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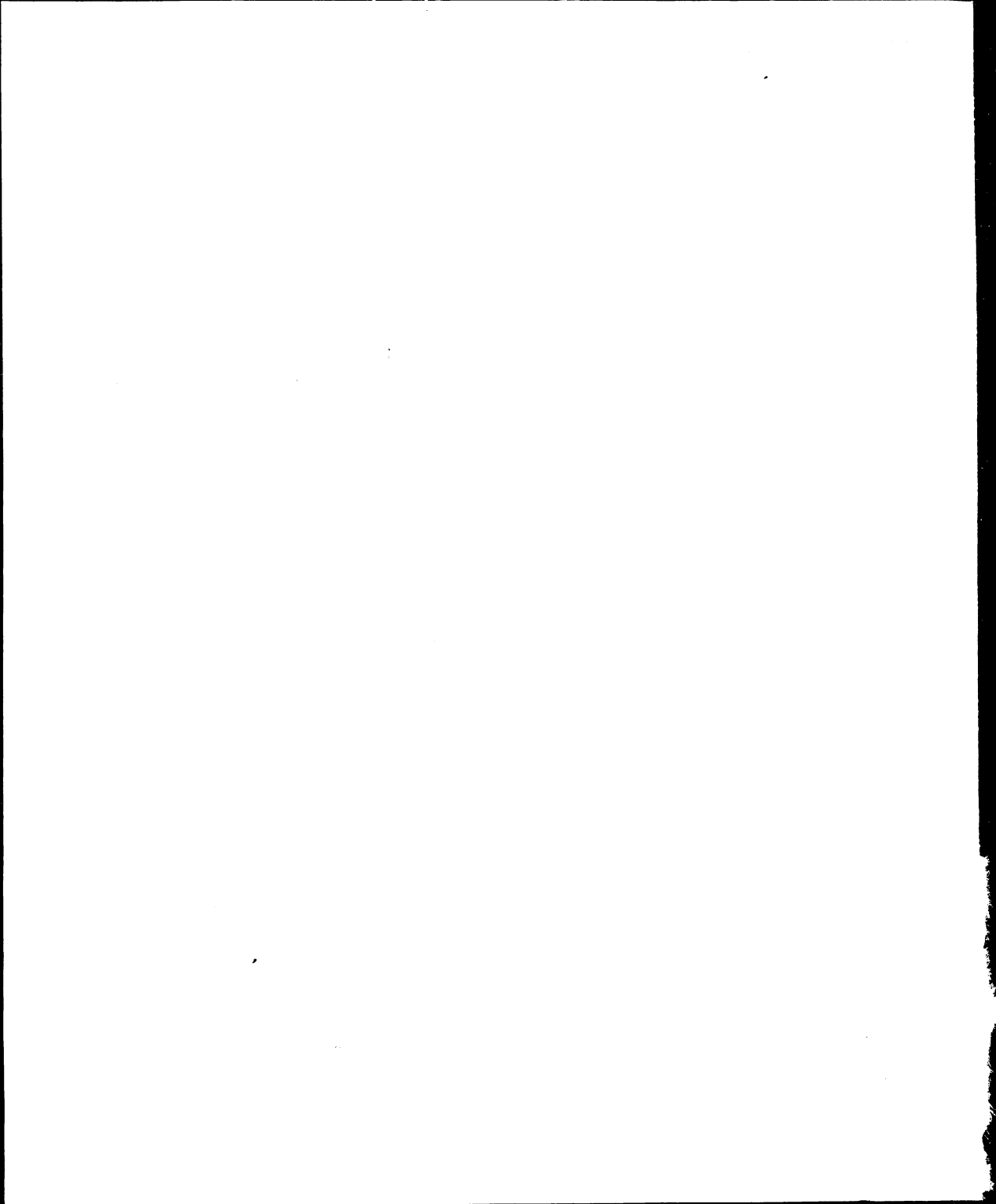
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FARM DEBT AND FINANCIAL VIABILITY

N.Z. Society Of Farm Management
Conference Proceedings 1971

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FARM DEBT AND FINANCIAL VIABILITY

N.Z. SOCIETY OF FARM MANAGEMENT

CONFERENCE PROCEEDINGS

Lincoln College August 1971

This bulletin has been produced by the Department of Farm Management and Rural Valuation of Lincoln College in association with the New Zealand Society of Farm Management. It consists of papers given at the Society of Farm Management section of the Annual Conference of the New Zealand Institute of Agriculture Science held at Lincoln College in August 1971

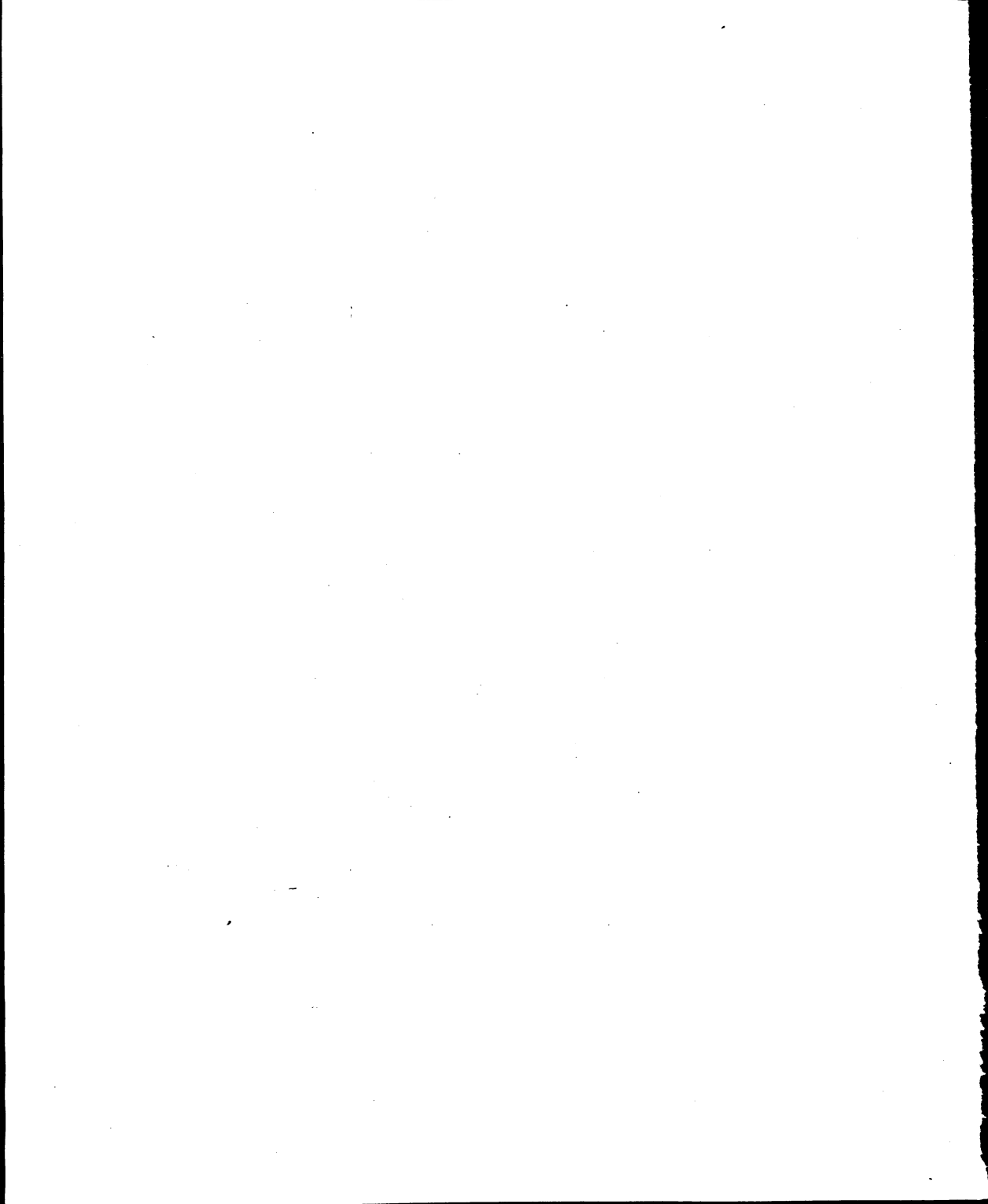
Deepening financial problems in the Sheep Industry have focussed attention on the need for a fuller understanding of the nature of these problems, and the policy measures needed to meet them. These papers make a contribution to this understanding.

The Editing has been undertaken by Mr N.G. Gow and Mr R.D. Plank.

J.D. Stewart
Professor of Farm Management
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DEBT PROBLEMS AND FARM RECONSTRUCTION IN AUSTRALIA

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The Present Debt and Income Position

Most estimates of the current debt situation in Australian agriculture indicate that at least 12½% or 30,000 of Australia's 240,000 farmers have little prospect of economic survival because, on present and expected future prices, they are unable to meet annual interest and principal repayments.

Another 12½% – 15% are in the 'doubtful' category i.e. their future viability is dependent on receiving financial assistance on far more liberal terms than are available commercially. Even with concessional finance, a number of these farmers are not viable.

The remaining 70% are presently viable but on projected trends in costs and prices, it is expected that some of these will also have difficulty in meeting debt obligations.

The sheep industry is currently the most seriously affected. In 1970-71, between 40,000 and 45,000 of the nation's 90,000 wool producers had net farm incomes less than \$2,000. After debt servicing commitments have been taken into account, another 5,000 to 10,000 producers can be added to the list. (The average wage in Australia is \$4,000 per year).

It should be remembered, however, that over the 17 years during which the Bureau of Agricultural Economics has been surveying the sheep industry, there has always been a significant number of producers with incomes less than \$2,000 per year, so that the problem of low incomes in the industry is not new. However, the present numbers of low income producers is the highest ever recorded, and it is difficult to see much improvement in the level of product prices which they will receive. The net farm income of some will improve through diversification.

A number of tables prepared by the Bureau of Agricultural Economics are attached as appendices, and we will now refer to them.

Tables 1 and 2 show the projected trends of returns, costs and farm income to 1974-75, whilst tables 3(a) and 3(b) show the level of rural debt and the ratio of rural debt to farm income. The rural debt figure understates the true debt position because it takes no account of private loans. Table 4 shows that over the last 3 years the rural sector has changed from being a net lender

to the banking system to being a net borrower. Table 5 gives details of the lenders to the rural sector, and table 6 shows which industries were the major borrowers.

The difficulty which a number of primary producers are having in servicing debt can be partly understood when we consider the percentage of farmers in various industries whose net farm income is less than \$2,000 per year.

**Percentage of Australian Farmers with Net Farm Incomes
Less than \$2,000 Per Year in 1969-70, by Farming Zones**

Sheep—Wheat Zone	30%	Dried Vines	35%
High Rainfall Sheep	33%	Citrus	50%
Wheat Zone	20%	Banana	70%
Pastoral Sheep	60%	Berry Fruit	80%
Dairy (Manufacturing)	40%	Apple and Pear	50%
(Whole Milk Sector)	30%	Peanut	20%
Canned Fruit	40%		
Potatoes	50%		

We can question the value of a net farm income figure of \$2,000 as an indicator of viability, since it appears that many farmers can stay in business even though they earn less than \$2,000. Even so, it would appear difficult to service debt, living expenses and new capital investment on an income of less than \$2,000 per year.

Background to the Present Debt Situation

Apart from the familiar cost-price squeeze, plus the large increases in production which have been brought about by the adoption of new technology, (output has doubled over the past two decades), as well as the slow growth or decline in demand for a number of products, drought and development of new areas have been responsible for the serious financial problems of a number of producers.

Drought has had its main impact in the pastoral zone, where it is estimated that 3,000 wool producers (of a population of 8,000) are facing bankruptcy due to drought, often of 5-6 years duration, and lower wool prices. Tables 7 and 8 indicate the impact of drought and declining wool prices on debt per dry sheep equivalent and equity ratio in Queensland. The situation is also serious in parts of the pastoral zones of South Australia, Western

Australia and New South Wales. There is little scope for diversification or intensification in the pastoral zone.

The settlement of new areas, especially in the better rainfall zones of Western Australia and the Northern Tablelands of New South Wales, has also caused a number of financial disasters. These areas have been developed over the past 8-10 years; the settlers generally had insufficient starting capital and they also borrowed heavily for development. A combination of declining product prices, wheat quotas, and drought, together with a marked drop in land values has

- (a) reduced annual cash flow to the point where it is no longer possible to service borrowings
- (b) reduced equity levels so that further financing on any reasonable terms is not possible.

