Deregulation and the New Zealand Agricultural Sector: A Review

R W M Johnson* , W R Schroder** and N W Taylor***

Since July 1984 the New Zealand Government has been following a policy of disengagement and deregulation throughout the New Zealand economy. The impacts of the new policy have been felt at both the macro and the micro level. For the agricultural sector, a closer relationship to international prices and costs has been sought, with less industry assistance and direct support from the Government. With the removal of special privileges formerly enjoyed, the agricultural sector has also become more closely aligned with and vulnerable to changes in major macro parameters in the economy such as exchange rates, interest rates, inflation control and budget economies. The alignment of the agricultural economy with international prices and costs is likely to bring about a smaller and more competitive sector than was previously the case.

1. Introduction

Since the Labour Government was elected in June 1984 (and re-elected in 1987), New Zealand has seen major changes in both macroeconomic and microeconomic policies which have had important influences on the agricultural sector. These new policies, called "Rogernomics" after the Minister for Finance Roger Douglas, have involved the disengagement of government from direct participation in and support of industry and the deregulation of markets. In late 1988, Mr Douglas resigned as Finance Minister and Mr D Caygill was appointed in his place. Mr Caygill announced that the previous policy stance would remain unchanged.

Changes in Government policy have been on two fronts:

1.1 Macroeconomic

- removal of exchange controls and floating the New Zealand dollar

- reduction in the Government deficit (from 6.9 per cent of GDP in 1983-84 to an estimated 2.2 per cent in 1987-88) (Kerr 1987)

- the reduction of inflation by controlling the money supply

- reduction in personal income tax. The top marginal tax rate was first reduced from 66 per cent to 48 per cent and it was then proposed that a single tax rate, common to individuals and companies, would be introduced from October 1988. However, in February, 1988, after considerable high level debate, the proposal was modified to include two levels of individual rates at 24 per cent and 33 per cent and a company rate of 28 per cent

* Ministry of Agriculture and Fisheries, Wellington; ** Chisholm Institute of Technology, Melbourne; *** Meat and Wool Boards' Economic Service, Wellington.

The analysis in this paper is based on information available to May 1989.

- introduction of a value added tax (the "Goods and Services Tax" - GST).

1.2 Microeconomic

- removal of most quantitative import restrictions and a reduction in tariff rates
- removal of most direct assistance to industry
- deregulation of the finance sector
- corporatisation of nine government departments.

The rate of change has been rapid, in comparison with both New Zealand pre-1984 and other countries - described as "a dash for free markets" in *The Economist* (1985).

1.3 Objective

The objective of this paper is to describe these changes and their impact on the New Zealand agricultural sector. We define the agricultural sector to include farming, farm servicing and input supply, and the processing and marketing of agricultural products. The review draws on previously published information. There is no comprehensive research covering the post-1984 period and this justifies a degree of caution about any conclusions drawn. As a review, the paper tries to be even-handed in presenting alternative points of view on the more contentious aspects of Rogernomics.

We first set out a brief analysis of the macroeconomic environment before and after 1984 as it affected agricultural policy. Section 3 analyses agricultural policy directions on a pre- and post- 1984 basis. Section 4 then analyses changes in the agricultural sector since 1984 with particular emphasis on the effects of deregulation.

2. The Macroeconomic Environment

2.1 Background: pre-1984

The pattern of economic management which lasted for fifty years was established with the election of the first Labour Government in 1935. Quantitative import restrictions and exchange controls were established and the general thrust of economic policy was interventionist, with the objective of encouraging the development of manufacturing industry and, by this and other measures, insulating the New Zealand economy from the rest of the world. In the immediately following period, New Zealand prospered, ranking in the top five countries in GDP per capita terms over the 1950s and 1960s.

This situation changed in the 1970s. Since 1974, the New Zealand economy has been characterised by low growth rates, high inflation rates and a rising level of unemployment (Table 1). The OECD (1987) report on New Zealand (p.8) stated that:

> "New Zealand's relative economic performance of the past 15 years has been poor, both relative to the OECD average as well as compared with

Table 1: Trends in the National Economy 1973-74 to 1987-88

	Annual Percentage Changes								Balance of Payments		
	Real GDP	Employment	CPI	Export volumes	Export prices	Import volumes	Import prices	Terms of trade	Current Account (% of GDP)	Government Deficit (% of GDP)	Unemployment (% of LabourForce)
1973-74	+7.2	+4.5	+8.2	-11.3	+12.1	+31.7	+12.2	-0.8	-1.0	-2.6	0.08
1974-75	+4.0	+1.8	+11.1	-2.5	-0.9	+2.6	+32.1	-30.3	-13.5	-3.9	0.34
1975-76	+1.7	+1.7	+14.7	+17.7	+23.1	-18.7	+32.1	-7.7	-8.7	-8.6	0.43
1976-77	+0.1	+1.5	+16.9	+10.7	+24.0	+4.8	+13.9	+9.7	-5.9	-3.6	0.59
1977-78	-2.7	-0.6	+14.4	-3.4	+4.6	-12.6	+5.8	-1.3	-4.6	-4.5	1.79
1978-79	+0.1	+1.3	+11.9	+8.9	+15.5	+11.6	+4.9	+10.2	-2.7	-8.3	2.00
1979-80	+2.7	+0.6	+13.8	+4.5	+21.5	+5.3	+26.9	-4.6	-3.9	-4.9	2.29
1980-81	+0.6	-0.4	+17.1	+4.8	+11.1	-2.6	+19.5	-7.3	-3.4	-6.2	3.88
1981-82	+4.6	+1.3	+15.4	-1.3	+14.5	+11.1	+13.9	+1.3	-5.6	-6.2	3.66
1982-83	+0.5	-1.2	+16.2	+7.7	+5.8	-8.6	+9.4	-3.9	-6.2	-5.4	6.00
1983-84	+2.7	+1.2	+7.3	+4.8	+6.2	+12.4	+5.7	+1.3	-4.6	-8.9	6.08
1984-85	+5.6	+4.0	+6.2	+7.3	+22.3	+10.8	+24.8	-2.6	-7.3	-8.3	4.82
1985-86	+1.7	+1.6	+15.4	-0.0	-6.6	-3.8	-4.2	-2.7	-6.6	-4.6	5.74
1986-87	+1.4	-0.6	+13.2	+7.2	+6.8	+3.2	-0.3	+7.0	-3.8	-3.7	7.36
1987-88	-0.2	-1.6	+15.7	-0.4	+2.7	+4.7	-6.0	+10.5	-3.9	+1.1	8.50

Sources: New Zealand ***Official Year Books, Abstract of Statistics***

Notes:
Real GDP is in March years.
Employment as at February of year shown.
Consumer Prices as at December quarter year shown.
Exports and Imports are on June years.
Balance of Payments is March years.
Government Deficit is deficit before borrowing, March years.

Source: Johnson (1986) updated.

> Australia which has an economic structure not too dissimilar from New Zealand".

Declining terms of trade inhibited export growth and increased overseas borrowing was required to fund the balance of payments deficit. Real GDP growth averaged 4.3 per cent per annum for 1970-75, but fell to 0.4 per cent per annum for 1975-80. Between 1975 and 1985, inflation rates ranged from 7 to 17 per cent. By 1984, unemployment had reached 6 per cent (not including 3 per cent employed on special work schemes). A combination of high rates of inflation and interest rate controls meant that real interest rates were negative for most of the 1970s.

The period was characterised by a persistent balance of payments current account and fiscal deficits. Increases in the terms of trade led to temporary improvements in national income and employment only to be dissipated by subsequent reversals in the terms of trade. *Ad hoc* adjustments in exchange rates were utilised to counter-act some of the impacts of terms of trade changes.

