



**AgEcon** SEARCH  
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

*The World's Largest Open Access Agricultural & Applied Economics Digital Library*

**This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.**

**Help ensure our sustainability.**

Give to AgEcon Search

AgEcon Search

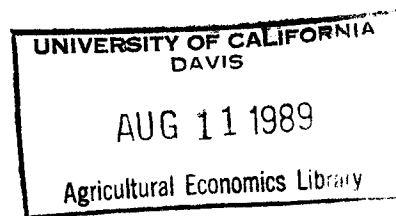
<http://ageconsearch.umn.edu>

[aesearch@umn.edu](mailto:aesearch@umn.edu)

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

*No endorsement of AgEcon Search or its fundraising activities by the author(s) of the following work or their employer(s) is intended or implied.*

*New Zealand -- Agriculture* 1989  
Johnston, Warren E.  
The Emergence of structural  
adjustments in response to economic # 6052



**THE EMERGENCE OF STRUCTURAL ADJUSTMENTS IN RESPONSE TO  
ECONOMIC POLICY REFORMS: NEW ZEALAND AGRICULTURE IN 1989**

by

Warren E. Johnston and Ron A. Sandrey\*

*New Zealand -- Agriculture*

---

\* Warren E. Johnston is Professor of Agricultural Economics, University of California, and member of the Giannini Foundation of Agricultural Economics. Ron A. Sandrey is Senior Analyst, Policy Services, Ministry of Agriculture and Fisheries, Wellington, New Zealand. The paper is based on joint research conducted while Prof. Johnston was visiting in the Department of Farm Management, Lincoln College, Canterbury, New Zealand, partly funded by USDA cooperative agreement 58-3AEL-8-00117.

Paper presented at the Annual Meetings of the Western Agricultural Economics Association, Couer d'Alene, Idaho, July 1989.

## ABSTRACT

*Agricultural observers are keenly interested in tracking the response of New Zealand's agricultural sector to Government's "economic liberalisation" policies. These 1984 reforms removed direct and indirect Governmental assistance to agriculture as part of a general industries policy relating to competition, taxation, marketing and risk bearing. The abrupt change in policy orientation has had severe repercussions, with differential sectoral abilities to respond. Adjustment processes have been frustrated by adverse climatic events (Cyclone Bola and drought), as well as slower than anticipated "desirable" changes in key macroeconomic variables - continuing high interest and exchange rates. Key reforms to further remove public sector involvement from agriculture include privatisation of The Rural Bank and sale of the Government's holdings in irrigation schemes.*

*Total farm debt has increased by nearly two and a half fold since 1980 (from NZ\$3.5 billion to NZ\$8.5 billion). Over the same period gross agricultural production increased by only 70 percent from NZ\$4.4 billion to NZ\$7.6 billion. Agriculture's contribution to Gross Domestic Product increased more slowly (from NZ\$2.1 billion to NZ\$3.3 billion) and its relative share of GDP has fallen from 10.8 to 5.9 percent. Land values, which had quadrupled in the 1970's, continued to rise through 1982 and have fallen substantially in the decapitalisation process in response to more market related prices in the pastoral sector. The speed of the adjustment process is dampened by excessive debt service requirements for many operating units, limited open recognition for significant structural adjustment and plodding financial sector progress towards needed debt restructuring.*

## THE EMERGENCE OF STRUCTURAL ADJUSTMENTS IN RESPONSE TO ECONOMIC POLICY REFORMS: NEW ZEALAND AGRICULTURE IN 1989

There has been considerable attention given to policies of "economic liberalization" adopted in New Zealand since 1984. The policies have changed the economic environment from one which had become progressively reliant on massive government assistance and intervention to one of clearer market orientation which seeks more efficient use of resources throughout the economy. This paper seeks to describe the new policy setting in New Zealand and the extent to which the agricultural sector has, or has not, adjusted to the new economic environment.