Table 9 shows the position for Western Australia. A similar situation exists among recent settlers on the Northern Tablelands of New South Wales.

In the older settled areas of the high rainfall zone, and in the more favoured parts of the sheep—wheat and dairy zones, intensification and diversification have allowed the majority of producers to keep pace with, and in some cases, outstrip the income depressing effects of the cost-price squeeze.

But there is a physical and economic limit to increased productivity, and many producers who adopted the stocking rate technology have discovered the flat nature of the curve which relates gross margins and stocking rates once a reasonable degree of utilization has been achieved. Also, our studies at the University of New England have shown that the economics of borrowing for development by sheep and beef producers with equities less than 80% can be very questionable, especially if the development costs are at all expensive. Finally, there is nothing in the pipeline equivalent to the pasture improvement and stocking rate revolution which is likely to improve producer's positions.

What Measures are being taken to cope with the Present Debt Problem?

The Federal Government has allocated \$100 million over the next 4 years for Rural Reconstruction, which is only about 3% of annual net farm income. Half of the money is available at 4% for long term finance to allow purchase of adjoining or nearby properties for farm build up. As well the legislation provides for a meagre loan of up to \$1,000 to farmers who wish to leave the land and make a start elsewhere. Recent indications are that this

loan will form part of a comprehensive retraining programme sponsored by the Department of Labour and National Service.

In addition to the \$100 million Rural Reconstruction fund, funds have been allocated for marginal dairy farm reconstruction; the main objective in this scheme is to finance farm build up, and where necessary, to underwrite the cost of writing off redundant assets in the newly amalgamated unit. There is a similar provision for writing off surplus assets in the Rural Reconstruction scheme. The dairy reconstruction scheme will cost \$11.5 million in loans and write offs this year.

The Commonwealth Development Bank has also been authorized to lend up to \$10 million for farm amalgamation.

A study of the rural debt situation, and evidence from the recently formed State Rural Reconstruction agencies indicates that the potential demand for long term finance exceeds the \$100 million allocated, by many times over, and the Minister has indicated that requests for more funds will be favourably considered. But the charter under which the reconstruction agencies have to operate means that assistance can only be given to those who have good prospects of becoming viable if the concessional finance is given. At present, this means a high rejection rate—at least 3 out of 4 in most States. In Western Australia 98% of applications have sought assistance for loan restructuring as distinct from help for farm build up; other States' experience indicate a similar preference. In the present atmosphere of uncertainty about the medium term future of agriculture, most people are reluctant to commit themselves to long term debt for property purchase, although they are happy to accept assistance to have the terms of repayment of existing debt made more favourable.

What about Income Support?

The recent decision to subsidize the Australian clip for one year so that it averages 36c per pound came as rather a surprise, as both Liberal and Labor Party thinking had tended to move away from the use of subsidies as a device to alleviate the economic problems of industries in trouble. However, the Country Party section of the coalition was able to force the measure through. One of the arguments for support of this nature is based on such figures as are shown in table 10. It is likely that support will extend beyond one year, as there seems to be no such thing as a temporary subsidy.

The cost will be from \$60 to \$120 million per yer, depending on the price of wool. The latest outlook reports on wool prices, made before President Nixon's recent announcement indicate that wool prices would rise, so that the cost may not reach the \$120 million mark.

The subsidy will not be of a great deal of assistance to the small and medium sized wool grower. Thirteen per cent of growers will receive 60% of the subsidy, whereas a grower producing say 30 bales at 28c now would receive only about \$600.

A good deal of the subsidy will simply be a transfer payment to banks and stock firms for debt reduction.

As well as a direct subsidy for wool the Government will pick up the tab on any losses from the activities in the market place of the Australian Wool Commission (estimated at \$4 million) and provide \$3.7 million towards the cost involved in handling wool under the Price Averaging Plan, which is a scheme to eliminate small lots offered for auction. The Wool Commission currently holds 339,000 bales bought in at a cost of \$33 million, which is 6% of last years' wool clip and 2% of total world wool production.

The dairy industry will receive a subsidy of approximately \$40 million, wheat \$27 million, fertilizer subsidies \$48 million. The total direct assistance to primary industry will be between \$275 million and \$325 million, depending on the price of wool. Net farm income will be around \$800 million, so that direct assistance amounts to 37% of net farm income.

Perhaps the direct assistance to agriculture of some \$300 million is not quite so frightening when we consider that over \$1250 million will be spent on defence.

Decline in Land Values

There has been a decline in land values of at least 30% on values of 3 years ago in the high rainfall sheep zone, in the sheep-wheat zone and of 40% or more in many parts of the pastoral zone. The volume of land sales has declined, and there are many more willing sellers at these depressed values than there are buyers. There has been no significant drop in values in the better favoured dairying areas of Victoria and coastal New South Wales, and there has been an increase in values in Queensland and Norther Territory beef zones. The absence of an effective market for property purchase is preventing many people from selling out and leaving agriculture. There have been sug-

gestions of that the Government should set up a authority to purchase farms of those who can't find a buyer, but this measure would be most expensive and also difficult to administrate. Consequently, it is not likely to be accepted by Government.

One result of the sluggish and depressed market for land has been an increase in leasehold arrangements. This form of tenure was very important in facilitating adjustment in the United States and it appears to have a useful role to play in Australia.

Off-Farm Movement

At the moment, there is not a great deal of off-farm movement in the wool industry. Most producers are sitting tight and hoping that the terms of debt reconstruction will be liberalized so that the rejection rate can be lowered, that the Government will continue to subsidize wool, that market reform and an upturn in the economics of wool consuming countries will lead to improved wool returns, and generally, that things will come right in a few years. The projections of Table 1 do not support such an optimistic view of prices in the medium term.

At the moment, there are no massive foreclosures by creditors, forcing people to leave their farms, because the banks and stock firms would be unable to dispose of the properties even if they repossessed them; also, they fear that such a step would further reduce land values and hence reduce both theirs and the farmers' equity in the property. There is also a marked reluctance of farmers to move to off-farm jobs, especially as the incentives to do so are not great.

In a few cases, creditors have had to write off part of the debt as a penalty for their unwise lending policies in the past. It is likely that they will be faced with further write off in the future. Whilst there is as yet no marked exodus of wool growers from the industry, for the reasons I have listed above, there has been a general decline in the numbers of those engaged in agriculture. For example, in the dairying industry, parts of which ran into a low income problem a number of years ago, the current rate of decline in registered dairies is approximately 3,000 per year. Many of these people have left the industry, whilst the remainder have diversified into beef production, often combined with off-farm employment.

The total employment in the rural sector, in male man year equivalents, has declined from 455,000 in 1954 to 377,00 in 1967. Thus the process of

off-farm migration has been occurring even at a time of relatively buoyant prices.

The Future

Even though there is a significant and growing 'tail' of low income producers in Australian agriculture, and medium term projections indicate a decline in net farm income, the majority (at least 60%) of producers are still in a sound financial position and will be so in the foreseeable future.

Government policies of assistance do not go nearly far enough to make it easy for the low income producer to move to other occupations; in fact the policies seem designed partly to keep people on the land.

Farmers are most unwilling to forgo their familiar way of life for non-rural occupations, but the pressures arising from increased costs and depressed product prices will make this course inevitable for an increasing number.

As Australia now settles 140,000 migrants per year, it should not be too hard to provide for the relocation and retraining of a total of 30-40,000 farmers.

There is considerable room for rationalization of many of our agricultural industries; for example, the average labour input throughout the industry is one man per 1630 sheep. Waring, of the B.A.E., estimates that if the industry could be reorganized so that every person looked after 1630 sheep, some 45,000 men would be released from the industry.

Whilst there are no major new technological developments available from research now or in the medium term, there is still a place for the profitable adoption of existing technology on many farms. However the scope for this is less, the costs are greater, and the profitability more questionable than formerly.

I leave it to you to decide whether Australian policies to cope with farm debt and low incomes in agriculture are appropriate and/or feasible in New Zealand.

Finally I pose the question as to whether policies which have their main emphasis on increasing physical productivity are adequate to handle the adjustment problems of agriculture in a well developed economy.

Table 1

Year	Gross Returns	Costs ^(a)	Farm Income
	\$m	\$m	\$m
1965-66	3,347	2,286	1,061
1966-67	3,828	2,455	1,373
1967-68	3,345	2,522	823
1968-69 (preliminary)	3,956	2,711	1,245
1969-70 (estimated)	3,773	2,741	1,032
1974-75 (projected)	4,000	3,140	860

- (a) In this paper the estimate of farm costs includes depreciation calculated at concessional rates used for taxation purposes. This tends to overstate costs and consequently understate income. Although this affects the aggregate net farm income figure it does not affect the direction of change in income.

Table 2

VOLUME AND VALUE OF PRODUCTION
ESTIMATES FOR 1969-70 and PROJECTIONS FOR 1974-75
SELECTED COMMODITIES

Commodity	Unit	Volume of Production		Value of Production	
		1969-70	1974-75	1969-70	1974-75
				\$m	\$m
Crops -					
Wheat	m. bu	398.1	350.0	550.0	485.0
Coarse Grains					
Barley	m. bu	78.9	80.0	66.2	68.0
Oats	m. bu	80.0	99.0	43.3	59.0
Maize	m. bu	7.4	10.0	9.1	13.0
Sorghum	m. bu	11.0	27.0	10.0	28.0
				<hr/>	<hr/>
				132.6	168.0
Rice (paddy)	'000 tons	239.5	320.0	10.4	15.3
Sugar (94 n.t.)	m. tons	2.2	2.4	142.0	158.3
Dried Vine Fruit	'000 tons	92.2	98	28.3	30.2
Deciduous Fruits Used for Canning	'000 tons	218.0	224.5	22.2	19.5
Apples	'000 tons	368.3	431.0	51.3	55.0
Livestock Product					
Wool	m. lb	2,046	2,325	746.0	907.0
Wholemilk	m. gal	1.660	1,700	414.0	430.0
Beef and Veal	'000 tons	1,012	1,200	629.4	663.6
Mutton and Lamb	'000 tons	762	805	201.5	183.0

Table 3A

**RELATIONSHIPS BETWEEN RURAL DEBT AND FARM INCOME
AND NET VALUE OF RURAL PRODUCTION: SELECTED YEARS**

Item	Year Ended 30 June				
	1939	1949	1959	1969	1970
	\$m	\$m	\$m	\$m	\$m
Farm Income (a)	88	606	963	1,245	1,032
Net Value of Rural Production	294	989	1,887	2,855	2,679
Rural Debt (b)	570	414	926	1,963	2,087
	%	%	%	%	%
Ratios of Rural Debt to:					
Farm Income	648	68	96	158	202
Net Value of Rural Production	194	42	49	69	78

(a) Income of farm unincorporated enterprises.

(b) Estimated rural debt to major trading banks, Development Bank, pastoral finance companies, Assurance Societies and other Government Agencies.

Sources: Reserve Bank of Australia, Statistical Bulletin, various issues;
Commonwealth Bureau of Census and Statistics, Primary Industries Bulletin,
various issues;
Australian National Accounts, various issues.

Table 3B

INTERNAL CASH FLOW OF FARMERS, RURAL INDEBTEDNESS AND INDICATORS OF FARM INVESTMENT

Year	Internal Cash Flow(a)	Gross Indebtedness to Major Institutional Lenders (b) (c)	Rural Indebtedness Farmers' Holdings of Liquid Assets (b) (d)	Net Rural Indebted- ness to Major Insti- tional Lenders (b)
	\$m	\$m	\$m	\$m
1960-61	1,312	991	855	136
1961-62	1,247	1,048	852	196
1962-63	1,454	1,085	893	192
1963-64	1,795	1,148	903	155
1964-65	1,690	1,301	950	351
1965-66	1,447	1,411	943	468
1966-67	1,791	1,604	972	632
1967-68	1,266	1,872	885	987
1968-69	1,700 (f)	1,963	935	1,028
1969-70	1,542 (f)	2,087	870 (f)	1,217 (f)

(a) Farm income plus depreciation allowances: the latter which were \$300m in 1960-61, rose with fluctuations to \$331m in 1965-66 and an estimated \$510m in 1969-70.

(b) Estimated as at end of year.

(c) Includes indebtedness to hire purchase companies, trade creditors and private lenders.

(d) Deposits with major trading banks and pastoral finance companies and holdings of Commonwealth Government securities.

(e) Includes expenditure in the trapping, forestry, fishing and whaling industries.

(f) Estimated by B.A.E., n.a., not available.