The period between 1975 and 1984 was also characterised by interventionist responses to each crisis as it arose. A calendar of the main policy changes from 1976 to 1984 is included in Appendix A. In 1973, the exchange rate was established against a fixed basket of currencies, then a crawling peg arrangement existed between 1979 and 1982, and this was followed by the re-establishment of fixed exchange rates, along with price and interest rate controls, between 1982 and 1984. Devaluations were used as an *ex post* response to each balance of payments crisis. A great variety of types of special assistance were granted to specific industries. The Government made major capital investments in energy-related and other projects, and export assistance measures were established to fund, in part, the overseas exchange component of these investments.

Within the overall trend to increased intervention, there was deregulation of some sectors of the economy prior to 1984. Import controls on most manufacturing inputs were removed during the 1960s and regulation of the financial sector was significantly reduced in the 1970s (financial controls were reimposed in the 1982 price freeze). Tendering for those items remaining under import licence was introduced in 1982. Reduction of trade barriers between Australia and New Zealand, begun in 1966 with NAFTA, intensified with the signing of the Closer Economic Relations (CER) agreement in 1983.

In the post-war period these policy decisions led to a high degree of protection for some manufacturing industries while imposing an added tax burden on export industries, mainly pastoral agriculture. *Ad hoc* industry policies introduced compensatory incentives for some industries which further confused the picture. The result was an uneven mix of levels of assistance in which the correct economic signals were markedly confused.

Summary measures of assistance to the import substitution sector and the export sector are shown in Table 2. Estimates of nominal rates of protection are based on an assessment of licensing and tariff price effects. The adjusted nominal rates take into account the effect of protection on the price of non-traded goods (Lattimore 1987, p.17). These tend to reduce the rate of protection for each sector and in the case of the export sector constitute an implicit export tax. For the export sector the nominal rates include government assistance programmes (nominal rates of export subsidy). It is clear that the import substitution sector maintained an over-all advantage over the export sector in nominal and adjusted terms

Table 2: Historical Rates of Industry Assistance 1955-58 to 1983-84

	Rates of Protection (per cent)				Degree of Exchange Rate Overvaluation (+)
	Import Substitution Sector		Export Sector		(Average of Three Years, centred)
	Nominal	Adjusted	Nominal	Adjusted	
1955-58	34.2	14.7	0.1	-14	-5
1964-67	53.6	22.9	0.5	-20	-7
1972-73	31.5	16.4	1.7	-10	-1
1978-79	20.3*	10.4	2.3	-6	+13
1983-84	30.9	13.8	11.1	-3	+20

*Lattimore argues that the rates of protection are likely to be significantly underestimated in 1978-79.

Source: Lattimore (1987) quoted with permission.

throughout the post-war period. Following reductions in assistance to the import substitution sector, the disparity in assistance was reduced to 30 per cent in 1972-73 from 50 per cent in the 1964-67 period, and the subsequent increase in assistance to the export sector reduced the disparity to 20 per cent by 1983-84. As discussed in the next section, the levels of assistance to both sectors have been reduced since 1984, though it is likely that the import substitution sector retains some advantages over the export sector.

The degree of exchange over-valuation and under-valuation is based on the percentage difference between the real exchange rate and the terms of trade normalised to be zero in 1968 (Lattimore 1987, p.8). This procedure suggests that exchange rate fluctuations provided a modifying influence on the relative degree of protection for each sector. Currency over-valuation tends to lower import prices and thereby reduce the effectiveness of import protection for the importable sector. Like-wise an over-valued dollar reduces perceived export prices and lowers the value of export subsidies to export industries. The data suggests that in the 1950s and 1960s protection was enhanced by exchange rate movements, while in the 1970s and 1980s it was reduced. Conversely, the export sector was favoured in the earlier period and disadvantaged in the latter period.

These views suggest that the agricultural export sector was seriously disadvantaged by the manufacturing protection policies followed in the post-war period, and that at certain times the effects were re-enforced by the fixity in exchange rate movements. In addition, the multiplicity of policies of protection and assistance, including tariff compensation, seriously obscured where true comparative advantage might lie.

2.2 Changes: post-1984

The Labour Government elected in July 1984 resolved to adopt a comprehensive strategy that would provide a stable environment for a growing economy. As the November 1984 Budget (p.2) stated,

> "We are committed to maintaining firm monetary control, to reducing the fiscal deficit substantially, and to maintaining a realistic exchange rate. These policies would be consistent with the achievement of a faster growing, more flexible economy with low inflation, with a sound balance of payments and higher employment."

The devaluation of the New Zealand dollar took place immediately after the 1984 election following a major flight of capital in the preceding weeks. The Government stated that the devaluation would be followed by a consistent set of policies that would maintain the overseas competitiveness of the New Zealand economy. Controls on interest rates were removed and an active public debt policy instigated to control money and credit growth to offset the increased liquidity resulting from the devaluation. Credit guidelines and reserve asset requirements were abolished. The Reserve Bank's open market operations were expanded and a tender system introduced for Treasury bills. The 1984 Budget foreshadowed major changes in fiscal policy, most of which have since been implemented: reduction in personal income tax rates, the introduction of a value added tax, and major reductions in Government expenditure with a corresponding reduction in the Government deficit.

Considerable emphasis was placed on improved resource allocation. "Sustainable growth in output and the creation of permanent jobs can only occur when the country's resources are used in the most productive activities" (1984 Budget, p.5). The removal of distortions in price signals was seen to be of paramount importance (Bushnell 1985). Consistent with these aims, the 1984 Budget announced that export assistance schemes would be phased out by 1987, tender allocations for those items still under import licensing would be increased at a rate of 5 per cent of the total market per year until the tender premiums were zero and, for most industries subject to industry development plans, a specified date for the removal of import licensing was established. The 1984 Budget also proposed reductions in tariffs, following consultation with industry groups. It should be emphasised however, that both tariff reductions and removal of import licensing were initiated in the early 1980s by the previous Government and the Labour Government's programme simply extended these initiatives. In general, the Government has been consistent in following the objective established in 1984[1]. In December 1987 further deregulatory changes included acceleration of the CER programme and tariff cuts reducing maximum tariff rates from 60 to 20 per cent.

---

[1] They have been criticised for being less than even handed in terms of relative rates of deregulation for different sectors of the economy -- in particular, agriculture versus manufacturing. These criticisms are discussed in the following section.

There have also been major changes in the organisation of Government Departments and statutory organisations. In the first phase, telephone services, electricity, and the Departments of Lands and Survey and Forestry have been "corporatised" and the Government has sold New Zealand Steel and shares in the Bank of New Zealand and Petrocorp. The "Great Quango Hunt" has resulted in several statutory organisations being dismantled or with a significant reduction in their powers[2]. In the 1988 Budget (p.15) it was further announced that the Government intended to dispose of its interests by way of sale or lease in Government Property Services, The Shipping Corporation, The Tourist Hotel Corporation, the Land Corporation, the Tourist and Publicity Department, the Bank of New Zealand and Postbank.

The Government departments most directly concerned with agriculture are the Ministry of Agriculture and Fisheries (MAF), the Department of Scientific and Industrial Research (DSIR), Landcorp (formerly part of the Lands and Survey Department) and the Ministry of Forestry.

A programme to reduce Government funding of the Ministry of Agriculture and Fisheries was introduced in 1985 under which two thirds of the funding for MAF's quality control services and 40 per cent of funding for research and extension services would be from private sources by 1990. This represented a reduction in Government expenditure of $50 million - about 16 per cent of MAF gross expenditure in 1987-88 (Ministry of Agriculture and Fisheries 1986). The DSIR faced Government funding cuts of 2 per cent in 1985-86; 5 per cent in 1986-87; 9 per cent in 1987-88 and 15.5 per cent in 1988-89 (Budget Estimates 1987-88). The response of both organisations has been to reduce total expenditure and to provide services on a fee-paying basis.

