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EFFECTS OF LIBERALISATION ON THE PROVISION OF GOVERNMENT SERVICES TO AGRICULTURE

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Abstract

Over the period from the late seventies through to the early eighties, NZ agriculture received high levels of assistance from the Government. Much of this assistance was not in the form of direct transfers, but through the subsidised provision and pricing of Government Services.

The Labour Government brought a change in the assistance environment. Economic policies favoured achieving economic growth by increasing economy-wide efficiency. Government began to withdraw direct assistance measures to agriculture and moved towards using budgetary means and regulation more to maximise efficiency by enabling best operation of the market mechanisms. Government departments have had spending limits imposed and any budgetary costs over and above these limits, and all costs in the case of SOEs, are to be recovered by implementing user-pays principles. We have examined the effect of these changes in four key areas: inspection and quarantine services; research and development; rural lending; and rural services (water, electricity, roads).

Within the area of inspection services, meat inspection has been moved to a two-thirds cost recovery basis and the efficiency of the operation has increased significantly. Research has only experienced small cuts in real spending, but a much greater impact has been seen in the development and extension areas. Rural lending rates are being increased to align with market rates. There was no real change in interest assistance up to 1986 as market rates also increased. Since then this gap has closed resulting in higher finance costs to farmers relative to the rest of the economy. Some rural service subsidies have been removed but it is still too early to fully guage the effects. Recent changes in hidden assistance could have significant effects, perhaps as large as with the direct assistance measures, on viability of farm enterprises.

The implications for the rural sector of these changes are many. Initial increase in costs of services to farmers will result from the application of user-pays. However, these increases may be offset by cost savings from both a) cutting services no longer demanded and b) increases in efficiency of the remaining services. The relationship between the rural sector and the provider of the services is changing as the farmers have more say in the provision of services.

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* The views expressed in this paper are those of the authors and do not necessarily reflect the official view of the Ministry of Agriculture and Fisheries.

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1.1 Background and Environment

The post war New Zealand economy has been characterised by an agricultural based exporting sector and a small, highly protected manufacturing sector. Stated aims of both major political parties during the period to 1984 included foreign exchange preservation and the development of a manufacturing sector to facilitate full employment policies. Unfortunately the net result of following these policies has been a steady deterioration of New Zealand's relative standard of living. Although the National Government had started an economic liberalisation programme in some areas during the mid 1970's, it wasn't until the change of power in July 1984 that the new Labour Government embarked upon an accelerated programme of economic liberalisation. The stated objectives of the programme has been maximizing growth through enhanced economic efficiency achieved by removing distortions to the economy and reducing Government spending.

This programme has made radical reforms across all sectors, however many of the initial major impacts were upon the agricultural sector. Much of the previous assistance to agriculture has been removed and Government's relationship with the sector has changed. A subset of this assistance had been a series of policies providing subsidised services to agriculture and the rural sector. Although much has been written on direct price supports to agriculture, the issue of Government subsidised provision of services has been largely ignored.

Governments had historically intervened in the provision of services to agriculture in three major ways; by public conduct; by public funding; and by setting legal and regulatory frameworks and the economic climate in which the services are provided. Up till 1984 the emphasis was placed on a dominant role for public conduct and funding. The economic liberalisation programme has shifted the emphasis towards greater involvement by beneficiaries and more emphasis on enhancing overall efficiency. The new approach will be shown to be one which relies mainly on market and private mechanisms to determine the levels of investment. Where levels are inappropriate Government may use policy tools to create an environment where resources can be allocated more efficiently.

1.2 The Problem - Key Issues

It needs to be recognised that a diverse group of organizations exist which can and do both conduct and fund the provision of services to agriculture. Economic efficiency is usually enhanced, though, if the beneficiaries are more closely aligned to the funder. The first issue to be examined is the dominence of conduct by Government agencies in a number of key areas and the possible transfer of responsibilities to the private sector.