Sources: Commonwealth Statistician, Reserve Bank of Australia and Department of Primary Industry.

Table 4

**BANK ADVANCES TO AND DEPOSITS OF RURAL INDUSTRIES:
MAJOR TRADING BANKS**

Year		Bank Advances	Bank Deposits	Advances as a Proportion of Deposits
		\$m	\$m	%
1959	(a)	459	670	69
1960	(a)	474	689	69
1961	(b)	451	655	69
1962	(b)	479	665	72
1963	(b)	495	713	69
1964	(b)	514	815	63
1965	(b)	584	791	74
1966	(b)	650	801	81
1967	(b)	751	833	90
1968	(b)	918	764	120
1969	(b)	939	814	115
1970	(b)	998	756	132

(a) As at 30 June

(b) As at second Wednesday of July. n.a., not available.

Source: Reserve Bank of Australia, Statistical Bulletin, various issues.

Table 5

**GROSS RURAL INDEBTEDNESS TO MAJOR INSTITUTIONAL LENDERS
AUSTRALIA**

At 30th June (a)	Major Trading Banks(b)	Pastoral Finance Companies	Commonwealth Development Bank	Assurance Societies	Ex-Service Settlement Schemes	Other Government Agencies (c)	Total Gross Indebtedness (d)
	\$m	\$m	\$m	\$m	\$m	\$m	\$m
1958	471.8	185.8	11.6	32.0	100.0	124.4	925.6
1959	459.2	182.6	12.0	34.0	106.2	129.2	923.4
1960	473.4	203.9	13.6	42.0	110.8	134.0	977.7
1961	450.4	212.9	21.6	48.0	114.1	143.8	990.8
1962	479.4	208.0	34.8	51.0	117.6	156.9	1047.7
1963	494.6	213.7	45.0	52.0	113.2	166.2	1084.7
1964	514.8	228.3	55.3	56.0	107.9	186.0	1148.3
1965	583.8	258.9	71.6	65.0	104.3	217.6	1301.2
1966	650.4	249.9	92.2	75.0	98.9	244.6	1411.0
1967	750.6	285.5	120.1	81.0	92.2	274.5	1603.9
1968	918.2	314.4	142.9	97.0	88.4	311.1	1872.0
1969	938.5	337.7	161.8	115.0	84.9	325.2	1963.1
1970	998.0	349.1	175.9	130.0	79.9	354.0	2086.9

(a) From 1961 figures for the major trading banks refer to the second Wednesday in July. All other figures relate to 30th June.

(b) Includes advances from Term Loan Fund and Farm Development Loan Fund.

(c) Includes advances by State Banks

(d) Excluding indebtedness to the purchase companies, trade creditors and private lenders.

Source: Reserve Bank of Australia.

Table 6

**ADVANCES TO SELECTED RURAL INDUSTRIES BY
MAJOR TRADING BANKS: SELECTED YEARS**

Industry	1949(a)	1959(a)	1960(b)	1970(b)
	Percentage of Advances Outstanding			
	%	%	%	%
Mainly Sheep	34.7	49.5	44.1	42.9
Mainly Wheat	13.3	7.9	14.0	13.9
Mainly Dairy and Pigs	27.0	19.2	13.2	12.3
Other	25.0	23.4	28.7	30.9
Total	100.0	100.0	100.0	100.0
	Total Value of Advances Outstanding			
	\$m	\$m	\$m	\$m
All Rural Industries	217.1	445.3	916.3	945.8

(a) As at 31 December

(b) As at second Wednesday of January

Source: Reserve Bank of Australia, Statistical Bulletin, various issues.

Table 7

**DISTRIBUTION OF PASTORAL FINANCE COMPANY CLIENTS IN FINANCIAL DIFFICULTIES
BY PERCENTAGE OF SHEEP REMAINING: BY DEBT PER SHEEP EQUIVALENT REMAINING:
QUEENSLAND PASTORAL ZONE**

Percentage Sheep Remaining		Debt per Sheep Equivalent Remaining (a)							Total	
		\$0 and less than \$4	\$4 and less than \$8	\$8 and less than \$12	\$12 and less than \$16	\$16 and less than \$20	\$20 and less than \$24	\$24 and less than \$28		\$28 and over
		%	%	%	%	%	%	%		%
		%	%	%	%	%	%	%		%
15	0 and less than 10	—	—	—	—	—	—	—	1.45	1.45
	10 and less than 20	—	—	0.48	—	—	—	—	1.45	1.93
	20 and less than 30	—	—	0.48	0.48	1.45	0.48	0.48	3.86	7.23
	30 and less than 40	—	0.48	1.93	1.45	0.97	1.93	2.42	0.97	10.15
	40 and less than 50	—	0.48	1.45	1.45	1.45	1.93	0.48	2.42	9.66
	50 and less than 60	—	1.45	3.86	1.93	1.93	1.93	—	1.45	12.55
	60 and less than 70	—	0.97	3.38	5.31	0.97	0.48	—	0.48	11.59
	70 and less than 80	0.48	6.76	3.86	3.86	0.48	0.97	—	—	16.41
	80 and less than 90	0.48	4.35	3.38	0.97	0.97	—	—	—	10.15
	90 and less than 100	—	3.38	3.38	1.93	0.48	—	—	—	9.17
100 and less than 110	0.48	2.42	2.42	0.48	—	—	0.48	—	6.28	
110 and over	0.97	0.48	1.93	—	—	—	—	—	3.38	
Total		2.41	20.77	26.55	17.86	8.70	7.72	3.86	12.08	99.95(b)

(a) Sheep equivalents remaining is the number of sheep equivalents which were remaining on the property when the data were obtained. (b) Does not add to 100 due to rounding.

Source: The Data in this table were obtained on a confidential basis from a number of prominent pastoral companies in Queensland.

Table 8

**DISTRIBUTION OF PASTORAL FINANCE COMPANY CLIENTS IN FINANCIAL DIFFICULTIES
BY PERCENTAGE OF SHEEP REMAINING: BY EQUITY RATIO: QUEENSLAND PASTORAL ZONE**

Percentage Sheep Remaining	Equity Ratio (%)								Total
	Less than -20	-20 and less than 0	0 and less than 20	20 and less than 40	40 and less than 60	60 and less than 80	80 and less than 100	100 and over	
	%	%	%	%	%	%	%	%	%
0 and less than 10	1.45	—	—	—	—	—	—	—	1.45
10 and less than 20	—	—	0.48	0.48	0.48	—	0.48	—	1.92
20 and less than 30	1.45	—	1.45	1.45	1.93	0.97	—	—	7.25
30 and less than 40	0.48	0.48	0.97	3.86	2.42	1.93	—	—	10.14
40 and less than 50	2.90	0.97	1.93	1.93	0.97	0.97	—	—	9.67
50 and less than 60	2.90	—	2.42	2.42	3.86	0.97	—	—	12.57
60 and less than 70	0.97	0.48	3.38	3.86	0.97	1.93	—	—	11.59
70 and less than 80	1.93	0.48	1.93	5.31	4.35	1.93	0.48	—	16.41
80 and less than 90	0.48	1.93	1.93	0.48	2.42	2.90	—	—	10.14
90 and less than 100	1.93	0.97	0.97	3.38	1.45	0.48	—	—	9.18
100 and less than 110	0.48	—	1.45	2.42	1.93	—	—	—	6.28
110 and over	0.97	—	0.48	0.48	0.97	0.48	—	—	3.38
Total	15.94	5.31	17.39	26.07	21.75	12.56	0.96	—	99.98(a)

(a) Does not add to 100.0 due to rounding.

Source: The data in this table were obtained on a confidential basis from a number of prominent pastoral companies in Queensland.

Table 9

Category	'New Land'	Established	Total
Hopeless	630	2,370 (1200 are too small)	3,000
Doubtful (could be assisted)	500	3,000-4,000	3,500-4,500
Satisfactory	420	6,280-7,280	6,700-7,700
Total	1,500	12,650	14,200 (a)

(a) Total number of cereal and sheep properties in Western Australia.

Table 10

**ASSISTANCE BY TARIFF, SUBSIDY AND CONCESSIONS TO
MANUFACTURING AND AGRICULTURE, 1967/68**

	Manufacturing	Agriculture
	\$	\$
Assistance (Est.)	1,700,000,000	500,000,000
Workforce	1,400,000	450,000
Assistance per man	1,214	1,110
Export Earnings	491,000,000	1,733,000,000
Export earnings per man	350	3,851
Export earnings per \$1,000 of assistance	288	3,466

Sources: Tariff Board 1970 Commonwealth Year Book, 1969

DEBT AND THE VIABILITY OF FARMING IN NEW ZEALAND

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Commonwealth Scholar

I propose to treat this topic in three sections; initially to make a brief survey of the current farm debt situation in New Zealand, secondly to investigate the possibility of a "credit gap" in the agricultural sector, and thirdly to make a number of suggestions that I believe will improve the efficiency of the farm credit market.

The Situation

A debt problem may arise in agriculture from three main causes:

- (i) as a result of the cost-price squeeze holdings will become too small to be run economically.
- (ii) as a result of declining farm profitability, in relation to other sectors.
- (iii) as a result of the cost of entry into the farm sector.

Superficially, the level of debt in the New Zealand farm sector is not high. The average level of equity in farm businesses in December 1970 was 71.6%, a fall of only 1.4% from the Department of Agriculture's 1963 estimate. Only a quarter of all farmers had an equity of less than 50%. However, in 1970 only 11% of farmers had negligible debt in their businesses, compared with 26% in 1963, and in money terms the rate of increase in debt has been high. Since 1963, average mortgage debt per farm has been growing at a compound rate of 12%, and non-mortgage debt at a compound rate of 7½%.

The rate of increase in cash incomes has obviously not kept up with this rate of debt increase. The Agricultural Production Council¹ has stated that net farm incomes have actually fallen during the production year 1970/71. Average dairy farm income has fallen from \$4,710 in 1969/70, to an expected \$3,860 in 1970/71, and average sheep farm net income has fallen from \$6,000 in 1969/70 to an expected \$4,500 in 1970/71.

However, despite these somewhat depressing income trends, we must remember two factors. Firstly, in economic theory, capital gain is an income concept, and farmers are receiving an imputed income as a result of land value appreciation. This has been at a compound rate of about 5% per annum since 1963. Secondly, the imprecision of practical application of the "net

1. Report on the Economic Position of the Farming Industry, (April 1971) page 12.

income" concept is alarming. To illustrate my point, I suggest that farmers' "net income" is a somewhat different calculation to yours or my "net income", and as such, the published figures are an understatement of the real net-income position.

Whilst there has been considerable publicity given to falling farm sector net incomes, I feel that we should take far more note of the rate of return on capital employed in agriculture, since this is the key factor determining efficient resource allocation from the point of view of the economy as a whole. Cross-section estimates from the Lincoln College Credit Survey show that the average direct rate of return to management, labour and capital on assets employed in the farm business was 5.4% in 1969/70. However 60% of farmers were observed to be earning less than five per cent, and I would suggest that considerable capital being injected into the farm sector, is in the economic context, being misallocated.

We are therefore faced with an agriculture that is facing an increasing cost-price squeeze, and a low rate of return on capital employed. In addition, the costs of entry to the sector are increasing. The total capital value of the average farm business in New Zealand has risen from about \$43,800 in 1963 to \$87,000 in 1970.

Traditionally agriculture has been able to finance its own requirements. A study of funds flow financial data between 1945 and 1968 does show a very close relationship between estimated net cash farm income, and agricultural investment. The results are presented in Table 1.

Table 1

RELATIONSHIPS BETWEEN NET CASH FARM INCOME AND AGRICULTURAL INVESTMENT (1945-68)

Multiple Relationship	Correlation Coefficient	Significance
NCFI/Farm asset purchase	.863	1%
Partial Relationships		
NCFI/Plant and Machinery purchases ²	.778	N/S
NCFI/Construction of Buildings ²	.906	1%
NCFI/Purchase of Land	.827	5%
NCFI/Improvements and Developments ²	.897	1%

2. See Johnson, R.W.M. "Capital Formation in N.Z. Agriculture 1946-67" AERU Research Report No. 65 (1970) for definitions.