The basic indicators presented in Table 1 show that major benefits from the new policies have been slow to materialise. Up to June 1988, the growth, balance of payments, and inflation indicators had shown no improvement. With declining employment levels and increasing unemployment the economy was in a major recession through 1987 and 1988. Subsequent to June 1988, however, the rate of annual inflation has come down to 5 per cent, and a monthly balance of payments current account surplus has emerged. With the change in Finance Minister in December 1988, the Prime Minister announced that greater attention would be paid to economic growth and employment in the coming months.

2.3 Commentary

Rogernomics had been received with almost breathless enthusiasm by commentators in various overseas journals (*The Economist* 1985, 1987; Rosetti 1987). Within New Zealand, as might be expected, opinions are mixed. At the political level, there are a substantial number of New Zealanders who feel that the Labour party has deserted its Socialist origins. Economic criticisms fall into four categories: exchange rate management, the sequencing of policy changes, fiscal policy and market failure[3].

2.3.1 Exchange rates: exchange controls were removed in late 1984 and the New Zealand dollar was floated in March 1985. Since the float, the New Zealand dollar has appreciated

2 The fate of agricultural producer boards is discussed in Section 4.

3 A useful review covering the first three of these is given in Kerr (1987).

by about 47 per cent against the US dollar (New Zealand's main trading currency) but only by 3 per cent against the Reserve Bank trade weighted index. Nevertheless the combined effect has depressed export prices and reduced profitability for import substitute industries.

In simple terms, the main criticism of clean floating is that the exchange rate is influenced more by short term capital flows (which are, in turn, determined mainly by relative interest rates) than by trade in goods and services and it is possible for the exchange rate to overshoot its true (trade related) value for considerable periods of time. It has been argued that some type of managed exchange rate regime is necessary to overcome the overshooting problem (Zanetti *et al* 1985; Philpott 1987; Blyth 1987). The counter-argument, advanced by Treasury and the Reserve Bank, is that any exchange rate management programme requires a bureaucratic judgement on what the exchange rate should be and it is not obvious that bureaucrats possess better information than commercial participants in the foreign exchange market[4]. Irrespective of these arguments, the appreciating New Zealand dollar has had serious effects on exporters (in particular, farmers). This result was certainly not anticipated. In fact, prior to the float, Government officials were arguing that the expected depreciation of the New Zealand dollar would compensate farmers for the removal of subsidies (Edlin 1984).

2.3.2 Sequencing: given that it is not administratively or politically possible to implement a whole range of deregulatory activities simultaneously, the question of sequencing becomes important. The order adopted by the New Zealand Government was deregulation of the financial sector, a programme to reduce the Government deficit, the removal of exchange controls and floating the New Zealand dollar, removal of industry protection and assistance, removal of wage controls and labour market liberalisation (Kerr 1987). A substantial number of economists argue that this sequence is wrong and, in particular, the more rigid sectors of the economy (import replacement industries, the labour market) should be liberalised first and the capital account of the foreign exchange market should be liberalised last (Krueger 1984; Dadone 1985; Blyth 1987). In New Zealand, politics and the reality of the economic situation at the time the Government was elected apparently dominated other considerations:

> "In the real world, it might have been better to have begun with a review of the labour market regulation, if one believed that was the most rigid market. International experience of liberalisation would suggest that an agnostic attitude towards the sequencing issue is appropriate. In any event, policy is formed in a political environment ... and the opportunities are taken when they arise"[5].

However, as Dadone (1985) points out from the experience of several South American countries, short-term political expediency can result in long-term political oblivion. The implications of sequencing have been particularly important for the agricultural sector and are discussed further in the next section.

2.3.3 Fiscal policy: when the newly elected Government announced plans for a major reduction in the deficit, several economists argued that the fiscal contraction would result

[4] The idea that politicians and civil servants are likely to possess less, rather than more, information than businessmen and in any case, lack commercial incentives, is fundamental to the new philosophy.

[5] Broad (1986), quoting a speech by the Secretary of the Treasury.

in recession. This has been borne out by the experience of the past four years. In combination with other factors, particularly the floating exchange rate, and the corporatisation of Government departments, fiscal policy has resulted in a general decline in aggregate demand.

2.3.4 Market failure: while the new philosophy espouses more market and correspondingly, less Government, this does not imply that the Government has opted out of the market place:

> "The Government retains a fundamentally important role in the economy. It is, however, a different role to that of the previous Government. *The present Government has chosen to focus on the role of the Government as a rule maker*" (Berthold 1985, emphasis added).

The Government may have the philosophical objective of focussing its activities on establishing rules that allow the effective operation of markets, but has been slow in implementing such rules. New Zealand has the only totally unregulated futures exchange in the world and legislation governing securities trading is inadequate to prevent blatant cases of insider trading. Perhaps this tardiness is due to a concern, frequently expressed by Government officials, that Government intervention will necessarily result in a better solution than an imperfectly operating market. To quote the Secretary of the Treasury: "There is an increasingly well-known adage that the fact that a fish can't fly doesn't mean that a rhinoceros can do any better" (Broad 1986).

3. Agricultural Policy

3.1 Background: pre-1984

There is a long history of Government involvement in agriculture in New Zealand and, apart from the first Labour Government elected in 1935, Governments were dominated by farmers. By and large, farmers got the legislation they wanted - for example for the establishment of producer boards, beginning with the Meat Producers' Board in 1922. However, there was limited direct financial assistance to farming until the 1960s when, following a major summit exercise (the Agricultural Development Conference), various programmes were established to encourage expanded pastoral production. The philosophy behind these programmes was simple and widely understood; increased production meant increased exports and increased exports allowed increased imports, primarily inputs for the protected manufacturing sector. This philosophy was the basis of agricultural policy until the 1980s.

Prior to 1965, Government intervention in farming had generally been limited to legislation enabling the establishment of statutory producer organisations. Most of these operated various types of price stabilisation arrangements. Direct state assistance to agricultural producers was, however, a new development in agricultural policy.

The forms of assistance that were implemented over the period 1963 to 1983 were many and various and are listed in Appendix B. However, the fiscal cost of assistance to pastoral farming was relatively small until the 1980s. The peak was in 1984 when fiscal assistance to pastoral agriculture was $1700 million, about $3 500 per farm (Table 3).

Table 3: Forms and Levels of Fiscal Assistance to Pastoral Agriculture 1980 to 1987 ($m current)

Year ending March 31	1980	1981	1982	1983	1984	1985	1986	1987E
Price Support/ Stabilisation	-27	26	293	688	1231	491	415	2
Interest Concessions[1]	54	79	101	124	134	155	256	221
Reserve Bank Accounts[2]	33	45	30	37	25	-3	-14	-2
Research/Extension[3]	33	42	49	56	60	61	66	74
Inspection[3]	33	37	51	58	57	59	63	49
Tax Concessions	59	65	68	67	70	72	24	27
Fertiliser	62	52	48	44	41	35	13	6
Other	64	66	83	86	91	81	75	78
Total Assistance	312	412	723	1160	1709	951	898	454
% of Output	7.2	9.1	14.4	23.1	39.3	12.5	13.1	6.8

E = Estimate, 1987 figures include GST. Figures may not add owing to rounding.

1 Principally Rural Bank but also includes Departments of Maori Affairs and Lands and Survey.

2 Positive figures are net interest concessions. Negative figures represent a net interest 'tax' on agriculture.

3 Net of revenue and includes allocation of costs of MAF overheads.

Source: Taylor and Hayes (1987).

The Net Subsidy Equivalent (NSE) for pastoral farming, not allowing for the increased costs imposed on farmers due to the protection of local manufacturing, was 46 per cent in this year. If 20 per cent of material costs is allowed for this protection the NSE falls to 34 per cent[6] (See Table 4). Table 4 also shows that, if protection increased costs by 20 per cent (most analysts would concede that this is a reasonable ballpark figure), the adjusted NSE was around zero in 1980 and again in 1987. Thus, it is likely that the early 1980s was the only period in the history of New Zealand agriculture in which the net subsidy equivalent for pastoral agriculture was significantly positive.