The New Zealand economy can be characterized by an agricultural based export sector and a small but highly protected import substitution manufacturing sector for much of the post World War II period. Pastoral based commodities - dairy products, meat and wool - dominated exports, although other activities such as fishing, forestry, horticulture, tourism and manufacturing have become increasingly important. The structure of the economy is a hybrid of high income and lower income country economies. Agriculture has traditionally represented 10 percent of gross domestic product, food processing is the largest manufacturing sector, exports are predominately food and fiber products, and land represents a large proportion of total financial capital. These are all strongly characteristic of a lower income country, yet the per capita income of New Zealanders remains in the top 30 worldwide. New Zealand had built high levels of agricultural support into its pastoral sector. This support developed in spite of the agricultural based dependency of the economy, and grew in response to calls for increased exports and for compensation to agriculture for cost excesses elsewhere in the economy.

Policies designed to foster agricultural exports were important contributors to general prosperity through the 1950's when New Zealand together with Switzerland had the third highest per capita GNP in the world. However, the economy became increasingly introspective in its orientation in the 1960's and 1970's. Both political parties promoted programs which included foreign exchange preservation via direct financial controls, agricultural fundamentalistic policies to enhance production of export commodities, the development of a manufacturing sector to facilitate full employment policies, and an increased role of government in social programs to secure citizenry welfare.

Unfortunately, the net effect of these policy directions was a steady deterioration of New Zealand's relative standard of living and a rise in overseas debt. During the 1960's, agricultural commodity prices started a long term decline in real prices, a decline which contributed to and was accentuated by increasingly protectionist policies in major markets for pastoral products. New Zealand failed to accept these trends as long term trends, regarding them instead as short term cycles which might be buffered by further policies of government intervention. Successive New Zealand governments pursued protection and exchange rate policies which had the effect of depressing farmers' returns in domestic currency terms, and which also resulted in increased farm costs. Assistance measures, required to maintain agricultural viability and export production for foreign exchange, included subsidization of farm inputs, farm outputs, agricultural services and the cost of borrowed capital. Assistance policies had side effects resulting inevitably to the introduction of further measures with their own side effects (OECD, 1987). Le Heron (1989) provides an useful chronical of political goals and forms of government interventions that were present through the period, 1960 to 1984.

Agricultural assistance continued to grow through the early 1980's despite apparent declining terms of trade for agriculture and rising real interest rates worldwide. The fiscal deficit grew as a percentage of gross domestic product, with large increases in foreign debt. By the mid-1980's, New Zealand per capita GNP had slipped to 25th in the world and per capita income had fallen to less than half of Switzerland.

By 1984 it had become clear that increasing levels of debts, reflecting fiscal deficit after fiscal deficit, were unsustainable. In June of that year, the National government announced the termination of the Supplemental Minimum Pricing (SMP) scheme and the decision to charge producer board accounts at the Reserve Bank at commercial interest rates. A snap election in July 1984 brought the Labour Party into power with a commitment to a free market philosophy, replacing the National Party which had drifted into interventionism and elector disenchantment resulting from those policies. The new government gave major emphasis to monetary and fiscal policies aimed at reducing the inflation rate which had been at double digit levels for all but one year in the preceding decade. It was also to present a set of economic reforms designed to improve resource use efficiencies. The new government immediately announced a 20 percent devaluation of the New Zealand dollar and removed controls on lending and deposit interest rates. The November 1984 budget removed various subsidies and incentives, including a phasing out of fertilizer subsidies, raising Rural Bank interest rates progressively to the market rate, lowered irrigation and water supply subsidies, terminated the investment tax allowance, ended the noxious weeds subsidy, and introduced a cost recovery program for product inspection services (Reynolds *et al.*, 1989). Subsequent policies would transfer Crown assets to profit motivated State Owned Enterprises, phase out land development tax concessions, introduce a flat 10 percent consumption tax on goods and services, introduce cost recovery of advisory, research, animal health and

agricultural quarantine services, reduce grants and subsidies to agricultural organizations, remove producer board access to Reserve Bank finance, and, in general, move towards removing intervention by financial assistance, regulation, or government ownership of enterprises. The latter includes the sale of irrigation schemes and government owned financial institutions, the Bank of New Zealand and The Rural Bank and Development Finance Corporation.