However, with inflation in farm business asset values, and a changing input mix, an increasing demand for external finance has been observed. The magnitude of this increase can be summarised by examination of the farm sector financial leverage ratio. This ratio, calculated annually, can be envisaged as the ratio of ex-post retained earnings to borrowed funds, necessary to finance expenditure on land purchase, improvements and developments, buildings and plant and machinery. From a study of the funds flow data between 1945 and 1968, we can draw a regression relationship between this ratio (X_1) and Time (T). I refer you to equation (1):

$$X_1 = 2.798 - .066 T_1$$

where

X_1 = farm sector financial leverage ratio

T = Time

Properties of equation:

- (i) regression coefficient at the 1% level
- (ii) $R^2(X_1 T) = .4639$; $R(X_1 T) = .6811$
- (iii) $d = 1.6858$ Since $d = d_u$, we need not reject the hypothesis of random disturbance.

Taking 1945/6 as year 1, then this equation estimates for us that for every \$2.73 re-invested by the farm sector, only \$1 was borrowed. Probably of far more significance to us today is that this equation does tell us that, on present trends, there is likely to be very little equity financing in New Zealand agriculture by the year 1990.

With this rapidly increasing volume of external credit, together with the economic pressures facing the industry, we would expect the farm sector to be facing an increasing debt servicing problem. There is little objective evidence available to us to assess the validity of such a conclusion, but the stock firms certainly have become very alarmed at the increase in short term farm debt. However this concern is not real evidence of a reduction in debt-servicing ability. Indeed, a study made in February 1971 by the State Advances Corporation showed that under 2% of its rural account holders had received substantial principal or interest suspensions, in the previous two years and the majority of these suspensions were made on economic farms

that had been affected by normal business hazards, such as drought or disease, rather than on farms suffering from an acute structural problem. I therefore contend that whilst the evidence suggests that there should be a debt-servicing problem in the farm sector, this has not been reflected by any widespread principal suspensions.

The Extent of a "Credit Gap"

It appears that despite the large observed increase in the average amount of capital required to finance a farm business, there is little evidence of credit shortage for farmers already in the sector. The Lincoln College Credit Survey showed that:

- (i) few farmers felt that bank overdraft limits restricted the operations of their businesses.
- (ii) sixty one per cent of farmers who used bank credit in their businesses had experienced "no problems" in their dealings with banks, and fifty three per cent of those who used stock firm finance had "no problems". Of those who were experiencing problems (see Table 2) many were not in the most favourable of financial positions.
- (iii) very few farmers were experiencing serious problems with their mortgagors.

However it is important to realise that these are average conclusions. There are members of the farm community who are beginning to experience serious credit shortages, i.e. prospective purchasers and young farmers with a heavy debt load. On the basis of current trends, I do think that the problem of a "credit gap" in agriculture, whilst not acute at present, is increasingly likely to be so.

I now propose to say a little on the institutions at present supplying funds to agriculture, and show why I believe they will be less active participants in the farm credit market in the future.

Trading Banks

The compound rate of increase in trading bank advances to agriculture has been at the rate of 3% per annum since 1957. This compares with a rate of increase of 4.9% per annum in all advances. The rate of increase in agricultural lending by the trading banks has therefore been growing at less than the average rate. This in itself is not any cause for alarm. Growth and

development theory tells us that in any growing economy, such as New Zealand's, the role of primary industry will decline relative to secondary and tertiary industry. What is more alarming is that agriculture is increasingly proving to be an unattractive source of investment for the trading banks.

This is largely a result of the general financial climate in New Zealand. An excess demand for funds from the banking system has arisen as a result of the suitability of bank finance for many projects, and the Government controls imposed on the banking system. These controls, by fixing the average overdraft interest rates at 6%, make bank credit appreciably cheaper than the going market rate. Excess demand has meant that first class security is available to banks, and they need not look at any proposition that does not meet this criteria. This factor has obvious implications for the developing farmer with limited security to offer. Borrowers prepared merely to pay this 6% rate are of no economic significance to the trading banks. The true profitability of any account depends on:

- (i) the rate of interest charged
- (ii) the amount borrowed
- (iii) the extent of collateral business—deposit or overseas exchange business.
- (iv) the timing of advance and deposit flow, compared with the annual pattern of demand for and receipts of all funds. On timing grounds, agricultural lending ranks favourably.

Farm deposits are increasing during the Autumn, when the community as a whole is experiencing its greatest liquidity shortage, and farm borrowing is at a peak in the spring and early summer months, when the rest of the community is more liquid. On the other grounds farm lending is not ranked so favourably. Reserve Bank instructions request the trading banks to lend to farmers at cheaper rates than other sectors of the community. Assuming that bankers are acting rationally, one cannot therefore be surprised at their looking at farm lending unfavourably, when they can get an additional $\frac{1}{2}$ –1% on their investment to virtually any other sector of the economy.

In relation to other sectors of the economy agriculture is therefore singularly unprofitable and I suggest that were it not for the distortion effects of the two-tier system, bank lending to farmers would have shown a decline in recent years.

To conclude, despite the operations of the tier system, which is an attempt by Government to artificially channel resources into the farm and other "priority" sectors, I do believe that the slow rate of increase in bank lending to agriculture in recent years is to be expected and if no action is taken, is likely to continue.

Stock Firms

In contrast to the trading banks, stock firms have played an increasing role in the finance of agriculture in recent years. At the present time they have some \$60m. more outstanding in the farm sector than trading banks. Lending money to farmers in itself is a very unprofitable use of stock firms' resources. The average costs of capital of two national stock firms, in the year ending 30 June 1970, were 9.7% and 8.8% respectively. Lending at 8% is therefore tantamount to business suicide.

If we accept the hypothesis that stock firm farm lending is only a necessary precondition to sales stimulation and retention we would expect stock firm lending to increase in times of farming prosperity.

Following this argument further, when farm incomes are falling, and the demand for stock firm goods and services is slacking off, we would expect pressure by stock firms on farmers to reduce debt loads. This is precisely the current situation—except that stock firms are finding it far harder to curtail and cut back on debt, than they did to increase it. The problem is therefore that of an increasing volume of hard core debt.

In Table 2 a classification has been made of the customers of one national stock firm, and one regional company. The basis of the classification has been the total number of clients that each firm considers to be its "permanent" rather than its casual clients.

Table 2

CLASSIFICATION OF PERMANENT CUSTOMERS AS AT JUNE 1971

		National Firm	Regional Firm
(i)	Primary Cash	40%	48%
(ii)	Seasonally financed (up to \$2,000)	33%	27%
(iii)	Primarily financed (2-7,000)	20%	17%
(iv)	Heavily indebted * (generally secured)	7%	8%

* Average debt approx. \$10,000 Range from \$7-30,000

Of these permanent clients it can be seen that a very high proportion still pay "cash", and only a very small proportion of clients are heavily indebted. Such data again reinforces my viewpoint that a debt problem is not universal in New Zealand.

However, even though the percentage of heavily indebted farmers is small, the volume of funds involved is large, and stock firms are finding that their resources have been misallocated ex-post. This is a result of:

- (i) what has turned out to be essentially long term debt being financed by short term working capital sources, that is bank overdraft and farmers' deposits.
- (ii) the effect of tradition—i.e. allocating credit to a customer just because he has been a customer for X years, regardless of the volume of business generated.

With a decrease in profitability within the farm sector, there are internal pressures on the stock firms to diversify. Many of these alternative uses of funds are far more profitable than agricultural lending and business, and as such, must attract funds. I therefore anticipate that the rate of increase in farm lending by stock firms in the next few years will start to fall, as stock firms reduce further their relative commitment to agriculture. I suspect that this will be through a general tightening up of their credit procedures. I cannot see the past casual stock firm-client financial relationship continuing. Increasing and stricter use of stock firm limits related to volume of business generated are, coming in the industry. Stock firms will substantially increase

their percentages of "secured" clients, and insist that the provision of finance is accompanied by a guarantee of "all business". Many of the traditional free services provided by stock firms will either be withdrawn, or charges imposed.

All in all, economic circumstances and opportunities elsewhere in the economy are forcing stock firms to re-examine their farm finance role. Whilst this is a slow process, I believe that they like the trading banks will gradually withdraw from providing the short term finance requirements of agriculture.

Long Term Finance

Before the recent introduction of the Mortgage Guarantee Scheme, there were indications that shortages of term finance were appearing. The Agricultural Production Council noted in its report that there was evidence to suggest that insurance companies and private individuals were reducing their commitments to the industry. The Mortgage Guarantee Scheme has the effect of turning farm mortgage lending into a gilt-edged proposition earning market rates of interest. It is still too early to evaluate the success of the scheme. However we must remember that if funds are attracted to farming it is a result of artificial, rather than real forces. As such the scheme may have a possible distorting effect on future resource allocation in the economy.

Despite the Mortgage Guarantee Scheme, the availability of alternative investment outlets in the growing economy of New Zealand will inevitably force the State to play an increasing role in farm finance.

The recent market performance of the State Advances Corporation suggests that it is currently following a goal of farm income maximisation. A considerable proportion of its funds are now being lent for the purpose of structural change, and to a lesser extent for development, rather than for purchase. Such a policy does limit the allocation of funds to those already within the farm sector and is discriminatory in concept, and by limiting the allocation of purchase finance, the Corporation may be precluding the entry of new efficient trained farmers into the sector. Even so, the Lincoln College Credit Survey discovered that above all other lending institutions, the attitude of the farming community towards the Corporation was entirely favourable.

We have said that the role of the Corporation is likely to increase in the long term credit market, because of the gradual withdrawal of other institutions. Already the Corporation is virtually the monopoly supplier of funds for structural change, development and stock purchase. However, the Corporation's funds from National Development Loans Capital, are limited, and the Corporation must compete with other sectors for these funds.

In conclusion, our brief survey of the institutions supplying funds indicates that both current short term and long term sources of finance are likely to be attracted away, from the farm sector. This is largely a result of the changing importance of agriculture in the growing economy.

Future Demand

Turning now to future demand for funds, it would be useful to have some idea of the demand for finance by prospective "farmers" contemplating entry to the sector. This is obviously not possible, as we are unable even to identify future "farmers". We can only observe that the increasing capital requirements in agriculture, and decreasing sources of internal funds, will increase demand for external finance.

My comments are largely restricted to future funds demands by farmers already operating within the sector. The Lincoln College Credit Survey showed that anticipated future demand for long term finance was largely a function of youth and existing low levels of equity. Table 4 shows such a relationship and has been drawn up by use of the Attitude Scale technique.

Table 4

LIKELY FUTURE LONG TERM BORROWING

(Sample size — 368)

Classified response	% of respondents	Ave equity	Modal age group (years)
Very likely	10	48	31—40
Likely	11	60	21—30
Possibly	13	63	31—40
Unlikely	19	66	41—50
Very unlikely	47	77	61 +

This table does give some support to the so-called farm "life cycle" hypothesis. Such a conclusion was reinforced by examination of the motives of those 66% of all respondents who were unlikely to borrow in the future. Of this group, 31% considered that they were too old, 57% that they were "satisfied with the present size and state of development of their farm" and only 19% that they were pessimistic about the future state of farming in New Zealand. This latter should be the prime cause, if economic motivation governed farm conduct.

Questions were also asked in the Survey on the attitude of farmers to borrowing for project type purposes—for plant and machinery, for buildings, for improvement and development type work, and for heavy expenditure in the home. Primarily these questions were phrased in a way to determine whether there was any element of debt aversion in the farm sector. The Survey discovered that the answer to this question was yes and while the Survey did not attempt to make quantitative estimates of likely borrowing for project type purposes, it did make a number of discoveries. Briefly these were:

- (i) that the majority of farmers prefer to finance expenditure on projects from their disposable incomes, rather than from borrowing.
- (ii) that few farmers had reached the limits of external credit rationing (i.e. limits imposed by institutions). More had reached the limits of internal rationing (i.e. self imposed borrowing limits).
- (iii) confidence, or lack of confidence in the future of the industry was a contributory factor in farmers' willingness to borrow for project type purposes.
- (iv) active and prospective future borrowers for projects were more likely to be running larger businesses with a higher debt load than "non-borrowers". Age was observed to be a major factor in the propensity to borrow.
- (v) expenditure on the home was of secondary importance to expenditure on the farm.

I might add that the identification of these factors does provide a basis for future quantitative research.

We are now in a position to return to our original question, and note that under current conditions, with the observed supply and demand factors, there is likely to be an increasing credit gap in the farm sector.