6 Estimates of the burden on agriculture imposed by assistance to the import substitute sector vary considerably (Gibson 1984; BERL 1985; Lattimore 1987).

Table 4: Net Subsidy Equivalents: Pastoral Agriculture 1980 to 1987 ($m current)

March years	1980	1981	1982	1983	1984	1985	1986	1987
Pastoral Output	2621	2767	2973	3154	3371	4524	3823E	4000E
Prod. Assistance	17	-	223	395	302	207	43	-
Total	2638	2767	3196	3549	3673	4731	3866	4000
Less								
Materials (assisted)	1613	1667	1898	2103	2384	2436	2116	2131
Depreciation	181	205	225	247	254	296	270	260
Assisted Value Added[1]	844	894	1073	1199	1035	1999	1480	1609
Total Transfers[2]	312	412	723	1160	1709	951	898	454
Protection Cost								
0.1	163	170	193	214	240	248	217	217
0.2	299	312	334	392	440	455	398	398
Net Subsidy Equivalents[3] (%)								
Nil Protection Cost	11.8	14.9	22.6	32.7	46.5	20.1	23.2	11.3
0.1 Protection Cost	5.6	8.7	16.6	26.6	40.0	14.8	17.6	5.9
0.2 Protection Cost	0.5	3.6	12.2	21.6	34.5	10.5	12.9	1.4

E = Estimates

Sources:
1 Gibson (1984, revised 1986, p.49).
2 As in Table 3.
3 Author's estimates.

3.2 Changes, post-1984

Prior to the 1984 election, it had become apparent that the fiscal cost of farm support programmes had become unsustainable, and the National Government announced that Supplementary Minimum Prices (SMPs - the principal price support mechanism) would be phased out. The Labour Party's election manifesto was non-committal about agriculture. In a speech entitled "Labour's Intentions for Agriculture" given at Massey University in June, the party's agricultural spokesman, Colin Moyle indicated that the agricultural policy would essentially be "more of the same" -- for example; subsidised finance for the purchase of farm land, comprehensive training programmes for young farmers and increased input subsidies (Moyle 1984).

The reality, following the election of the Labour Government, was somewhat different. In the November 1984 budget, it was announced that: "The objective is to remove or reduce subsidies where these subsidies have discriminated between farmers or between land uses" and that reductions in assistance to land-based industries should occur at the same speed as in other sectors. The Government immediately implemented activities to reduce subsidies - as shown in Appendix B. In November 1985 and in the 1986 Budget, taxation changes, removing special concessions for farmers, were announced. The 1985 Budget announced that Government Departments providing services to land based industries would be required to charge their clients on a full cost recovery basis, to be phased in over a period of three years with expected savings of $28 million at the end of the three year period. These activities have resulted in a reduction in expenditure on assistance to pastoral agriculture from $1709m in 1984 to an estimated $454m in 1987 (Table 3).

As well as major changes in taxation and expenditure, the Government also instituted a review of statutory marketing organisations connected with agriculture (New Zealand Treasury 1984b). Broadly, the result of this activity is that the powers of marketing organisations whose activities are concerned with the domestic market have been reduced while export marketing organisations have been left alone (Sandrey 1988). In discussing progress in deregulation, he argues that "...for the domestic industries, the debate is almost over" and reports on the status of the wheat, eggs, and town supply milk sectors. For wheat, producers have little market power without legislative control of competing imports, and deregulation of the wheat industry has been accompanied by a decline in wheat area planted from 1984-85 to 1987-88 of 26 per cent (MAF 1988).

For eggs and milk, facing an inelastic demand and limited competition from imports, the possibility of producers retaining some market power depends on their ability to collectively manage supply and restrict entry of new producers. Egg producers and distributors have been able to retain some market power, while for milk, the deregulation has been only partial as there is still a legislative commitment to the preservation of a home delivery service (Sandrey 1988).

In 1985, the National Pool system for the marketing of lamb, which was effectively a single desk operation by the New Zealand Meat Producers' Board, was discontinued after having operated for two seasons. Legislation for the licensing of export slaughterhouses was abolished in 1980. There is now free access to the industry and considerable proliferation of small scale slaughter plants. In addition, the operation of marketing board stabilisation funds has been severely constrained by removal of free access to low interest funds from the Reserve Bank (Johnson 1987).

A Horticultural Export Authority was established in 1987. Apart from these developments, there have been no major changes in legislation governing export agricultural and horticultural products since 1984. There has certainly been a lot of discussion (for example Schroder 1985; Rae 1987). Consultants have reported on the Apple and Pear Board (McKinlay 1987) and the Kiwifruit Licencing Authority, and a committee of Government officials will report on the taxation status of producer boards. In general, commentators have favoured the retention of export marketing boards.

In the meat industry, there has been a flurry of ownership changes and, in general, the removal of restrictive legislation (for example, on overseas investment) has facilitated change in the processing and marketing sector. The process of removing legislative controls is far from complete. For example, foreign ownership of farm land is still severely restricted.

3.3 Commentary

The farmer's political organisation, Federated Farmers, argues that the Government has not reduced the assistance to other industries at the same speed it has reduced assistance for farming. For example as Rayner and Lattimore (1987a) have put it:

> "There can be little doubt that there was a need to remove these (agricultural) subsidies both because of their immediate fiscal cost and also because of the various inefficiencies in factor use and product choice that they engendered. Nevertheless, the fact that their removal was undertaken at speed, while import liberalisation followed a much more deliberate path, meant that for a period of time, the impact of the trade policy was against exporters."

If the tariff reduction measures specified in the December 1987 announcement are taken into account, the export and import substitution sectors should be brought back to approximate equality in due course.

4. Changes in the Agricultural Sector

4.1 Introduction

Possibly because agricultural subsidies, in particular SMPs, were so "visible" and so much debated in the period prior to the 1984 election, deregulation happened more quickly for agriculture than for other sectors. Immediately following the election, the Treasury published two papers: *Economic Management;* and *Economic Management: Land Use Issues* (New Zealand Treasury 1984a, 1984b). It was not until much later that they addressed economic management issues relating to secondary industry or social policy.

The impact of deregulation on the agricultural sector occurs both through changes in industry-specific policies and through changes in macroeconomic policy. In New Zealand since 1984, the latter has been equally or more important than the former. In particular, increasing interest and exchange rates have been of great importance (Evans 1987). Over-reliance on monetary policy to restrict aggregate demand and control inflation has been at the expense of increasing interest rates and exchange rates. The effect has been to reduce profitability in the tradeable goods sector and hence investment in increased efficiency and output.

The deregulatory programme was introduced at a time when world commodity prices were generally depressed and, with the exception of wool, they have remained depressed since 1984[7]. Macroeconomic policy changes and changes in exogenous variables become confounded in a review of this type and we know of no research that disentangles them in a satisfactory way for the period under discussion. We do not seek to imply simple causality between the changes that have occurred in the agricultural sector and changes in Government policy. The following section therefore reviews the evidence that is available on the effects of deregulation on New Zealand agriculture and its associated

[7] World wholesale prices for agricultural raw materials fell from a base level of 100 in 1980 to 77 in 1985 (48 when adjusted by a World GDP Deflator) (Reserve Bank of New Zealand 1986a). See also Table 5.

industries and attempts to tease out the major impacts of macroeconomic policies and agricultural policies where appropriate.

4.2 Terms of exchange for pastoral products

As Table 1 shows, the terms of trade for exports and imports have fluctuated markedly in recent years and generally trended downwards. It is important, however, to separate out the effects of world market changes and currency adjustments.

4.2.1 Wholesale prices: trends in wholesale prices for each of the four main export commodities are given in Table 5. These prices are quoted in currencies of respective markets. Exchange rate adjustments are not included. Even allowing for the fact that considerable trade is now diverted from these destinations, they reflect the static conditions in world commodity markets from 1980 to 1986. Even the market value of the protected UK butter market has not kept up with inflation. From 1987, world commodity markets have markedly improved.