The second issue is that of funding. Specifically we need to ask who should pay, and how should those funds be raised? The appropriability of benefits is a key issue; and Governments can influence this. Moreover, if individuals or industry group beneficiaries can be identified, then funding problems may be minimised by use of levies. The efficient mechanisms for user-pays thus becomes a sub-issue of this study.

The final and major issue to be addressed in this paper concerns the policy initiatives available to Government to enhance overall economic efficiency by setting the environment for the provision of services to agriculture. Key aspects of this issue include moves to separate the demand (funding) and supply (conduct) roles of Government departments and to increase transparency and accountability. The efficiency objective also flows to policy actions which have impacted on the legal and regulatory frameworks and moves to increase the appropriability of results.

Examples where such policies have been introduced are described in an attempt to show the implementation of policies and the resulting implications on the agricultural sector.

1.3 Outline of the Analysis

In the following section of the paper we examine the rationale behind the economic policies which have been developed. This theoretical examination of the rationale for Government intervention then provides a framework for the examination of case studies of implementation in four topical areas. The case studies chosen are meat inspection, agricultural research and development, rural lending services and the rural services of electricity, water, telephones, and roading. Finally, the implications for agriculture and the effectiveness of policy moves are discussed. These discussions are preliminary ones, as many of the reforms are only partly implemented and private sector adjustments incomplete. It should be noted that it is difficult to seperate policy effects from other adjustments occuring in agriculture at this time.

2 RATIONALE - ECONOMIC POLICIES

2.1 Efficiency Objective

Economic agents depend on market signals to make decisions about allocating resources efficiently. The market failure approach as set out by Arrow (1962, 1969) suggests that Government intervention should be undertaken to improve the allocation of resources where for a variety of reasons a competitive economy does not invest in the optimal amount of services. The market failure argument and the need to compensate farmers for distortions elsewhere in the economy were the principal justifications for historical intervention.

Failure of markets may result from the presence of externalities. When resources used or outputs produced are not correctly valued by the market misuse is expected to occur. Collective action may be required in such a case to allocate the resources efficiently in accordance with "true" market values. Quality Standards for goods or the environment are examples. Even in perfectly functioning markets, quality standards may still not meet public expectations. Intervention is needed to set publicly acceptable levels enforceable by law.

However, the market failure approach does not provide the complete answer since while Governments intervene, it leaves unanswered the key issues of to what levels and by which means.

Consistent with the liberalisation programme is the need to examine the provision of Government services using the 'transaction costs' approach primarily associated with the Williamson (1985) and Baumol (1986). This approach is based on the belief that 'market failure' arises because of the presence of transaction costs which constrain or prevent the exchange of goods and services. This approach challenges the automatic response of the market failure theory that Government intervention is mandatory. Instead it examines the source of market-failure and indicates where private or public sector funding will be more efficient. It concludes that the public sector is likely to have a lesser role in funding and conduct, but is more usefully engaged in policies to reduce transaction costs facing private sector investors.

Appropriability refers to the degree to which funders can secure the returns of their activity, and the cost of enforcement is a transaction cost. If firms (producers) cannot secure the returns to their activities then private property rights may need to be enforced. This can be achieved through one of several ways: give rights to exclude others; give rights to extract exclusive income; give rights to transfer or exchange the property.

2.2 Involvement - Provision vs Setting

Assuming there is a case for Government involvement in the private market, a question still arises as to the extent of that involvement. The degree of involvement depends on the circumstances of the industry in question.

Figure 2.1

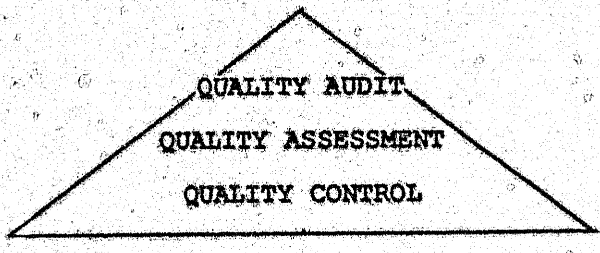

Figure 2.1 uses the example of meat inspection to show the three levels of involvement in a service. These include an audit role, assessment role and control role. Beginning at the bottom the quality control role involves the actual delivery of work, that is, carrying out the inspection work. Quality assessments considers both the New Zealand and overseas environments to set the standards which are used at the control stage. Finally the audit role examines both the control and assessment stages ensuring standards are met and making recommendations for any changes in the system. The Government could, as the previous Government did, be involved at all three levels where they set the standards, carry out the inspection work and audit the operation. At the other extreme, they could withdraw to just the audit stage leaving the provision of the service to the private market.