Measures to Improve the Efficiency of the Farm Credit Market

I now propose to suggest a number of far reaching measures to improve the efficiency of the whole farm credit market. These are centred round two basic concepts—those of interest rate and of property ownership. I quote from a recent OECD report:

“... interest rates are an essential instrument in the economy, guiding the distribution of credit as between different sectors. Privileged treatment for any one sector may lead to an uneconomic allocation of funds ...”³

Agriculture in New Zealand has certainly been a privileged sector in this context—obtaining cheap credit from trading banks, stock firms and the State Advances Corporation. As an economist I contend that there is no economic case for any one sector receiving subsidised rates. Indeed, if a case is put up for such discriminatory rates it should be for new developing industries, of which we are not aware of the performance, rather than established sectors of the economy, such as agriculture, where we do have a great deal more knowledge of future potential.

I therefore accept that farm sector interest rates must rise in line with other rates in the economy. Indeed, trading banks and stock firms agree that farmers are not aware of the rates they are paying, and that availability of credit is a far more important factor than interest rates.

The second concept with which I am concerned is that of property ownership. I believe that one of the fundamental goals of any farmer is to own his land. On the other hand, I believe that one of the fundamental goals of a household is to own his own house. If the householder cannot afford to buy his house, then is the community going to help him—or is he going to have to rent his house. The point I am making is that I do not regard entry to farming as a right, and I do not regard farm ownership as a right. I consider it completely inequitable for the rest of the community to assist the new farmer to purchase his land, whether it be through tax or interest rate concessions, or direct subsidy, when in the ultimate limit, the farmer has preserved his standard of living and an asset, and the taxpayer, who has indirectly paid for this asset, has nothing. I contend that the community's willingness to tolerate farm purchase as a right, has led to an upward pressure

3. “Capital and finance in agriculture”. Agric. Policy Report No. 1, OECD, Paris 1970, page 95.

on land prices, and a complete disregard, of the economics of land purchasing. In addition, I consider that the refinance requirement every generation leads to an additional net injection of capital into the sector, that further lowers the rate of return to assets employed.

I am therefore suggesting that it may be desirable to reconsider the whole concept of property ownership. This could be practically expressed through a re-examination of the role of the State Advances Corporation. This organisation with its highly efficient trained staff has the potential to play a dynamic role in the future farm credit market and I suggest that the Corporation be empowered to buy land voluntarily from farmers wishing to either leave or remain in the sector. This would have the effect of at least removing labour resources from the sector, and stimulating returns to those still remaining. In the first instance, land could be parcelled into economic units, and in the second rented back to farmers at "reasonable" (and I do not intend to define reasonable) rents. Rents themselves could be a dynamic device, manipulated downwards in time of economic depression and vice versa. In addition, I can imagine the Corporation "offering" units to prospective applicants, eligibility being based on ability, in much the same way as we are offered employment. Implicit in such a state land ownership scheme would be the need for job security, and the need for some arrangement for full recompense for improvements on the property effected by the tenant. Since the Corporation now does provide largely non-purchase finance, fundamentally its lending role would not change—rather it would acquire an additional structural policy role.

Turning now to problems of short term finance. I consider that the trading banks are the right and proper place for the provision of short term finance to agriculture. We have shown that the farm sector is at present unattractive to the trading banks. I believe that there are two ways of improving this. Firstly, the release of interest rates from their present tight controls, and the removal of agriculture's present favoured interest rate position, would lead to an immediate freer use of the price mechanism as an allocative device. In this way, bankers would be at least more favourably inclined to rural lending. In the second instance, we have said that banks are interested in collateral business. Many farmers currently use their stock firms as a "bank", and stock firms currently hold an estimated \$60m of farmers' deposits. Stock firms have indicated both publicly and privately that they do not utilise these deposits in their businesses. Such deposits, if held by the

trading bank system, would substantially increase the attractiveness of rural sector lending.

Such a move would reduce the stock firm commitment to agriculture and lead to greater efficiency of resource use, both to the stock firms themselves, by substantially increasing their liquidity and improving their capital gearing situation, and the economy at large. I would hope that stock firms' credit commitment to agriculture would in future be limited strictly to minor seasonal purposes.

The increasing proportion of time deposits to total deposits in the trading bank sector does offer to them the opportunity of injecting medium term money into agriculture, given freedom from interest rate control. Longer term deposits do enable trading banks to lend on longer term, and not upset their capital structure. At present banks are lending on this basis through the term loan scheme. Agriculture is not however receiving any great volume of these funds, largely as a result of the existing controls and restrictions on the trading banks. I suggest that with a relaxation of such controls there is scope for increasing bank participation in medium term as well as short term finance of agriculture.

To summarise, I have tried to present a brief survey of the financial state of agriculture today, future credit trends given current circumstances, and suggested measures for improving the efficiency of the whole farm credit market. Pressure of time has necessitated brevity, and restriction of discussion to the major institutional factors in this market. Some obvious exclusions have occurred. I have not for instance, examined the major role of private finance in agriculture. even though the Lincoln College Credit Survey has shown that 32% of the debt outstanding in the farm sector in December 1970 was attributable to private individuals. My major conclusions, can be posed in the form of two questions. Firstly, are we prepared to re-examine the whole concept of farm property ownership, and thus help to remove a major obstacle in many cases to farm expansion and development? And secondly, are we prepared to continue to inject capital into agriculture at favourable rates of interest, bearing in mind the possible misallocation effects to the economy as a whole? I leave these matters for discussion.

DEBT AND THE VIABILITY OF STORE HILL COUNTRY

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There used to be a saying that, "A sheep farmer's problem was not how to find money but how to spend it". The situation, you would agree, is somewhat different today.

It was also said that, "If a farmer can remember what he worried about last week, he has a pretty good sort of memory". It is also not quite like that today—well not if you are a farmer on store hill country. What you worry about this week is the same as what you worried about last week and the week before that. Your worry is whether you have got any chance of surviving or not, whether your life's work will have to be sacrificed.

There are approximately one million acres of hill country in the Taranaki, land district. While not all of this land can be classed as store hill country, there are few farms that are fortunate enough in having sufficient easy country to be classed as finishing farms. The majority of this land is store hill country.

At present it is in financial difficulty. In the early to mid-sixties, this hill country was written and spoken about as having a very bright future. There was a vast potential for increasing stock numbers. One economist estimated the potential for increased carrying capacity of Taranaki hill country alone, to be three and a half million stock units. He also indicated that the development of Taranaki hill country would be extremely profitable—and it would have been if wool prices had stayed the way they were.

In my paper I first want to show how far the hill country farmer's position has deteriorated.

What I will do is to compare a typical breeding-ewe/breeding-cow enterprise as it was in 1965 with how it is today. In 1965 a breeding ewe flock with a 90% lambing and clipping a total of 13½ lb of wool per ewe returned a gross income of \$7 per stock unit. Under today's prices the same level of performance brings in \$4.60 per stock unit (see Table 1).

While sheep returns have dropped, those of cattle have risen. Before the wool price drop a breeding herd with 85% calving, selling steer calves as

weaners and surplus female calves as two year heifers, returned the gross income of \$4.30 per stock unit. Today the return is \$6 per stock unit.

Table 1

GROSS INCOME PER STOCK UNIT 1965 and 1970

Breeding Ewes

Performance: 90% Lambing

		1965	1970
Total Wool	13½ lb/ewe		
Prices—	Wool	\$0.35	\$0.20
	W. Lambs	\$4.00	\$3.40
	2 Th Ewes	\$8.00	\$5.50
	5yr Ewes	\$6.00	\$3.50
Final Gross Income/S.U.		\$7.00	\$4.60

Breeding Cows

Performance: 85% Calving

		1965	1970
Prices—	Weaner Steers	\$42.00	\$60.00
	Cull Cows	\$50.00	\$75.00
	Surplus 2 yr Heifers	\$60.00	\$80.00
Final Gross Income/S.U.		\$ 4.30	\$ 6.00

Farm Basis

Typical Cattle/Sheep Combination—

1 cattle beast/14 sheep

1 S.U./2.6 S.U.

Gross Income/S.U.

1965	1970
\$6.20	\$5.00

What does this mean on a farm basis? Combining these returns into a typical cattle to sheep ration of one beast to 14 sheep shows the overall position is a decline in gross income per stock unit from \$6.20 to \$5.00 or a decline of 20%. How this affects the economic farm surplus and the cash surplus available for living is shown in Table 2. Because costs are largely inflexible, this decline in gross income magnifies itself to a 30% decline in the economic farm surplus before depreciation, debt servicing, living expenses, taxation and development.

Farm expenses have been taken as 50% of gross farm income in 1965 and 55% in 1970. If anything the latter figure is underestimated. Though case studies show this percentage, in a lot of cases expenditure has been held to below maintenance level. Lump a debt servicing charge of a dollar per stock unit and we then have a decline in the cash surplus of 40%. A decline of 20% in gross income has magnified itself to a drop of 40%, in the amount available for living expenses, taxation and development.

Table 2

	REVENUE PER STOCK UNIT	
	1965	1970
	\$	\$
Gross Income	6.20	5.00
Farm Expenses	3.10	2.80
Economic Farm Surplus	3.10	2.20
Less Debt Serv.*	1.00	1.00
Cash Surplus*	2.10	1.20
2000 S.U's	4200.00	2400.00
3000	6300.00	3600.00
4000	8400.00	4800.00
5000	10500.00	6000.00

NOTE: * Debt servicing includes Interest and Principal

* Cash surplus is amount left for Personal Expenses, Taxation and Development

What does this mean in practice? It means that today 3,500 stock units are needed to return the same cash surplus, as 2,000 stock units did in 1965. That is under an annual debt servicing commitment of a dollar per stock unit, 3,000 stock units are now needed in the place of the 2,000.

These figures also assume that the extra stock units needed today are giving the same stock performance—the same calving percentage and lambing percentage. In actual practice this has not occurred. Increased carrying capacity coupled with two poor seasons has given a decline.

It also assumes that the cattle to sheep ratio has been maintained, but because development in stock numbers in a lot of cases was mainly in the form of breeding ewes, the ratio is now much wider.

Having set the stage, I now want to refer to two actual case studies. One is typical of the smaller store hill country—a one man property at present carrying 2,400 stock units. The second is a larger property employing labour and now running 6,000 stock units. In both cases I will compare the farm's position in the year immediately before the wool slump (1965-66) with what it was in the 1969-70 year—the season before last.

Taking the small property first. A one man unit which in 1965 was farming just over 2,000 stock units on 475 effective acres. Today it is running 2,400 stock units on 500 effective acres. It is representative of the harder type store hill country, steep, fairly broken and predominantly mudstone country liable to surface erosion. The story of this property is fairly typical of what has happened on many hill country sheep properties over the past few years. The increase in carrying has been mainly in the form of sheep (see Table 3). Increased numbers coupled with two relatively poor seasons and the inability of the farmer to maintain fertilizer rates have resulted in a decline in animal performance (see Table 4).

STOCK INCREASE

Table 3

	1965/66	1969/70
Ewes	1130	1500
Hoggets	504	515
B. Cows	52	49
Other Cattle	77	78
Total S.U.'s	2070	2400
S.U.'s/Ac	4.3	4.8
Cattle/Sheep	1/13	1/16

Table 4

PRODUCTION TREND		
	1965/66	1969/70
Wool lbs	16700	16500
Wool Price	28¼	21
Wool/Ewe	15	11
L %	80	75
C %	80	65

Table 5

ANALYSIS OF REVENUE			
	Before 1965/66	Now 1969/70	'Future'†
Gross Income			
Wool	4700	3470	3400
Sheep	3550	3050	3100
Cattle	1800	1630	3300
Total	10050	8150	9800
Farm Expenditure			
Fertiliser	2200	1700	1900
Other	3630	3350	3800
Total	5850	5050	5700
Economic Farm Surplus	4200	3100	4100
Less Interest	960	1550	1650
Cash Surplus *	3240	1550	2450

NOTE: * Cash Surplus is amount left for Personal Expenses, Debt Reduction, Taxation and Development.

† 'Future'—Situation with 1300 B. Ewes, 80 B. Cows and better stock performance

Table 5 shows the income position in the two years 1965-66 and 1969-70. Actual income and expenditure in each year has been adjusted to a status quo by allowing for any change in capital livestock between the start and the end of each year and by excluding any expenditure of a capital and development nature. Comparative gross income in 1969-70 had fallen to 19% below the 1965-66 level. Farm expenditure had actually been reduced, because this farmer had cut back from 80 tons of fertilizer to 50 tons and reduced vital maintenance expenditure in fencing and scrub control. The resultant economic farm surplus shows a drop of 26%. Interest charges had increased due to further borrowing required for a new woolshed and the additional stock. The final cash surplus available for living expenses, debt repayment and development expenses is 52% below what it was in 1965-66. In that year it was approximately \$3,200. Today it is only \$1,500, barely enough for living expenses, let alone the \$800 principal which the farmer should be repaying.