The economic program had two major impacts upon the agricultural sector. First, most of the direct assistance to agriculture was quickly removed as part of the general fiscal policy of reduced government spending. This had an immediate and direct effect, mainly upon incomes in the short run. More importantly, the medium term effects of other economic reforms such as the removal of interest rate controls and the floating of the New Zealand dollar began to have a serious impact upon agriculture's exporting sector. Initially the economic reforms had the support of the agricultural sector. Farmers expected that exchange rate changes would reflect more favorable on-farm terms of trade and the withdrawal of assistance to agriculture and other sectors of the economy was greeted with expectations that cost excesses would be removed and the "playing field would be level." For many, the adjustment process has been painful, with reduced incomes and levels of production and investment accompanied by rising debt servicing costs and shrinking asset values. Assistance reform has stripped away a lot of its protection relative to other sectors while monetary and fiscal policies have imposed costs on the sector through high interest and exchange rates.

Table 1 contains information which can be used to reflect changes in the period immediately before and after announcement and implementation of economic policy reforms of 1984, and later. Total agricultural output has fallen in the post reform period. The value of output reveals the combined effects of low prices and reduced outputs, reflecting both fewer inputs used in economic production and

adverse weather in important production regions, all of which severely reduced farmers' incomes. Total assistance to the pastoral sector had increased from only \$55 million in 1970 and \$252 million in 1975 to \$728 million in 1982 when the SMP scheme was introduced. In 1983 SMP payments were \$438 million of the \$1.145 billion total assistance to agriculture. The other major assistance items in 1983 were payments to the Meat Board Stabilization Account (\$225 million) and interest and taxation concessions (\$231 million). Assistance expenditures by government, which had made up 32 percent of output in 1983 and was over 20 percent over the 1982-1986 period, has now been reduced considerably as programs have been terminated or phased out.

Indices contained in lines 4 through 8 reflect economic conditions of the 1980's. Consumer prices doubled in the first six years of the decade. The real trade weighted exchange rate, expected by farmers to swing in their favor as a consequence of changes in economic policies was stable for most of the period, except for favorable conditions for 1985 immediately following policy reform. More recently, the 1988 index turned adversely for producers. Real net farm incomes for sheep and beef farms has declined throughout the decade, except for the upward surge in 1985 due to favorable climatic and exchange conditions. Current net farm income per farm is only 40 percent of the 1980 level. The income of dairy farms which was more stable through the first half of the decade, fell in 1986 and 1987, but will show substantial improvement when 1988 figures are released. Real farmland values continued to increase through 1982, despite falling net farm incomes, and have since fallen by nearly 60 percent in real terms.

Table 1. Selected Economic Indicators, New Zealand, 1980-88

	1980	1981	1982	1983	1984	1985	1986	1987	1988
1. Total Ag. Output (\$ billion)	4.4	4.5	5.0	5.0	5.9	7.6	6.9	7.0	7.6
2. Agriculture pct. of GDP (percent)	10.1	8.8	7.7	6.7	7.0	9.2	7.0	5.7	5.7
3. Total Assistance (\$ million)	439	410	728	1145	1121	1043	1142	675	530
a. pct. output	17	15	23	32	31	23	30	17	12
4. Consumer Price Index (1982=1000)	746	861	1000	1074	1139	1316	1490	1724	1834
5. Real Trade Wtd. Exchange Rate (1976=1000)	1039	1023	1012	1016	1004	867	1024	1022	1237
6. Real Net Farm Incomes									
a. Sheep and Beef Farms (1976=1000)	1066	807	686	663	503	832	329	475	419
b. Dairy Farms (1976=1000)	839	797	905	837	838	969	462	502	--
7. Real Farmland Values (1982=1000)	812	914	1000	908	818	702	556	462	424
8. Real Net Worth Sheep and Beef (1976=1000)	1286	1422	1378	1118	1116	882	530	524	486
9. Agricultural Debt (\$ billion)	3.5	4.2	5.2	5.8	6.8	7.4	8.0	8.5	--