The new environment questions how involved the Government should be in the private markets. The result has been to examine the implications of moving the Government to an audit only role. This new role would be one of "setting the rules" for the environment to achieve maximum efficiency and using both private funding and fully contestible conduct of assessment and control.

2.3 Funding

The issue of funding is very separate and different from that of involvement or conduct. Notably, a case for Government involvement in the private market does not imply a case for Government funding. Reducing Government role to that an audit alone will shift the burden of provision and funding to the private market. The market is a better allocater of resources thus increases in efficiency should result.

Imposed funding limits on the departments have resulted in either (a) reducing the supply of that good or service or (b) passing the costs of providing the services on to the consumer by implementing user-pays. The user-pays philisophy is not necessarily an end in itself, but a means of reaching the goal of more closely aligning beneficiaries and funders.

Those services still being conducted by Government departments are moving to a contestible user-pays system, increasing efficiency and forcing competition with the private sector.

To summarise there have been two major interrelated changes in Government intervention in New Zealand over the past four years.

First, as part of the efficiency objective there have been moves to seperate the conduct and funding sides of Government departments through increased transparency and accountability.

The second and more obvious feature has been the interrelated one of Government announcing reduced department budgets and cuts to the size of the grants. These reductions in net public funding are coupled with a move to more user-pays. This move has not primarily been motivated on the basis of fiscal restraint, but is founded in the desire to enhance overall economic efficiency and equity. By aligning the beneficiaries with funding sources it is argued that those paying will directly demand increased accountability and value for money, and that those who stand to benefit should be best able to evaluate proposals. Thus greater involvement and funding by producers and processors will ensure better prioritising of programmes and make better use of the Governments contribution.

We will now discuss the implications of these policies in four key areas which are representative of overall changes in the sector.

CASE STUDIES OF IMPLEMENTATION

3 MEAT INSPECTION

3.1 Historical

The involvement of Government in the inspection services has varied over the years since their implementation just prior to the turn of the century. Prior to the 1950s Government provided the service at a small fixed charge borne by the meat works as New Zealand's major export market during this period was the United Kingdom which had reasonably relaxed quality standards. Thus the level of meat inspection was also low. In 1955 New Zealand secured a new market in the United States, who imposed higher requirements of meat inspection and hygiene. The result was an increase in the level of and total costs for meat inspection in New Zealand. Moreover, costs were greater than need be since all works were required to meet the higher US standards, irrespective of destination of the output.

With the entry of the UK into the EEC in 1973, meat inspection standards in New Zealand had to be lifted again to meet the higher requirements of that market. This level of inspection and the fixed charge continued until the beginning of 1975. As part of the changes to agricultural assistance measures, meat inspection fees were suspended from February 1975 until September 1976 when increases in meat returns saw partial restoration of fees on a per animal basis. In September 1978, inspection fees were once again cancelled when the Government increased levels of assistance to agriculture.

When zero costing was in place there was little accountability and consequential excessive demand for the service.

3.2 Changes

Meat inspection has undergone another radical change in the past few years. Inspection services are operating in a different environment with Government committed to policies of efficiency, neutrality, and lesser involvement. As part of Labour's economic liberalisation process meat inspection fees were put on a 1/3 cost recovery basis from December 1985. This cost recovery was increased to 2/3 in the following year with the proviso that at some later date a move to full recovery may be adopted. The introduction of user-pays has also meant that the users have a say as to what services need to be provided. The result has been less services delivered and a retrenchment of staff.