Table 5: Trends in Wholesale Prices 1981 to 1988

Cal. Years	Beef	Lamb	Butter	Wool
		(Annual Percentage Change)		
1981	-10.4	+9.3	+6.7	+4.5
1982	-3.3	+0.7	+7.3	+1.5
1983	+2.1	-6.6	-1.5	+7.8
1984	-6.8	+13.2	-4.3	+11.8
1985	-5.3	-1.8	+11.3	-1.5
1986	-2.8	-2.6	+0.3	-4.4
1987	+13.9	-4.3	-11.8	+12.0
1988*	+4.8	+3.0	+12.7	+5.1

*1988: First 3 Quarters

Notes on Pricing Points:

Beef: US imported frozen boneless from Australia and NZ, 85 per cent visible lean cow meat, import price, $US f.o.b., port of entry, average of daily quotations.

Lamb: NZ PL, Smithfield, London, sterling, average of daily quotations.

Butter: NZ Best Quality, selling price, sterling, London Provision Exchange (N.B. EC import levy already paid).

Wool: Australia - NZ 50's, UK - Dominion 50's, clean dry, combed basis, Bradford grade, sterling, monthly quotations.

Source: IMF, *Monthly Financial Statistics*, IMF, Washington.

4.2.2 The real rate of exchange for pastoral products: Table 6 quantifies the impact of changes in overseas wholesale prices, exchange rates and New Zealand domestic prices on the real rate of exchange for New Zealand pastoral products as a whole. Static world commodity prices were translated into favourable export prices by the depreciation of the New Zealand dollar in the period 1983-85. This kept the real rate of exchange ahead of domestic inflation. In 1986, the appreciation of the New Zealand dollar depressed export prices and with continuing inflation led to a very marked reduction in the real rate of exchange. Even with a depreciation of the New Zealand dollar in 1987 the real rate of exchange declined further through both 1987 and 1988.

4.2.3 Farm gate changes: the 20 per cent devaluation immediately following the 1984 election, gave a significant boost to f.o.b. realisations, while the general appreciation of the New Zealand dollar since floating in March 1985 has depressed farm prices. The greater the degree of processing and preparation of a product, the greater is the exchange rate effect on farm gate prices. In some cases, however, some of the impact is absorbed in processing margins. For sheep and beef products, the immediate impact of a 10 per cent depreciation

Table 6: Decomposition of the Real Rate of Exchange for Pastoral Products 1983 to 1988 (Annual percentage changes)

June Years	Foreign Price	Exchange Index	Pastoral Index	Domestic Prices	Real Rate of Exchange
1983	-1.4	+5.1	+3.6	-3.1	+0.5
1984	-2.7	+7.8	+4.8	-4.9	0
1985	-0.1	+20.8	+20.8	-13.8	+6.1
1986	-0.5	-7.1	-7.6	-13.2	-18.3
1987	+1.1	+5.1	+6.3	-10.9	-4.1
1988	+11.3	-8.5	+1.8	-8.5	-6.1

Notes:

Foreign Price: Index of Pastoral Export Prices (Dept of Statistics) multiplied by Exchange Rate Index (Reserve Bank).
Exchange Index: Reserve Bank trade weighted exchange rate index at June each year. Positive movement represents a devaluation.
Pastoral Index: Price Index of External Trade for all pastoral products. f.o.b. values. Department of Statistics.
Domestic Prices: Index of prices of non-tradeable goods (Lattimore 1986); negative sign represents a rise in price but a fall in the real exchange rate.
Real Rate of Exchange:Pastoral Index/Domestic Prices

Source: Johnson (1988)

or appreciation on farm gate prices has been calculated by Taylor (1987) to be as high as 44 per cent (depreciation) and -36 per cent (appreciation) for mutton. The multiplier effect is lowest for wool (Table 7). For dairy products, it has been calculated that a one cent devaluation relative to the US dollar would increase the average dairy farmer's gross income by $2 000.

4.2.4 Farm gate terms of exchange: changes in the farm gate terms of exchange are given in Table 8. The farmers' prices paid indices change at similar rates to the index of prices of non-tradeable domestic output. The farmers' prices received indices reflect export prices with processing margins deducted. Processing margins follow domestic rates of inflation hence the farm terms of exchange suffers from the double-banger effect of floating exchange rates and domestic inflation on processing margins and prices paid. Sheep farm terms of exchange fluctuate more than dairy farms due to the absense of stabilisation mechanisms for the former.

Table 7: Impact of Exchange Rate Changes on Farm Gate Prices

Product	(Percentage change in unit prices from f.o.b. prices to farm gate prices) Depreciation (-10 per cent)	Appreciation (+10 per cent)
Wool	+11	-10
Lamb	+27	-22
Mutton	+44	-36
Beef	+16	-13

Source: Taylor (1987).

Table 8: Farmgate Terms of Exchange 1983 to 1988 (1976=1000)

Financial Year	1983	1984	1985	1986	1987	1988
Dairy Farms:						
Prices Received	2708	2719	3013	2879	2759	2786
Prices Paid	2773	2812	3132	3471	3668	3921
Terms of Exchange	977	967	962	829	750	710
Per cent Change	+0.7	-1.0	-0.5	-13.8	-9.5	-5.3
Sheep and Beef:						
Prices Received	2151	2378	2823	2304	2607	2475
Prices Paid	2903	2912	3206	3629	3905	4194
Terms of Exchange	741	817	881	635	668	590
Per cent Change	-7.5	+10.2	+7.8	-27.9	+5.2	-11.6

Source: MAF (1988)

4.2.5 Assessment: the main benefit from the macroeconomic policies followed since 1984 has been the eventual control over the rate of inflation during 1988. Exchange rate policy had always been driven by internal inflation prior to 1984. With low inflation rates, the export sector should be in a position to expand and invest, if the momentum on inflation can be maintained.

4.3 Production, income, expenditure and investment

Pastoral farmers, in particular, sheep and beef producers, responded to the dramatic deterioration in their terms of exchange between 1985 and 1986 by reducing expenditure on fertiliser, repairs and maintenance and capital expenditure. The impact of the reduced expenditure on production has been relatively small to date - as would be expected for a pastoral production system. The 1984-85 and 1987-88 seasons are compared in Table 9.

4.3.1 Fertiliser: the use of fertiliser, as a major item of discretionary expenditure on sheep and beef farms, has fallen by 49 per cent since 1984. Total fertiliser sales fell from over 2.5 million tonnes per year in the early 1970s to around 1 million in 1987. At this level of production, the fertiliser manufacturing industry is operating at less than 30 per cent of capacity (Hoggard 1987).

4.3.2 Interest rates: prior to the 1984 election, interest rates had been frozen under the National Government's price freeze. With the removal of the freeze, they increased sharply. Rates on longer-term Government Stock and Trading Bank Overdrafts for selected dates are given in Table 10. Farmers faced interest rate increases for their commercial borrowing and also because interest rates on concessional lending from the Rural Bank were being increased at about one per cent per year to bring them into line with commercial rates. Interest has become the most important item of expenditure for sheep/beef farmers, now comprising 26 per cent of total expenditure, compared with 12 per cent in 1977 (Taylor 1987). There is no doubt that interest rates under the Labour Government's tight monetary policy have been a major direct cause of declining farm profitability and the influence of high interest rates on the exchange rate is a major indirect cause.

4.3.3 Output and investment: there has been a sharp fall in sheep slaughtered but not cattle. The decline in sheep slaughter follows from an 11 per cent fall in breeding ewes between 1984 and 1987. Dairy output has been maintained (within seasonal limits). Sheep farm expenditure has been severely curtailed and dairy farm expenditure has dropped in real terms. Nominal net incomes are down 8 to 26 per cent and real incomes per farm are down 37 to 50 per cent. The outlook for future output must be very pessimistic at the levels of investment estimated for 1987 - 88.