The obvious question now is "Has this farmer any chance of getting back into a viable position?" There is no chance of doing this by further increases in stock units. But the farmer does intend to restructure what he has got by reducing sheep numbers and allowing an increase in his breeding cow herd. He will also be trying to lift the performance of his stock by better feeding and management.

You might ask "Why weren't cattle increased before this?" Because it has really only been in the last year that prices paid for weaner steers have risen to the level where breeding cows in Taranaki can now return more per stock unit than breeding ewes. Before this the breeding ewe was more profitable and of course with capital limiting, more stock units could be put on in the form of sheep.

The farmer has also begun to use rams from a large scale breeding scheme. However, the improvement in lambing percentage will be slow and the topography will I think, limit it to 85% survival to sale. I have assumed that wool weights will rise again to around the level of 13½ lb of wool per ewe wintered. This will mean the same poundage of wool as produced with 1,500 ewes in the 1969-70 season, but at a slightly lower price, 20 cents instead of 21 cents. I have also given the farmer a better price for weaner steers than he is now getting, \$55 average instead of the \$48 they averaged last year. Overall then, I would say that I am being a little more optimistic than pessimistic.

What then is the result? It is shown in Table 5 under the heading "Future". Total income rises above the 1969-70 level but is still below 1965-66. Farm expenditure will be up on 1969-70, for I am assuming that 80 tons of fertilizer is applied again and that adequate repairs and maintenance is possible. Additional costs for cattle over and above sheep need also be allowed for. The economic farm surplus in this future improved situation would still be lower than 1965-66 and with the higher interest bill the cash surplus available for living expenses and debt repayments is still only \$2,450 which is \$800 below what it was in 1965-66. Principal repayments of \$900 would allow only \$1,550 for actual living expenses. Next year this farmer is faced with two children going to boarding school and an additional increased cost of \$500.

It is obvious then that an improvement in stock performance will not close the gap needed to regain viability on this farm. Unfortunately, amalgamation seems to be out of the question. This farmer would have to borrow 100% to acquire extra land and stock and other farms in the district are not in a position to be able to take him over. I will leave you with this question—"Will this farmer have to walk off his farm?"—because if he does, many more will.

My second case study is of a bigger unit employing labour. Like the smaller unit it has also increased stock numbers over the last five years in an attempt to beat the cost/price squeeze. It is typical of the sandstone volcanic ash hill country in Taranaki. It is not so steep and broken as the mudstone country but initially it is of much lower natural fertility. In the 1965-70 period this farmer increased his grazeable area from 1,000 to 1,200 acres. Total stock numbers in this period increased from 3,800 stock units to 6,000 (see Table 6). Breeding ewes have doubled from 2,000 to 4,000. Breeding cows have increased by 20% from 109 to 134. Carrying capacity per acre rose from 3.8 stock units to 5 stock units.

Lambing percentage and wool weight per ewe wintered have declined. The lambing percentage in the 1970-71 season reflects the effect of summer drought in the previous season. Body weights of ewes at tupping on this farm were on average 15 lb below their previous tupping weight.

Apart from an initial drop, calving percentage is now better than it was in 1965. A change in breeding cow management to farming cattle separately from sheep has been responsible for this.

Table 6

STOCK INCREASE				
	1965/66	1968/69	1969/70	1970/71
Ewes	2000	4120	4250	4000 (+ 100%)
Hoggets	700	1450	1150	1230
B. Cows	109	156	125	134 (+ 20%)
Other Cattle	130	70	100	100
Total S.U.'s	3800	6200	6100	6000 (+ 60%)
S.U.'s/Acre	3.8	5.2	5.1	5.0
Cattle/Sheep	1/9			1/25

Table 7

PRODUCTION PROGRESS				
	1965/66	1968/69	1969/70	1970/71
Wool lbs	29800	44000	45100	43000 (+ 75%)
Wool Price	34.5	23.7	22.3	19.9 (-45%)
Wool/Ewe	15	10.5	10.5	10.5
L %	100	78	81	74
c %	75	58	74	83

While wool weight per ewe wintered has fallen, total poundage has increased by 75% from 29,800 lb to 45,100 lb in 1969-70. At the same time wool price has fallen by 45% from 34½ cents in 1965-66 to 22 cents in 1969-70 and to 19.9 cents last season.

An analysis of the actual income and expenditure with each year adjusted to a status quo is shown in (Table 8). Two situations are shown for each year. I do this to illustrate the effect of the wool price drop. A_1 is the actual position in 1965-66 before development with wool prices at 34½ cents. A_2 is the same position but with wool income substituted at the 1969-70 price of 22 cents. This confirms that this farmer immediately after the wool drop obviously had only two alternatives—either to sell out or to keep developing. B_1 is the actual position in 1969-70 after development from 3,800 stock units to 6,000 stock units. B_2 shows what this position would have been if wool had stayed at the 24½ cents, the price received in 1965-66.

The analysis shown in Table 8 speaks for itself. The most important points to note however are—

- (a) That despite an extra 15,300 lb, wool revenue in 1969-70 was still below 1965-66.
- (b) That despite a 60% increase in total stock units carried, total gross revenue increased by only 28%. It would have shown a 57% increase if the wool price alone had stayed at its original level.
- (c) Even despite the actual 28% lift in gross revenue the final cash surplus left available for living expenses and debt repayment is still 25% below what it was in 1965-66.

The increase in gross revenue has been more than cancelled out by a 50% rise in farm expenditure and a 40% rise in annual interest commitments. Labour and fertilizer were the main items to increase in farm expenses. Fertilizer applied increased from 90 tons in 1965 to 130 tons in 1969, but the farmer would have liked to have applied 150 tons. This amount would have applied the equivalent of half a hundredweight per stock unit, recognized as a maintenance requirement on this class of hill country. The increase in interest commitments occurred because of the need to borrow for development. The sum borrowed amounted to approximately \$17 for each additional stock unit carried.

Table 8

ANALYSIS OF REVENUE

	1965/66		1969/70	
	A1*	A2*	B1*	B2*
Income				
Wool	10300	6500	10050	15600
Sheep	5900		10200	
Cattle	3100		4500	
Total	19300	15500	24750	30350
Expenditure				
F.W.	7140		12070	
R. & M.	600		600	
Vehicle	1200		1100	
O'H & Admin.	560		680	
Total	9500	9500	14450	14450
Farm Surplus	9800	6000	10300	15900
Less Interest	4100	4100	6000	6000
Cash Surplus †	5700	1900	4300	9900

NOTE: † Cash Surplus is amount left for Personal Expenses, Debt Reduction Taxation and Development.

* A₁ = Actual situation in 1965/66. Wool Price 34½ cent.

A₂ = 1965/66 with wool adjusted to 1969/70 wool price of 22 cent.

B₁ = Actual situation in 1969/70 with wool at 22 cent

B₂ = 1969/70 with wool adjusted to 1965/66 wool price of 34½ cent

While a comparison of the A₂ situation with the B₁ situation definitely indicates that the farmer is a good deal better off now than what he would have been if he had chosen not to develop, his actual cash surplus in 1969-70 was still \$1,400 below what it was in 1965-66. The frustration of the case is that it would nearly have doubled the 1965 surplus if the wool price had only stayed where it was.

The cold facts are that in 1969-70 the cash surplus was still only \$4,300 and this is really over estimating the true position, for farm expenses for that year were held to below maintenance. Wool averaged 22.3 cents a pound that year. It fell further to 19.9 cents last year. If the 2 cent lower price for wool is allowed, plus adequate fertilizer and repairs and maintenance then the 1969-70 cash surplus of \$4,300 is cut to \$2,000. This farmer has a family of four children, two are at boarding school and the other two are at home doing correspondence supervised by the farmer's wife. He needs \$3,000 for personal expense, life insurance, schooling and taxation. He was drawing \$2,600 a year in 1965 and is still at that level today but only because a lot of sacrifices have been made. There is no surplus left for debt repayment.

Where does this farmer go from here? Like the first case study farmer, he will also be trying to obtain better stock performance. His calving percentage, already in the mid-eighties, is good for this class of country, so there is not a great deal of scope here. Lambing percentage will improve given better summer conditions and no facial eczema. An increase in the cattle to sheep ratio could increase income. However, the changeover would mean additional capital which could only come from further borrowing.

Total stock units cannot be increased unless more land is developed out of scrub and bush. This farmer has already developed all of the easier country which initially was covered in scattered scrub, gorse and fern. Further development would mean tackling heavy scrub and steeper country. The return on this today is only marginal and not great enough to tempt one who is already highly committed. Like the first case farm this farm would find it extremely difficult to sell. This is a large property and as a going concern should be worth approximately \$120,000.

The country cannot afford to lose the type of man that this farmer is. He is an above average farmer who has had a lifetime of experience developing hill country. It appears that something will have to be done to retain men of this calibre in the industry.

You may have heard a saying, "Life depends on Faith, Hope and Charity". Six years ago before the wool slump the hill country sheep farmer had plenty of faith in his prospects. The last two years he has lived in hope—hope that the better prices may return. His destiny now appears to depend on not hope but charity. Charity in the form of further financial assistance.

The financial assistance that the hill country farmer is already getting is limited mainly to the fertilizer subsidy, but even with the subsidy the cost of applying one ton of superphosphate today is only fractionally less than what it was in 1965. The applied cost on a farm 40 miles from the fertilizer works in 1965 was \$26 a ton. Today, with all the subsidies, it still costs \$24 a ton.

With the decline in prices and the resulting lower return per stock unit hill country farmers cannot afford to apply the fertilizer they need. The present subsidy is of very little value to them. It is the dairy farmer and the intensive beef farmer, the farmers who can afford fertilizer, who derive the most benefit from the subsidy.

Let me conclude by suggesting that further special assistance is definitely required to keep this store hill country in operation. The amount of assistance that I think is needed is in the vicinity of 60 cents to 80 cents a stock unit. This would amount to \$3 to \$4 an acre on country carrying 4-5 stock units an acre. Given adequate stock performance this country today is capable of grossing \$20 to \$25 an acre. Surely on this basis the economics of helping this country are sound.

If assistance is to be given then the question arises as to the form in which it should be implemented. I have mentioned that an acceptable maintenance level of fertilizer is around half a hundredweight a stock unit. At present it costs approximately \$24 a ton or \$1.20 a hundredweight for a farmer to land superphosphate on the ground. Therefore the cost per stock unit is approximately 60 cents which is in the vicinity of the additional assistance I estimate is required. If the present subsidies are maintained on fertilizer and the present prices do not increase then this additional assistance would mean free fertilizer. Free fertilizer then could be on way of channelling the required assistance, but it would have to be tied to a stock carrying basis and a system developed to ensure that it finished up only in the hands of the sector that requires it—in this case the store hill country farmer.

Some alternative means of assistance which would also need consideration includes concessional credit in the form of remission of interest and specifically tailored suspensory loans. The latter could be made available not only to enable future development but to eliminate the debt commitments already existing on past development loans. There is also the other alternative of direct assistance to the farmer, and that is for the state to take over the land.

Any of these actions would obviously need a great deal of study before implementation. But before this is done a very urgent answer is needed to the question of whether this class of country should remain in farming.

The answer to that must surely depend on how valuable a store stock industry is to the national economy.

DEBT AND THE VIABILITY OF THE CANTERBURY FARMER

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It is believed by many that the Canterbury plains land farmer has been able to withstand the effect of the cost/price spiral better than other areas. The following paper may or may not confirm this opinion.

Our Consulting practice in Mid-Canterbury has, for a number of years, prepared an analysis of annual accounts based on soil type and rainfall and it is this analysis which forms the basis of this paper.

The following are the six broad groups used in our analysis:

1. Light Land Low Rainfall
2. Lighter Medium Some Crop
3. Medium Land Moderate Rainfall
4. Medium Land High Rainfall
5. Medium Heavy land
6. Heavy Land

Average returns over the past four years 1965/66–1969/70 have indicated the following between groups trends (Table 1).

It should be noted that the capital value of the land was based on the 1966 Government Valuation and that the most recent valuation (April 1971) showed an average increase of 25%. The ranking of groups in the order shown was virtually static throughout the period and at no time was there a marked difference in the between group comparisons as shown, i.e. the effect of the 1970 drought was apparently evenly spread among all groups.

These percentages of total capital figures indicate the current yields being obtained by farmers in this area and could be regarded as satisfactory when the capital gains which have occurred in land values over this period are considered. However, capital gains appear likely to slow down and for this reason returns for the first three groups give some concern.