Below is a table outlining the changes in meat inspection costs and revenue in the eighties.

Table 3.1: Government Expenditure on Meat Inspection

($000)

Year March	Personnel Costs	Other[1] Costs	Gross Expenditure	Revenue	Net Expenditure
1979/80	24,023	1,310	25,333	28	25,305
1980/81	29,644	1,449	31,093	987	30,106
1981/82	36,229	2,051	38,280	-1,141	39,421
1982/83	41,572	1,970	43,542	289	43,253
1983/84	42,278	2,086	44,364	188	44,176
1984/85	43,282	2,309	45,591	150	45,441
1985/86	47,030	2,622	49,652	1,343[2]	48,309
1986/87	58,252	5,635	63,887	21,932	41,955
1987/88	52,473	9,550	62,329	46,897	15,432

1 Other costs includes operating costs, capital expenditure, grants and in the latter years GST.

2 The one-third cost recovery does not show here due to the delay in receiving revenue.

These changes are tied up with other developments occurring in the meat industry over this time.

3.3 Effects

New Zealand meat inspection is going through a transition period in which significant improvements in efficiency and competitiveness have been achieved and are in immediate prospect. Many of these improvements have not yet flown through to the greater rural sector so discussion here is limited mainly to effects at inspection level. Visible results at this stage include a different operating environment for the rural sector.

In 1988 meat inspection cost $60 million annually, with $20 million Government funded and the remaining $40 million industry funded. Recently there has been a change in the pattern of real revenue and expenses as shown in Table 3.1. Expenses have increased only marginally over the past few years, with a dramatic increase in the level of revenue, ie the percentage of revenue to expenditure has increased from less than 1 percent in 1979/80 to approximately 75 percent in 1987/88.

Initial effects include the reduced employment prospects for those involved in the inspection services. Much retrenchment has already occurred, however more is expected as the supply of lambs is reduced and more services are pruned. The speed of retrenchment is slowing down as measured by the rough calculation of meat inspectors efficiency (head of stock inspected per inspector). Over the period 1979/80 to 1986/87 efficiency shows a dramatic increase (see Table 3.2 below). Using this measure efficiency increased from 26,000 head per inspector in 1979/80 to 41,000 in 1986/87. A reduction in efficiency to 30,000 head per inspector in 1987/88 indicates the retrenchment of staff was not sufficient to match the reduced throughput of freezing works in that year.

Contributing to this change in number of meat inspectors is the freeing up of the labour market. Part-time temporary meat inspectors can now be employed. Previously inspecters were employed on a full-time basis and were idle for some months of the year when throughput in the works was low.

MAFQual considers the standard of inspection to have increased also. The increase is a combination of a reduced number of inspectors and technical efficiencies resulting in less inspection time per carcass.

Table 3.2: Efficiency of Meat Inspectors

Meat Slaughterings - Head of Stock (000's)

Year March	Cattle	Sheep	Lambs	Other	Total	Total Staff	No. killed per inspector
1979/80	1,949	17,249	28,126	697	38,201	1,464	26
1980/81	2,075	9,033	32,222	716	44,046	1,474	30
1981/82	2,153	8,968	31,864	721	43,706	1,538	28
1982/83	2,257	9,180	35,884	756	48,077	1,523	32
1983/84	1,729	9,011	34,817	807	46,364	1,524	30
1984/85	2,010	9,918	39,593	872	52,393	1,515	35
1985/86[1]	1,685	7,133	31,751	908	41,477	1,440	29
1986/87	2,379	9,499	34,160	870	46,908	1,138	41
1987/88	2,189	7,934	30,407	944	41,474	1,095	38
1988/89							

1 In 1986 there were strikes in freezing works resulting in the reduced slaughter numbers.

As the user-pays system is implemented the bearer of the cost of inspection services has changed from the Government to the meat works and, as residual bearer, the farmer. With this, an important change is the provider of the services now have an accountability to the client which did not exist previously. Minimal costs charged also meant inefficient use of the services by the industry. Now the industry has a more proactive role in inspection systems. Clients are asked which services they want to receive and are prepared to pay for. In the past MAFQual has almost played a paternal role and made the decisions as to what was "best" for the industry. This change is highlighted in the recent review of the Meat Inspection System, MAFQual (1988).