4.3.4 Off farm income: if New Zealand follows the model of many other countries, off-farm earnings will become an increasingly important source of farm family income. Regional development policy can be directed to provide off-farm employment opportunities, as, for example, in Japan. There is less emphasis on regional policy in New Zealand under the current regime and, in fact, rationalisation of Government expenditure on health, education and other services provided to rural communities means, if anything, decreased employment opportunities for farmers and their wives, and other rural people. There are very limited data on off-farm income from employment, investment or other sources. The Meat and Wool Boards' Economic Service annual survey of sheep and beef farmers (1985,

Table 9: Trends in Pastoral Farming, 1984-85 to 1987-88

	1984-85	1987-88	Percentage Change
Stock Units (Million)	104.6	101.8	-2.6
Livestock Slaughter (m)			
Lamb	40.0	31.6	-21.0
Sheep (Other)	10.7	9.3	-13.1
Cattle	2.8	3.2	+14.3
Total Milk Production (million litres)	7647	7650	+0.1
Fertiliser per Farm (Tonnes, Sheep and Beef only)	53	27	-49.1
Sheep and Beef Farms: ($ per farm)			
Expenditure			
Fertiliser	14146	8700	-38.5
R & M	9387	6500	-30.7
Interest	17736	24500	+38.1
Other	57146	56100	-1.8
Net Income			
Dollars	34208	25200	-26.3
Real (Base year, 1975-76)	11346	5715	-49.6
Dairy Farms: ($ per farm)			
Income	103086	99800	-3.2
Expenditure	75038	74000	-1.4
Net Income	28048	25800	-8.0
Real (Base year, 1975-76)	9303	5852	-37.1
Investment: (All Farms) ($m)			
Building and Construction	305	170	-44.3
Tractors, Vehicles,Machinery	443	248	-44.0
Land Development	163	64	-60.7

Sources: NZ Meat and Wool Boards' Economic Service (1987); MAF (1988) (1988 data are estimates).

Table 10: Interest Rates on Government Stock and Trading Bank Overdrafts 1984 to 1988

	Govt Stock (5-7 years) (Issue rates)	Trading Bank Overdraft (weighted average)
	(Percentages)	
March 1984	5.30	12.38
Sept 1984	15.60	12.68
Sept 1985	19.59	19.12
Sept 1986	15.45	20.44
Sept 1987	16.35	20.50
Sept 1988	12.95	16.00

Source: Reserve Bank of New Zealand, *Reserve Bank Bulletin*, various issues.

1986, 1987) shows that non-farm income and "other sources"[8] together increased from 17 per cent of total funds in 1983-84 to 23 per cent in 1985-86. In 1986, 29.4 per cent of farm spouses were employed off-farm, either full or part time (Pryde and McCartin 1987).

4.3.5 Prospects: with the upturn in commodity prices indicated in Table 5 and downturn in internal inflation, farm incomes should improve in 1988-89. There has also been some depreciation of the exchange rate. Current estimates indicate that net incomes on sheep farms could rise by 3 per cent and those on dairy farms by 28 per cent. The outlook is for reduced output from the sheep and beef sector in the immediate future, but maintained output in the dairy sector.

4.3.6 Taxation: prior to 1984, farming enjoyed major tax concessions most of which have been removed in successive Budgets. The introduction of the GST to compensate for the revenue lost by reducing income taxes would also disadvantage farmers in the sense that opportunities for tax avoidance are reduced. However, with the overall reduction in income tax rates and the very low farm incomes in 1985-86, it is unlikely that very many farmers have faced increased tax payments. Average tax payments by sheep and beef farmers over the period were: 1983-84, \$6 502; 1984-85, \$5 513; 1985-86, \$5 919; 1986-87 (estimate), \$4 500 (Meat and Wool Boards' Economic Service 1985, 1986, 1987).

4.3.7 Assessment: the decline in incomes and investment in the period 1984-85 to 1987-88 was the result of the combined effects of low commodity prices, an appreciating exchange rate, high internal inflation and a tightly controlled monetary policy (as regards interest rates). Table 6 suggests that each of these factors played a role at different times and no

8 "Other Sources" includes mortgage increases, matured insurance endowments, insurance claim receipts, legacies, gifts and compensation receipts.

one factor can be isolated. The success of the new policy will be judged on how the macroeconomic policies under Government control will affect the viability of the agricultural sector, particularly the complicated and little understood relationship between a tight monetary policy and floating exchange rates.

4.4 Farm asset values and indebtedness

4.4.1 Land prices: prior to 1980, farm land prices had increased at the same rate as net farm income and at a similar rate to increases in farm land prices in other countries (Taylor 1986). Between 1980 and 1983 however, the index of farm land prices increased by 115 per cent while, over the same period, net farm income was relatively unchanged and the price of farm land in other western countries fell. Land price increases were matched by growth in lending to the rural sector - 83 per cent over the same period (Reserve Bank 1986b). The farm land price index has since fallen by over 25 per cent from its 1983 peak.

4.4.2 Loss in equity: falling incomes, rising interest rates, and falling land values have resulted in financial pressure on a number of farmers and lending institutions. The Meat and Wool Boards' Economic Service estimates that 23 per cent of sheep and beef farms had less than 50 per cent equity in 1987 (compared with 6 per cent in 1984) and these heavily-indebted farms incurred interest costs of $11.52 per stock unit and an overall cash deficit before new borrowing of $5.64 per stock unit (Taylor 1987). While reliable statistical data on the indebtedness of other types of farms are not available, it is clear that deregulation has had a major impact on wheat producers and the financial position of many wheat farmers with high debt levels is serious.

4.4.3 Rural finance: lending in New Zealand is dominated by the Government-owned Rural Bank. This Bank accounted for $2 440 million of loans to the agricultural sector at March 31, 1986, 31 per cent of total loans outstanding. The next biggest categories were family loans (16 per cent) and trading banks (12 per cent) (Pryde 1987). Some indication of the position of lending institutions is given by the Rural Bank's accounts in arrears statistics and their provision for doubtful debts. Accounts in arrears increased from 5 per cent in 1982-83 to 11.5 per cent in 1986-87, while the provision for doubtful debts increased from zero to $3.2 million. The Reserve Bank argues that, apart from the Rural Bank, financial institutions are not seriously threatened by the farm debt problem because rural lending represents a small part of their total debt portfolio (Reserve Bank 1986b).

4.4.4 Discounting of debt: in 1986, the Rural Bank introduced a loan discounting scheme. Some 8099 applications had been received from farmers (by 31 March 1988) of which 4706 were approved for discounting. On average, these loans were discounted by $50 000, or 33 per cent of the original debt to the Bank (Rural Bank, pers. comm.). A major problem in restructuring farm debt has been that most heavily-indebted farmers have, at least in comparison with other countries, a large number of creditors (Stewart 1987). However, a condition of the discounting scheme was that all creditors should meet and a satisfactory arrangement be made and legalised by all parties.

There are limited data on the current status of farmer indebtedness. In 1987, the rural investment manager of a major insurance company argued that 80 per cent of farmers were in a satisfactory financial position, 12 to 15 per cent would be helped by the discount scheme, leaving 5 to 8 per cent in a serious financial position (Smith 1987).

4.4.5 Assessment: the Government responded to the downturn in debt servicing capacity in the rural sector with a debt adjustment programme. Approximately 15 per cent of pastoral farmers benefitted from this scheme (it was available to arable and horticultural properties as well). Without doubt, there remains a residual group of farmers who with or without discounting, are still not financially viable, and who should exit farming. No mechanisms have yet been developed on a national scale to achieve this.