Increased production and improved land utilization is recorded in all groups but returns have shown only a moderate improvement and it has only been the increase in the physical productivity which has ensured the results achieved.

Farm amalgamation and an increase in farm size has often been reported as the way to improve returns in the future and as a result Table 2 which relates productivity from the largest and smallest farms in the various groups will be of interest. These figures are based on returns for the 1968/69 and 1969/70 seasons only as no previous records of individual farm sizes had been kept.

The interesting trend in this table is that although increased returns on capital are shown for all groups except the medium high rainfall group in both years and the heavy land group in one year by increasing the farm size, in all instances except for one year in the heavy land group the gross profit per acre was below the average for the group. The effect of size on the levels of total expenditure per acre is clearly shown to have the greater impact on profitability when farm size is increased at the expense of a decline in gross profit. It could be assumed from this table that whilst larger farms will increase the viability of the individual farm and farmer, gross profit per acre or the productivity per acre is lowered and the total level of production falls.

There would, in my view, be no class of farming where the individual's management and husbandry skills have such a tremendous influence on the financial returns obtained, than on the semi-intensive arable farms in Canterbury. Table 3 indicates the returns obtained by farmers who are consistently below or above average for three of the six groups.

The table clearly indicates the reward for managerial skill in the typical Canterbury environment with the smallest difference between the two levels of management being the 100% in the medium moderate rainfall, and the greatest 180% in the light land group. This latter figure has been accentuated by the sharp effect which drought had on those farmers with below average managerial ability.

Current lending policies by Government bodies and to some extent by other sources of mortgage finance clearly favour the amalgamation of smaller units. The figures presented in Table 2 give some indication that lending for an increase in farm size is warranted, but of primary consideration in all farm lending is the ability of the farmer to service the debt.

Table 4 indicates the return on the farmer's own capital under a variable debt situation in association with varying levels of managerial skill. It is only in the heavy land group that a positive return is shown at all levels of

managerial skill and indebtedness. These returns are all prior to any taxation debt reduction, or depreciation.

Clearly with most current mortgages requiring 3% capital repayments the ability of farmers to service current debt charges is not high. In Table 4 only the above average farmer in the heavy land group is capable of earning more than current interest rates on his share of the total capital involved, and when one considers that State Advances lending is at an interest rate of 8% and that table mortgage lending on a 20 and 25 year term amounts to 9.3% and 10.1% the ability of farmers to meet such charges in the current economic situation is indeed slender. It should be remembered also that hard core debt problems are more likely to arise in that group of farmers who have shown below average returns in the past.

Unfortunately many hard core problems also exist from inadequate financial advice in the past and as a result of capital purchases and development expenditure incurred in the post National Development Conference period.

It is obvious that a complete re-appraisal of farm lending is required and much more emphasis must be placed on past performance of the farmer and expected returns. Borrowing in the past has been based primarily on the borrower's equity and it is this latter term which in my view requires amplification. Despite the returns shown (Table 1) farmers have purchased larger units and increased their present unit at prices which have resulted in a re-valuation of the Ashburton County at a level 25% in excess of its previous value. Many have been able to borrow increased amounts of money on the basis of the improvement in their equity. However, it should be remembered that this process is self-perpetuating, and in fact equity is based on the buyer of land be he ill informed or not. Equity is not in my view a sound base for lending for either the mortgagee or mortgagor. I would much prefer to see mortgage lending based on a 10% return on all capital invested after wages of management and taxation, even though this would probable bring land prices down sharply and threaten the present existence of many farmers.

I would also prefer to see an increase in the number of long term flat mortgages made available to the farmer. Industry does not return capital to its investors and it can well be reasoned that farming is at a distinct disadvantage in this respect. Development loans are one area of farm lending where I believe flat mortgages would have advantages.

Similarly, the current refinancing through the State Advances Corporation should, in my view, have been based on a flat mortgage system. The reason why such lending is necessary is the inability of the farmer to pay an interest rate of $7\frac{1}{2}\%$ and repay capital as well, yet he will be required to meet charges of at least 9.3% when borrowing money for this purpose from the State Advances Corporation. The endeavours to restructure present current account debts to a long term basis whilst being commendable, in my view ignore a basic requirement of farming at this moment.

The average return on money invested in farming today is not high enough (see Table 1) and profitability of the average New Zealand farmer must be improved if farming is to remain the lifeblood of the nation. The figures I have presented to you indicate the inability of the farmer to satisfactorily service an increasing debt load, and both farmers and their advisers should consider seriously the short term implications of an increase in the rate of fixed charges when further borrowing is being contemplated. The cost of restoring profitability to farming will be high and will lead to many inequalities. However, it is essential that returns are improved if investment is to be maintained.

Recently cost subsidies have been introduced to some areas of farm expenditure. It is my belief that if farm incomes are to increase and 'on farm' returns to capital are to improve then product subsidies should be introduced. Product subsidies are selective and favour the farmer who is at present making the best use of his resources. They will also speed up the rationalisation within the industry in regard to farm size. The present internal cost structure is such that the introduction of product subsidies is not a matter of 'if' but 'when'

Table 1

AVERAGE RETURN ON CAPITAL 1965/66-1969/70

	Total Farm Capital \$/acre	Gross Profit \$/acre	Real Profit \$/acre	% Total Farm Capital
Light Land Low Rainfall	\$153	\$30.9	\$ 6.4	4.2%
Light Medium Some Crop	\$174	\$36.2	\$ 7.6	4.4%
Medium Land Moderate Rainfa Rainfall	\$175	\$39.2	\$ 8.7	5.0%
Medium Land High Rainfall	\$166	\$42.0	\$ 10.6	6.4%
Medium Heavy Land	\$234	\$52.2	\$ 13.0	5.6%
Heavy Land	\$288	\$65.6	\$ 21.1	7.3%

Table 2

RETURNS AND FARM SIZE

Light Land Low Rainfall	Area	Total Farm Capital/acre	Gross Profit	Real Expenses	Real Profit	% Return on T.F.C.
1969/70						
Large	1125	\$141	\$27.7	\$21.4	\$ 6.3	4.5
Small	487	\$168	\$33.5	\$30.1	\$ 3.4	2.0
Average	705	\$167	\$28.8	\$25.1	\$ 3.0	1.8
1968/69						
Large	1086	\$123	\$34.0	\$23.4	\$10.6	8.6
Small	484	\$155	\$33.1	\$27.9	\$ 5.2	3.4
Average	710	\$145	\$34.2	\$25.2	\$ 9.0	6.2
Light Land Some Crop						
1969/70						
Large	1055	\$145	\$34.0	\$28.9	\$ 5.1	3.5
Small	351	\$190	\$39.2	\$30.0	\$ 9.2	4.8
Average	615	\$203	\$37.8	\$31.2	\$ 6.6	3.3
1968/69						
Large	1037	\$135	\$37.5	\$23.8	\$13.7	10.1
Small	355	\$179	\$38.6	\$29.9	\$ 8.7	4.9
Average	667	\$161	\$38.8	\$29.8	\$ 9.0	5.7

Table 2

RETURNS AND FARM SIZE

Medium Land Moderate Rainfall	Area	Total Farm Capital/acre	Gross Profit	Real Expenses	Real Profit	% Return on T.F.C.
1969/70						
Large	1005	\$146	\$36.3	\$26.2	\$10.1	6.9
Small	366	\$192	\$42.7	\$35.2	\$ 7.5	3.9
Average	595	\$176	\$41.8	\$33.6	\$ 8.2	4.8
1968/69						
Large	889	\$150	\$39.7	\$29.5	\$10.2	6.8
Small	419	\$180	\$44.3	\$33.6	\$10.7	6.0
Average	566	\$174	\$43.5	\$32.1	\$11.4	6.5
Medium Land High Rainfall						
1969/70						
Large	1134	\$155	\$36.2	\$28.2	\$ 8.0	5.1
Small	377	\$184	\$52.1	\$36.1	\$16.0	8.7
Average	600	\$175	\$47.7	\$36.4	\$11.3	6.5
1968/69						
Large	1050	\$175	\$37.5	\$26.3	\$11.2	6.4
Small	373	\$167	\$49.7	\$32.2	\$17.5	10.5
Average	606	\$166	\$46.0	\$33.1	\$12.9	7.7

Table 2

RETURNS AND FARM SIZE

	Area	Total Farm Capital/acre	Gross Profit	Real Expenses	Real Profit	% Return on T.F.C.
Medium Heavy Land						
1969/70						
Large	775	\$207	\$47.9	\$38.5	\$ 9.4	4.5
Small	320	\$315	\$62.4	\$48.7	\$13.7	4.4
Average	492	\$250	\$52.0	\$41.4	\$10.6	4.3
1968/69						
Large	790	\$199	\$52.3	\$36.0	\$16.3	8.2
Small	317	\$230	\$52.6	\$42.3	\$10.3	4.5
Average	512	\$226	\$56.4	\$40.3	\$16.1	7.2
Heavy Land						
1969/70						
Large	621	\$270	\$66.7	\$46.4	\$20.3	7.5
Small	258	\$298	\$67.2	\$48.3	\$18.9	6.3
Average	424	\$281	\$68.0	\$45.5	\$22.5	8.0
1968/69						
Large	560	\$270	\$75.4	\$46.1	\$29.3	10.8
Small	237	\$313	\$71.5	\$43.5	\$28.0	9.0
Average	360	\$292	\$71.9	\$47.9	\$24.0	8.2

Table 3

RETURNS AND MANAGEMENT

	Light Land Low Rainfall			Medium Land Moderate Rainfall			Heavy Land		
	Good Manage- ment	Average of Group	Fair Manage- ment	Good Manage- ment	Average of Group	Fair Manage- ment	Good Manage- ment	Average of Group	Fair Manage- ment
Gross Profit/ac.	\$38.6	\$30.9	\$28.8	\$42.8	\$39.2	\$38.0	\$65.6	\$65.6	\$54.7
Real Profit/ac.	\$10.9	\$ 6.4	\$ 3.5	\$12.2	\$ 8.7	\$ 6.1	\$26.7	\$21.1	\$12.7
Total Capital/ac.	\$166	\$153	\$150	\$165	\$175	\$171	\$236	\$288	\$252
% Total Capital	6.5%	4.2%	2.3%	7.4%	5.0%	3.7%	11.3%	7.3%	5.0%
% Gross Profit Retained	28%	21%	12%	28%	22%	16%	41%	32%	23%

Table 4

DEBT SERVICING

	Total Farm Capital \$/acre	Average Return % T.F.C.	Interest Return on own Investment at Debt Levels of:-		
			30%	40%	50%
Light Land Low Rainfall					
Average	\$153	4.2%	1.95%	1.20%	0.45%
Below Average	\$150	2.3%	0.05%	-0.70%	-1.45%
Above Average	\$166	6.5%	4.25%	3.50%	2.75%
Medium Land Moderate Rainfall					
Average	\$175	5.0%	2.75%	2.00%	1.25%
Below Average	\$171	3.7%	1.45%	0.70%	-0.05%
Above Average	\$165	7.4%	5.15%	4.40%	3.65%
Heavy Land					
Average	\$288	7.3%	5.05%	4.30%	3.55%
Below Average	\$252	5.0%	2.75%	2.00%	1.25%
Above Average	\$236	11.3%	9.05%	8.30%	7.55%

DEBT AND THE VIABILITY OF FARMING IN NORTHLAND

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The soils, climate, history and production trends of the North Auckland peninsula differ greatly from other areas of New Zealand.

Even from a cursory examination of the history of the Northern peninsula one cannot fail to conclude that it was the timber, the Kauri gum and the flax of Northland which laid the foundations of Auckland, just as it is an inescapable conclusion that this attractive colonial phase ultimately impoverished and depressed the North. The combination of capital starvation, and for very many years, seemingly insurmountable technical problems, sapped the initiative and confidence of those who staked their future in the North.

In the early fifties most of New Zealand experienced a few years of boom conditions. Northland missed out for three main reasons. First, too many basic problems of soil fertility were not yet solved. Secondly, farming was still at sustenance level, and there was not enough cash left over for development. Thirdly, neither the inhabitants, nor the financiers, had any real confidence in the area as a future economic producer of agricultural products.

The real break through came in 1953 when the Government started a massive land development programme. This development has not only produced new farms from waste land but has brought about improvements and extensions in roads, telephone and electric power services. It has revitalized the towns and city and above all has renewed confidence in all who live and work in the area. The physical and fertility problems of the soils have been overcome by off pasture wintering and correct and sufficient topdressing. The climate and contour are ideal for grassland and livestock farming. The greatest need is still capital and the area is still far from generating enough for its own development.

