM SURPLUS</u>					
Group	1	2	3	4	All Farms
	\$	\$	\$	\$	\$
Net Farm Profit	6,605	12,155	10,743	13,499	11,515
+ Unconsidered Revenue	5,011	4,910	4,902	4,980	4,969
= Gross Farm Income	11,616	17,065	15,645	18,479	16,484
+ Labour and Management Fee	10,065	7,915	5,991	8,694	7,736
+ Debt Servicing	10,160	13,929	15,306	16,365	14,736
+ Development Expenses	2,174	1,355	1,431	4,206	2,335
= Economic Farm Surplus	34,015	40,264	38,373	47,744	41,291

The following details the analyses of returns to the three factors of production, namely:

- Land : Land, buildings and improvements.
- Labour : Owner's labour and management responsibilities.
- Capital : Total farm capital and equity capital

TABLE 16

RETURN TO LAND

Group	1	2	3	4	All Farms
	\$	\$	\$	\$	\$
Economic Farm					
Surplus	34,015	40,264	38,373	47,744	41,291
- Wages of					
Management	11,932	12,490	12,322	13,042	12,545
- Stock and Plant					
Rent	13,594	13,333	11,373	13,055	12,622
= Specific Land					
Rent	8,489	14,441	14,678	21,647	16,124
Capital Growth in Land					
and Buildings	223,055	202,321	172,191	270,132	215,116
- Development					
Expenses	8,704	2,890	3,157	7,779	5,078
= Capital Increment Land					
and Buildings	214,351	199,431	169,034	262,353	210,038
Specific Land Rent					
Including Capital					
Increment of Land					
and Buildings	222,840	213,872	183,712	284,000	226,162
Value Land and					
Buildings	446,318	477,249	404,174	493,490	454,600
Land Rent					
Return (%)	1.9	3.0	3.6	4.4	3.6
Land Rent Return					
Including Capital					
Increment of Land					
and Buildings (%)	49.9	44.8	45.5	57.6	49.8

TABLE 17

RETURN TO LABOUR AND MANAGEMENT

Group	1	2	3	4	All Farms
	\$	\$	\$	\$	\$
Economic Farm					
Surplus	34,015	40,264	38,373	47,744	41,291
- Opportunity Cost of					
Equity at 15.5%	77,286	73,890	64,480	75,011	71,451
- Debt Servicing	10,160	13,929	15,306	16,365	14,736
= Owner's Surplus	-53,431	-47,555	-41,413	-43,632	-44,896
- Wages of					
Management	11,932	12,490	12,322	13,042	12,545
= Owner's Excess	-65,363	-60,045	-53,735	-56,674	-57,441
Growth Total Farm					
Capital	213,833	199,770	174,503	281,126	217,615
- Development					
Expenses	8,704	2,990	3,157	7,779	5,078
= Capital					
Increment	205,129	196,880	171,346	273,347	212,537
Owner's Excess					
Including Capital					
Increment	139,766	136,835	117,611	216,673	155,096

TABLE 18

RETURN TO CAPITAL

Group	1	2	3	4	All Farms
	\$	\$	\$	\$	\$
Economic Farm					
Surplus	34,015	40,264	38,373	47,744	41,291
- Wages of					
Management	11,932	12,490	12,322	13,042	12,545
= Interest					
Surplus	22,083	27,774	26,051	34,702	28,746
Growth Total Farm					
Capital	213,833	199,770	174,503	281,126	217,615
- Development					
Expenses	8,704	2,890	3,157	7,779	5,078
= Capital					
Increment	205,129	196,880	171,346	273,347	212,537
Interest Surplus					
Including Capital					
Increment	227,212	224,654	197,397	308,049	241,283
Total Farm					
Capital	579,592	602,717	506,448	598,187	566,824
Return to Farm					
Capital (%)	3.8	4.6	5.1	5.8	5.1
Return to Farm					
Capital Including					
Capital					
Increment (%)	39.2	37.3	39.0	51.5	42.6

TABLE 19

RETURN TO FARM EQUITY

Group	1	2	3	4	All Farms
	\$	\$	\$	\$	\$
Economic Farm					
Surplus	34,015	40,264	38,373	47,744	41,291
- Wages of					
Management	11,932	12,490	12,322	13,042	12,545
- Debt Servicing	10,160	13,929	15,306	16,365	14,736
= Equity Surplus	11,923	13,845	10,745	18,337	14,010
Growth Total Farm					
Capital	213,833	199,770	174,503	281,126	217,615
- Development					
Expenses	8,704	2,890	3,157	7,779	5,078
= Capital					
Increment	205,129	196,880	171,346	273,347	212,537
Equity Surplus					
Including Capital					
Growth	217,052	210,725	182,091	291,684	226,547
Total Farm					
Equity	498,625	476,709	416,002	483,943	460,974
Return to Farm					
Equity (%)	2.4	2.9	2.6	3.8	3.0
Return to Farm					
Equity Including					
Capital					
Increment (%)	43.5	44.2	43.8	60.3	49.2

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