4.5 Structural changes

It might be expected that falling farm incomes, combined with unsustainable levels of indebtedness for a significant number of farmers, would result in an increase in the number of farms sold. This has not been the case. In the year ending December 1987, the total number of farms sold was 1024 (compared with 2208 in 1981). This situation has been described as a "landsale logjam" (Smith 1987) and is due partly to the political impact of the Rural Bank (which is still 100 per cent Government owned) refraining from forcing mortgagee sales on a significant number of farmers, and partly because all financial institutions are aware that accelerated sales will further depress land prices.

In the longer term, given that deregulation will result in more price and income instability for farming, it would be expected that commercial farms will be fewer and larger and have lower levels of indebtedness. The public company as a form of business organisation facilitates raising equity capital and reduced risk to shareholders by limiting liability. It would therefore be expected that public company ownership of farm land would increase (Schroder and McRae 1987) and this has, in fact, been the case. However, although the land-buying activities of a small number of companies have been widely publicised, they represent a small share of total farm land purchases.

5. Summary and Conclusions

Changes in micro, and macroeconomic management in New Zealand since 1984 have been widespread and far-reaching and have included reduced income tax, the introduction of a value added tax, removal of exchange controls, floating the New Zealand dollar, deregulation of the financial sector, and removal of most direct and indirect assistance to industry.

Changes in macroeconomic management have affected agriculture mainly through interest rates and exchange rates. The impact of these two variables has been equal to, or more important than, reductions in industry assistance, though the separate effects are difficult to disentangle. The set of policies followed since 1984 have made the farm sector more responsive to macromanagement of the economy. In the longer term view, the changes in protection mechanisms have finally reversed the preference for the import replacement sector first introduced by the Labour Government in 1938. The substantive criticisms of macroeconomic policy are that the sequencing was wrong (the more rigid sectors of the economy such as manufacturing and the labour market should have been deregulated first rather than the financial sector and the overseas exchange market) and that there has been an over-reliance on monetary policy to control inflation.

At the microeconomic level, reductions in Government assistance were implemented earlier and with more severity for agriculture than they were for secondary industry. This was partly because the fiscal cost of financial assistance to pastoral agriculture, which had increased from \$312 million in 1980 to \$1 709 million in 1984, had become unsustainable and partly because it was politically expedient to reduce assistance to agriculture first.

The combination of high interest rates, high exchange rates and the removal of direct industry assistance has significantly reduced farmers' net incomes, in particular for sheep and beef producers. A number of farmers are facing severe financial stress (there are no data to provide a precise estimate). Farmers have reduced expenditure on discretionary items such as fertiliser with resultant excess capacity in the fertiliser manufacturing industry. Overall levels of farm investment have declined markedly with serious repercussions for future output. Lamb production and slaughter has fallen significantly but the overall fall in livestock numbers over the period 1985 to 1988 is less than 3 per cent. On balance, a fall in the level of total output is predicted with sharpest effects in the sheepmeat sector. Beef and dairy outputs are expected to be maintained at near present levels.

The rate and value of farm sales has fallen sharply and, to date, there has been no discernible change in the structure of agricultural production. Farm equity has been considerably reduced, especially in the sheep and beef sector, and debt adjustment has been considerably encouraged by a debt discounting scheme through the Rural Bank.

The operations of statutory marketing organisations concerned solely with the domestic market have been discontinued and there has been a tightening of the regulations involving the use of stabilisation reserves in the export statutory marketing organisations.

The aim of deregulation was stated quite clearly in the 1984 Budget to move the country's resources into more productive activities, and to correct the *ad hoc* policies of the 1970s. For agriculture and its associated industries this meant the removal of distortionary assistance and the freeing up of regulations in labour markets, transport and the public service. Changes which have taken place (and which have been described in this review) are consistent with the stated objective of an increased level of productive efficiency throughout the sector, although precise measurement is so far lacking.

The main conclusion to be reached has been the increased vulnerability of the agricultural sector to changes in national macroeconomic policy. Some of the macroeconomic policy settings, such as monetary and exchange rate policy, have proved to be inimical to the progress of the agricultural sector. Furthermore they have increased the uncertainty of the environment in which agriculture operates. Compared with the past, when clear-cut goals and objectives were evident, there is now a loss of sense of direction. There now appears to be a need to re-identify what the goals and objectives are, how they will be achieved, and who will provide the necessary leadership to reach them.

References

BERL (Business and Economic Research Ltd.) (1985), *A Short Guide to the Debate on the Protection of the Economy*, Wellington.

BERTHOLD, T. (1985), Agriculture and agribusiness in a changing New Zealand economic setting, Proceedings, First Agribusiness Workshop, Centre for Agricultural Policy Studies, Massey University.

BLYTH, Conrad (1987), The economic consequences of Mr Douglas, Address to Annual General Meeting, New Zealand Institute of Economic Research, Wellington.

BROAD, Harry (1986), "The second toughest job in town", *New Zealand Farmer*, Nov 27, pp20-21.

BUSHNELL, P.G.(1985), Signals, subsidies and social cost, Paper presented to New Zealand Branch, Australian Agricultural Economics Society, Picton.

DADONE, A.A. (1985), The impact of macroeconomic policies on agriculture, Proceedings, First Business Associates Workshop, Centre for Agriculture Policy Studies, Massey University.

EDLIN, Bob (1984), "Officials favour float to keep farmers buoyant", *National Business Review*, Nov 19, p16.

EVANS, Lewis (1987), "Farming in a changing environment", *Economic Liberalisation of New Zealand*, A. Bollard and R. Buckle (Eds), Allen and Unwin.

GIBSON, B.C. (1984), *Measurement of Assistance to Pastoral Agriculture*, MAF Discussion Paper 8/84 (Revised).

HOGGARD, K.M. (1987), "The challenges facing the fertiliser industry", *Farm Management News*, Jan-Feb.

JOHNSON, R.W.M. (1986), *Livestock and Feed Policy in New Zealand: 1975 to the Present*, Agricultural Policy Discussion Paper No. 8, Massey University.

____ (1987), Restructuring: risk, uncertainty and price smoothing, paper presented to New Zealand Branch, Australian Agricultural Economics Society, Blenheim.

____ (1988), Measuring the real rate of exchange: some applications to pastoral output, paper presented to New Zealand Association of Economists, Wellington.

KERR, R.L. (1987), Stabilisation and adjustment: what have we learned?, paper presented to New Zealand Branch, Australian Agricultural Economics Society, Blenheim.

KRUEGER, A.O. (1984), "Problems of liberalisation", in A.C. Harberger (Ed.), *World Economic Growth*, San Francisco Institute for Contemporary Studies.

LATTIMORE, Ralph (1986), Economic liberalisation and its impact on agriculture: the case of NZ, paper presented to New Zealand Branch, Australian Agricultural Economics Society, Blenheim.

____ (1987), *Economic Adjustment in New Zealand: A Developed-Country Case Study of Policies and Problems*, Research Report Number 189, Agricultural Economics Research Unit, Lincoln College.

MCKINLAY, P. (1987), A Report to the New Zealand Apple and Pear Marketing Board on Apple Marketing and Related Issues, Mimeo.

MINISTER OF FINANCE (1984), *1984 Budget Part I: Speech and Annex,* House of Representatives, Wellington.

____ (1988), *1988 Budget Part I: Speech,* House of Representatives, Wellington.

____ (1987), *Estimates Commentary 1987-88,* Parliamentary Paper, B7 (pt 1A), House of Representatives, Wellington.

MINISTRY OF AGRICULTURE AND FISHERIES (1986), *Corporate Plan 1987/88,* Wellington, p21.

____ (1987), *Situation and Outlook for New Zealand Agriculture,* Wellington.

____ (1988), *Situation and Outlook for New Zealand Agriculture,* Wellington.

MOYLE, C.J. (1984), Labour's intentions for agriculture, address at Massey University, 29 June.

NEW ZEALAND MEAT AND WOOL BOARDS' ECONOMIC SERVICE (1985, 1986, 1987), *The New Zealand Sheep and Beef Farm Survey,* Wellington.