Sources: Ministry of Agriculture and Fisheries; New Zealand Meat and Wool Boards' Economic Service; Department of Statistics.

The real net worth of sheep and beef farms have declined even further, from an index high of 1422 in 1981 to only 424 in 1988, a decline of 70 percent. The decline in the real net worth of sheep and beef farms reflects the downward valuation of assets in the 1980's. Coupled with continued high interest rates, it has produced a reduction in lenders' security margins and increased difficulties on the part of borrowers to service debt. Not all farms are affected uniformly. The most adversely

affected are those who purchased farmland at the peak of the farmland market and who have since lost the majority of the real value of acquired land. At the extreme, the most adversely impacted group will include those whose equity has been reduced to zero, or less, because assets have been so devalued that they are now worth less than outstanding indebtedness, and whose net incomes are not sufficient to service the interest on outstanding debt, provide adequate household drawings, and make tax payments and principal repayments. Agricultural debt in 1988 is estimated to be about two and a half times the 1980 debt level and, in recent years, has exceeded the annual value of production. There is presently much conjecture whether the rural debt has decreased or not from the \$8.5 billion estimate for 1988. Those who think it might have decreased, base their opinion on the observation that sheep and beef farms' mortgage reductions have exceed mortgage increases recently. We are not likely to know exactly since one feature of economic liberalization has been widespread deregulation and elimination of reporting requirements.

Table 2 presents economic performance indicators for the pastoral sector. In only one of the past five years has there been a positive cash surplus before borrowing. Returns for the 1985 farming year were buoyed by very good climatic conditions and short term effects of devaluation. Negative cash surpluses, before borrowings, have occurred since. Interest expense has increased to about 20 percent of gross income and average equity, which was 80 percent in 1984, is projected to recover somewhat from the 69 percent level recorded in 1986.

Table 2. Selected Financial Performance Indicators, New Zealand Sheep and Beef Farms, 1984-1988.

	1984	1985	1986	1987	1988
<u>Industry Averages:</u>					
Net Worth Ratio	80	77	69	72	72
Interest pct. GFI	16	13	20	19	20
Cash Surplus	-\$7,048	+\$4,416	-\$15,732	-\$7,169	-\$8,261
<u>High Debt Farms (&lt;50% equity):</u>					
Percent of Farms	6	10	24	19	19
Net Worth Ratio	35	32	24	27	27
Interest pct. GFI	36	30	41	42	44
Cash Surplus	-\$15,672	-\$12,089	-\$42,833	-\$30,729	-\$30,661

Source: New Zealand Meat and Wool Boards' Economic Service.

The bottom portion of Table 2 refers to "High Debt" farms, defined as farms with 50 percent, or less, equity. The proportion of high debt farms rose substantially over the period from only 6 percent of all sheep and beef farms in 1984, upwards to about 24 percent in 1986. The net worth ratio for these farms has fallen from 35 percent average equity in 1984 to only 27 percent, implying that these farms have indebtedness levels amounting to nearly three-quarters of the value of total farm assets. About 10 percent of high debt farms, equivalent to about two percent of all sheep and beef farms, had zero, or negative equities in 1987. [In 1985, there were no farms reporting less than 10 percent equities]. "High debt" sheep and beef farms have had to direct 30 to 45 percent of gross receipts to pay annual interest expense and negative cash surpluses have been ever associated with this subcategory of

farms, most recently at levels of about -\$30,000 per year, a level not sustainable for long.