It must be realised that there are some very good reasons why Northland's costs of production are higher than some other areas. From the New Zealand Dairy Board's 1968-69 Survey — the average dairy farm in New Zealand is 168 acres of which 143 are farmed. In North Auckland the average

is 250 acres of which 182 are farmed. As well as having greater areas to attend to, the stocking rate per 100 acres is also lower with 52 cows compared with the North Island average of 74 cows, milk fat per labour unit is 16,410 lbs compared with 19,320 North Island average. The number of cows milked per labour unit is very similar at 67 cows for North Auckland and 68 for the North Island. The output per farm at 23,350 lbs is well below the North Island figure of 30,050 lbs.

To summarize this section, Northlanders have a far greater area to farm, a lower stocking rate, and less production per cow. The number of cows handled per labour unit is virtually the same, but milk fat per labour unit is lower.

The survey figures also show that in Northland 51 per cent of farms had an income under \$3,000 compared with the North Island average of 31 per cent.

The farmers also have much less equity at 61 per cent compared with the North Island average of 66 per cent.

By now you may feel that I hold little hope for the future of Northland but I do in fact believe that providing certain things happen, then a bright and sound future is assured. Various research workers have studied the position with regard to the future requirements of the area. In 1967 McArthur at the Grasslands Conference in Whangarei gave his findings regarding the best use of capital inputs. He found that the greatest return on money at this stage was into existing farms rather than developing new ones. Capital expenditure on such items as off pasture feeding areas, fertilizer and lime, access, fencing and water supply, coupled with increased stocking rate, showed the fastest increase in net profit.

I would at this stage like to congratulate the S.A.C. on the magnificent job they have done, and are doing in the area. An extension of their present activities on an even broader scale would answer most of the area's needs.

Private money is almost unobtainable, insurance finance has often been very difficult to obtain and is operated on a stop-go policy which is very hard to understand at times. Banks generally do not seem to have kept pace with the changes in dairying progress and farmers requirements for season overdrafts. Their attitude towards stock loans is archaic to say the best. Generally

banks will not lend more than 30 per cent of a conservative stock valuation and so tie up much asset value for very little loan money.

A great deal of farm equipment finance is provided by hire purchase firms. The rate of interest is usually high and this forces the users to pay back large amounts of capital which in turn increases the tax bill and lessens the amount of money available for further farm development.

It is a pity that many farmers have failed to appreciate that S.A.C. finance would have been available, had it been applied for. Items such as cow sheds, milking machines and tractors could on occasions have been financed in this way. It seems that the much easier application systems with hire purchase firms has an appeal. Several possible alterations or amendments to the present system could be implemented. The ease and speed of obtaining hire purchase money, as compared with the slowness of obtaining an S.A.C. loan, often virtually forces farmers in to hire purchase when urgent decisions are needed to be made, (i.e.) a sudden break down of tractor or milking machine.

What is needed is for local officers of the S.A.C. (or possibly selected members of other advisory organizations) to be able to give instant acceptance or rejection for loans of this type up to certain limits.

It is to be hoped that extra provision for loans on both middle and short term is going to be made by the government. In the very near future the dairy industry faces a very large expenditure on upgrading its milking plants to stainless steel, and the installation of cow shed waste disposal units. As the benefits from both of these items will be National, rather than individual, it seems reasonable that long term S.A.C. loans should be made available.

I will now give brief histories of two fairly typical farms in my area, these are not rare instances, but are typical of many such cases.

Farm No. 1

Total area 139 acres, farmed area 137 acres. Prior to the property being taken over for dairying in 1959/60 it had been used as a runoff. The first two seasons saw production around 10,000 fat per year. Then through falling fertility, because of a lack of topdressing, and overstocking, production dropped to 8,463 lbs.

At this stage the farmer obtained extension advice and applied to S.A.C. for development finance, for topdressing, stock and plant. The following season production doubled to 16,848 lbs and has continued to rise each season since, to an all time high in 1970/71 of 30,230 lbs.

As the farm is becoming too small to operate successfully as a self-contained unit, the owner is at this time negotiating through S.A.C. to purchase an adjoining 75 acres which he greatly needs.

1959-62	Production	10,000	lbs B.F.
1963-64	Production	8,463	lbs B.F.
1964-65	Production	16,845	lbs B.F.
1965-66	Production	20,794	lbs B.F.
1966-67	Production	22,102	lbs B.F.
1967-68	Production	24,776	lbs B.F.
1968-69	Production	25,182	lbs B.F.
1969-70	Production	28,836	lbs B.F.
1970-71	Production	30,227	lbs B.F.

Year	Property Value	Assets over Liabilities	Profit or Loss	Tax
1962-63	\$ 6,870	\$1,780	\$-800	\$144
1965-66	\$16,200	\$ 620	\$ -63	\$144
1967-68	\$17,450	\$ -623	\$-2,216 H.P.	\$1,131
1969-70	\$28,400	\$9,565	\$-560	\$300

Stock are in at Book Value

Owner's Equity 1962-63	11%
Owner's Equity 1969-70	30%

It is important to realise that an input of an extra \$3,440 increased production by 100 per cent.

Farm No. 2

The total area of this farm is 597 acres. Three hundred and thirty-three acres are now in grass and this accounts for the virtually all the wheeled tractor area. The remainder is fairly steep and covered in light bush. In 1967

it became obvious that the farm could not survive any longer as a sheep unit, so finance was obtained from S.A.C. for a change to dairying.

In the 1968/69 season 80 dairy cows and 500 breeding ewes were run. The cows produced only 20,000 lbs fat and the ewes only 350 lambs. The total loss on the year's working was \$4,600. This included the loss on the ewes sold.

The following year 1969/70, 160 cows were milked, production was only 25,000 fat, but cattle sales were very good and the final result was a loss of only \$320. This last season 170 cows were milked for 33,700 lbs fat and again cattle sales have been good. Although the balance sheet is not yet available it appears that finances are very much healthier, with a profit of \$2,542.

Season	Production	Sales \$	Profit/Loss
1968-69	20,000 fat, 350 lambs	-2,630	-4,600
1969-70	25,000 cattle	4,660	-320
1970-71	33,700 cattle	6,720	2,542
	Drawings \$		
1965-66	1,560		
1966-67	1,366		
1967-68	Missing		
1968-69	1,436)		
1969-70	1,431)		
	Farm workers keep included		

Tax has been virtually nil and life insurance \$53.00

In this case the input of an extra \$9,600 has changed a certain sheep farming bankruptcy into a dairying success.

What I have said so far is now history and is a summary of what has happened during a period of depressed prices for dairy products and from an area where land development has lagged behind other more easily developed areas. Because of increased costs during Northland's period of advancement and the added soil problems to be overcome, total costs per acre have been high. Despite these disadvantages the area has shown that even in times of depressed prices, it is capable of progress.

Changes in herd and farm size have had to be made in many cases. The assistance of S.A.C. has been profound, it has often been the only source where credit worthy farmers could get extra finance to either further develop their present units, or for the amalgamation of marginal and uneconomic units. Changes from uneconomic sheep units to viable dairy units, have also been successfully undertaken as shown. The value, especially to developing areas, of Government subsidies on topdressing, freight, weed sprays and drenches should not be underestimated. If, as has been shown the more difficult areas to farm, have been able, to make reasonable progress even with depressed prices and poor seasons, then the dairying industry given a reasonable financial climate should be able to make sound and steady growth in the 70's.

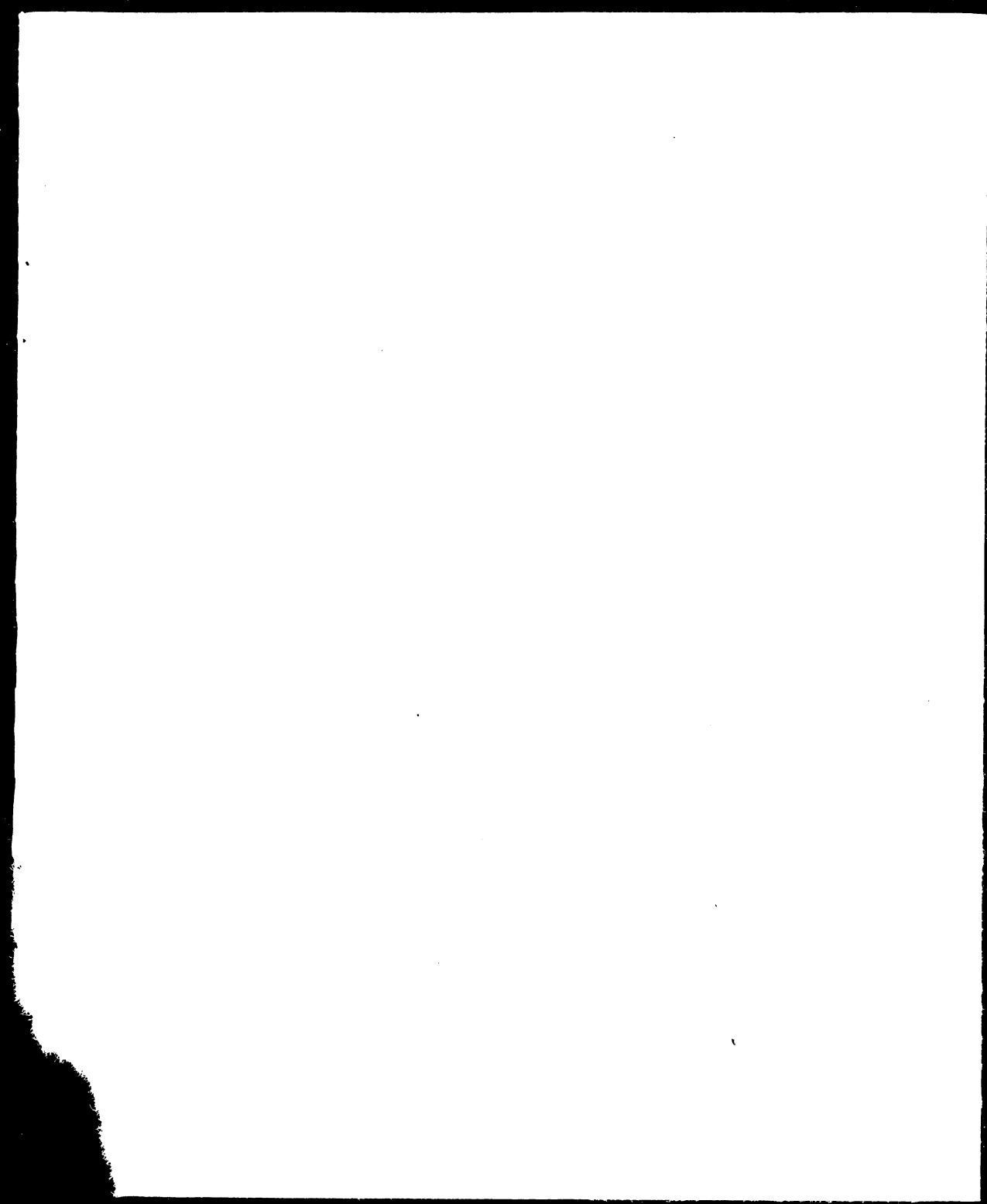
As herds get larger, labour more difficult to obtain and social demands greater, it is obvious that there is a great national need for successful farms to be able to expand. To do this, the limits of lending by the S.A.C. will have to be greatly increased so that the industry can remain in a competitive position. Now that interest rates have been put up to 8 per cent, which is equal to the previous interest plus repayment rate, on long term loans, it raises the question of the adequacy of the present farm lending policies.

In business, other than farming, the capital which is owned by the shareholders, is obviously, never repaid, so the annual cost is interest only. In farming, in the last analysis, the land belongs to the State. Considering this fact, would it not be practicable for the loan to remain on the land as a flat mortgage and not need to be repaid by each successive occupant unless he so desired. If capital repayment was not required then more money would automatically become available for reinvestment, and it would greatly improve the possibility of top sharemilkers graduating to large farm owners.

If agricultural production is vitally needed in New Zealand it must be possible to implement changes to the financial structure of the industry so that the greatest increases can be obtained at the lowest cost in a minimum of time.

If these changes to the financial structure become a reality, and if the money is directed in the correct order of priorities, then the increases in farm production in Northland could easily exceed 50 per cent of that now being obtained.

At this time the prices for dairy products for the next few years look quite good, and provided costs can be held at reasonable limits, then there is every reason for farmers to have confidence in their industry.



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