____ (1987), *Sheep and Beef Farm Income and Production Estimates,* Paper C310, Wellington.

NEW ZEALAND TREASURY (1984a), *Economic Management,* Wellington.

____ (1984b), *Economic Management: Land Use Issues,* Wellington.

OECD (1987), *Economic Survey of New Zealand,* Paris.

PHILPOTT, Bryan P. (1987), "The failings of Rogernomics", *The Dominion,* 5 May, p6.

PRYDE, John (1987), Rural finance in New Zealand, paper to New Zealand Branch, Australian Agricultural Economics Society, Blenheim.

PRYDE, J. and MCCARTIN, P.J. (1987), *Survey of New Zealand farmer intentions and opinions,* Report Number 188, Agricultural Economics Research Unit, Lincoln College.

RAE, A.N. (1987), Restructuring market channels, Proceedings, Second Business Associates Workshop, Centre for Agricultural Policy Studies, Massey University.

RAYNER, Tony and LATTIMORE, Ralph (1987a), The phasing of trade liberalisation policy: The New Zealand experience, paper to New Zealand Branch, Australian Agricultural Economics Society, Blenheim.

____ (1987b), The timing and sequencing of trade liberalisation policy: The case of New Zealand, Lincoln College, mimeo.

RESERVE BANK (1986a), "The farming downturn", *Reserve Bank Bulletin,* September, 45-51.

____ (1986b), "The rural debt problem", *Reserve Bank Bulletin,* December, 503-509.

ROSETTI, Claudia (1987), "Rogernomics transforms New Zealand", *Wall Street Journal,* 21 July.

SANDREY, R. (1988), Privatisation in agricultural marketing: the recent New Zealand experience, paper presented to the 32nd annual conference of the Australian Agricultural Economics Society, Melbourne.

SCHRODER, W.R. (1985), "Licensing answers pose more questions", *The Agricultural Economist* 6 (2), 24-26.

SCHRODER, W.R. and MCRAE, A.E. (1987), Restructuring the farm business, Proceedings, Second Business Associates Workshop, Centre for Agricultural Policy Studies, Massey University.

SMITH, Suzanne (1987), "Rural financiers herded into box canyon", *National Business Review,* May, p16.

STEWART, J. (1987), Adjustment in the servicing industries, Proceedings, Second Business Associates Workshop, Centre for Agricultural Policy Studies, Massey University.

TAYLOR, M.C. and HAYES, J.L. (1987), *Assistance to Pastoral Agriculture, 1983/84 to 1986/87,* Ministry of Agriculture and Fisheries, Wellington.

TAYLOR, N. (1986), *Some Aspects of Farm Finance in the Sheep and Beef Industry,* Paper No 1913, Meat and Wool Boards' Economic Service, Wellington.

____ (1987), *A Review of Farm Incomes and Current Financial Trends in the New Zealand Sheep and Beef Industry,* Paper No 1961, Meat and Wool Boards' Economic Service, Wellington.

The Economist (1985), "A Labour Government sets things right", 1 June, pp 17-20.

____ (1987), "New Zealand's economy: learning to fly", 21 November, p10.

ZANETTI, G.N. *et al* (1985), "Opening the books", *New Zealand Economic Papers,* 18, 18-19.

Appendix A: Calendar of Events of Major Policy Changes

1976	
March	Relaxation of interest rate regulations.
1977	
July	Road user charges announced.
1979	
June	Introduction of "crawling peg" exchange rate, and relaxation of controls on purchase of exchange.
June	Replacement of Increased Exports Taxation Incentive (c. 1963) by Export Performance Tax Incentive.
1980	
Dec.	Removal of discretionary licensing of export slaughterhouses.
1982	
June	Fixed exchange rate re-introduced.
June	Wage and price freeze introduced.
June	Controls on interest bearing deposits introduced.
1983	
Jan.	Closer Economic Relationship with Australia announced.
July	Lifting of restrictions on road transport distance covered.
Sept.	Limit of $750 million to commence 1.1.84 placed on Reserve Bank advances to the Dairy Board.
Nov.	Import licensing to be gradually replaced by tariff system.
1984	
Feb.	Rural Bank offers first stock issue to private sector.
June	End of Supplementary Minimum Prices Scheme announced.
June	Producer Board reserve accounts at the Reserve Bank to be charged commercial interest rates.
July	Election of Labour Government.
July	Exchange rate devalued 20 per cent against basket of traded currencies.
July	Credit growth guidelines abolished.
July	Controls on interest bearing deposits removed.
Oct.	Abolition of NZ Wheat Board announced.
Nov.	Rural Bank lending rates increased. Government funding to be reduced.
Nov.	Abolition of import licensing announced.
Nov.	Value added tax announced (GST).
Nov.	Export assistance to be phased out by 1987.
1985	
March	New Zealand dollar floated.
June	Phosphate Commission of New Zealand abolished.
Sept.	Marketing controls and market areas and price control administered by NZ Poultry Board abolished to commence 1.4.86.
Oct.	Notice of termination of Agreement with Fruit Distributors Ltd.
Nov.	Termination of National Sheep Meat Pool by Meat Board and trade returned to private sector.
Dec.	Partial recovery of meat inspection fees commenced.
Dec.	Vine (grapes) extraction scheme announced.
1986	
July	Rural Bank Discounting Scheme announced.
Oct.	GST commenced.
1987	
March	$1029 million written off Meat Income Stabilisation Account.
April	Creation of 9 state owned enterprises.
Aug.	Re-election of Labour Government.
Dec.	Major tax and tariff reforms announced.

Appendix B: Check List of Agricultural Policies

Type	Name	When introduced	Present Status and date	
Credit				
	Subsidised Purchase Credit	1930	Interest rates increased	1984
	Subsidised Development Credit	1960	Interest rates increased	1984
	Livestock Incentive Scheme	1976	Targets considered met	1985
	Land Development Encouragement	1978	Targets considered met	1985
	Vendor Finance Scheme	1979	Abolished	1984
	Rural Bank Loans Account	-	Privatised	1987
	Productive Development Loans	1984	Cancelled	1984
Inputs				
	Subsidised Transport of Fertiliser	1965	Abolished	1984
	Subsidised Price of Fertiliser	1970	Abolished	1986
	Subsidised Weed Control	1975	Abolished	1984
	Subsidised Irrigation and Water Structures	1973	Reduced	1984
Taxation				
	First Year Depreciation	-	Continues	1986
	Development Write-off	1965	Abolished	1986
	Standard Values Stock System	1965	Move to market values	1986
	Income Equalisation	1965	Continues	1986
	Investment Allowance	1976	Abolished	1984
	Export Incentives	1963	Phased out	1985-1990
	$10,000 Spreading Restriction	1976	Abolished (not for horticulture)	1985
	10 Year Rule for Development Writeoff	1976	Abolished	1985
Services				
	Research	-	Cost recovery	1985
	Advisory	-	Cost recovery	1985
	Inspectorial	-	Cost recovery	1984
Land Tenure				
	Land Aggregation	1952		
	Overseas Ownership	legislation	Relaxed	1985
Marketing				
	Price Smoothing Schemes			
	Wool	1976	Increased interest on deficits	1985
	Meat	1976	Increased interest on deficits	1985
	Dairy	1938	Increased interest on deficits	1985

Trading Accounts			
Wool	1976	Use of reserves & privatisation	-
Meat	1981	Use of reserves & privatisation	-
Dairy	1954	Use of reserves & privatisation & subordinated loan	1983
Supplementary Minimum Prices			
Wool	1978	Abolished	1983
Meat	1978	Abolished	1984
Dairy	1978	Abolished	1983
Wheat Board	1965	Deregulation	1983
Milk Board	1967	Deregulation	1986
Pork Board	1974	Reformed	1982
Egg Board	1980	Deregulation	1986

Source: Johnson (1986)