There are differences between economic conditions in the various regions of New Zealand. Particularly hard hit are farms in regions which have simultaneously had to cope with drought and economic policy reform. A recent Rural Bank study of the financial condition of its customers in North Otago revealed that 18 percent of farm units there had negative equities in November 1988 (Chappell, 1989). And within regions, there is substantial variability in farm performance and financial conditions among farms. In a recent paper, Taylor (1989) noted that the top 15 percent of farms were highly profitable with a 10 percent return on equity capital, the bottom 15 percent were clearly unsustainable as viable farm units for the long term having a negative -1.5 percent return on equity, and the middle group were faced with debt levels which had forced changes in expenditures that could potentially adversely impact long term viability.

Overall, the search for significant betterment in the financial performance and condition of New Zealand sheep and beef farms is not yet evident, although there has recently been an upward revision in the 1988/89 cash surplus estimate to only -\$3,700. Interest payments dominate those heavily in debt and concern has been expressed about the longer term impacts of lower levels of inputs on future productivity and, thus, enhanced farm incomes. The recent period of low real incomes has been described as one in which investment in agriculture has been below maintenance levels of fertilizer and repairs and maintenance expenses (Taylor, 1989).

Other sectors of New Zealand's agricultural economy have, understandable also been under financial stress because of decreased financial assistance and increased debt. The kiwifruit industry, which expanded during the 1970's and early 1980's is, like the sheepmeat sector, burdened with problems. A November 1987

MAF survey revealed that 35 percent of growers had less than 50 percent equity and that about 8 percent had negative equities (Moore and Sandrey, 1988). The North Otago study revealed that cash crop farms in that area had an average equity of only 4 percent, in contrast to an average of 35 percent for sheep farms (Chappell, 1989). The dairy sector has been one in which there has been widely reported price recovery. There has also been moderate to strong growth in beef, deer, goats and finewool sheep production in contrast to retrenchments in crossbred sheep farming and static kiwifruit and apple plantings (Ministry of Agriculture and Fisheries, 1989).

#### REFERENCES

- Chappell, R. J. 1989. A Summary of the Financial Position of North Otago Farms Secured to the Rural Bank. The Rural Bank, Wellington.
- Lattimore, R., B. Ross, and R. Sandrey. 1988. Agricultural Policy Reforms in New Zealand, 1984. Paper presented to the XX International Conference of Agricultural Economists, Buenos Aires, Argentina.
- Le Heron, R. 1989. A Political Economy Perspective on the Expansion of New Zealand Livestock Farming, 1960-1984. *J. Rural Studies* 5(1):17-43.
- Ministry of Agriculture and Fisheries. 1989. Situation and Outlook for New Zealand Agriculture 1989. Wellington.
- Moore, W., and R. Sandrey. 1988. Adjustments in the Kiwifruit Industry. Paper presented at the 13th Annual Conference of the New Zealand Branch, Australian Agricultural Economics Society, Blenheim.

New Zealand Meat and Wool Board Economic Service. The New Zealand Sheep and Beef Farm Survey: Production and Financial Analysis. Wellington. annual survey and special reports.

Organization for Economic Cooperation and Development. 1987. National Policies and Agricultural Trade - Country Study: New Zealand. Paris. Reserve Bank of New Zealand. 1986. The Rural Debt Problem. Reserve Bank Bulletin 49:503-509.

Reynolds, R., Y. S. Chiao, and B. Robinson. 1989. Macroeconomic Policies and Agricultural Sector Responses. Paper presented to the 33rd Annual Conference of the Australian Agricultural Economics Society, Lincoln College, Canterbury.

Taylor, N. W. 1989. A Review of Current Financial Trends and Farm Incomes in the New Zealand Sheep and Beef Industry, March 1989. New Zealand Meat and Wool Boards' Economic Service Paper G1996. Wellington.