3.4 Outlook

Investment in meat inspection results from imposed requirements of destination markets overseas. If New Zealand did not engage in meat inspection we would not meet the requirements to sell in that market. The market failure argument suggest Government intervention is necessary to enforce an appropriate level of inspection and allow entry to the markets. However as pointed out in Chapter 2 the market failure argument still leaves unanswered the question as to the extent of involvement. The transaction costs method expands on the market failure and identifies the source of market failure. Part of what is happening at present in the meat industry is identifying the transaction costs in moving to less Government involvement. It may be possible to move the Government to an audit only level however the transaction costs of achieving this may be too higher. We are continuing the process to determine the optimal level of intervention.

With the reduction in levels of Government services and with further reductions in numbers of livestock slaughtered likely there will be further retrenchment of jobs. Also expected in the next 2-3 years would be greater increases in efficiency.

The efficiency increases will offset to some extent the increases in costs to the industry resulting from the implementation of user-pays. Initially the costs are borne by the meat works however in time it is expected that they will be passed on to the farmers through increased processing charges.

Both the costs of meat inspection and the amount provided will be determined to a greater extent by the market with shifts in funding from the taxpayer to the beneficiary.

4 AGRICULTURAL RESEARCH AND DEVELOPMENT (R&D)

4.1 Historical

Research is the process by which new knowledge is generated, wheras development (extension) is the application of that knowledge to new products, processes or services. Agricultural research investments require the use of real resources now in order to generate returns in observed levels of productivity 5-10 years into the future. Scobie and Eveleens (1986) calculated that New Zealand agricultural R&D has had a high (around 34%) internal rate of return to the investment, benefits from a dollar invested today peaks in 11 years but will continue to accrue for a period of 23 years. The discounted return is likely to be around $2.80 in current day values.

The Government has heavily intervened in both sides of the New Zealand 'market' for R&D. The Government has contributed some 70 percent to the purchasing or funding of agricultural R&D, Beattie (1986), while around 80 percent of funds for R&D have been utilised by MAFTech and DSIR - the principal Government agencies conducting agricultural R&D (Eveleens and Scobie, 1986). During the 1950s and 1960s there was a 6 percent annual average growth in real expenditure on agricultural R&D in New Zealand. Real funding levels increased to a peak in 1982 and followed a path of decline since. (Refer table 4.1.)

Table 4.1 Public Funding of Agricultural Research and Development

YEAR MARCH	RESEARCH* (NOMINAL) ($000)	RESEARCH (REAL) (1975 $000)
1974/75	21,631	21,631
1975/76	24,418	20,852
1976/77	26,578	19,834
1977/78	31,056	20,704
1978/79	37,225	21,846
1979/80	40,795	20,428
1980/81	51,052	23,723
1981/82	65,265	27,561
1982/83	71,366	25,307
1983/84	75,282	25,580
1984/85	81,014	23,842
1985/86	81,064	21,067
1986/87	94,904	21,317
1987/88	101,625	20,949

* Calculated as MAF Research + DSIR Research

Source: Research 1975-1984: Scobie and Eveleens "Returns to Investment in Agricultural Research".

Research 1984-1988 MAF Component: MAF Estimates.

Research 1984-1988 DSIR Component: No longer Available. Used the 1984 DSIR/MAF ratio to estimate these years.

Within private sector research, approximately two-thirds is spent on processing and one-third on production. On the other hand, the majority (87 percent) of Government research is production orientated. No detailed analysis of the public/private split in expenditure has been undertaken, however, it is thought that private expenditure increases are offsetting the recent cuts in Government expenditure on research.

Research undertaken by the private sector is generally raised by levies on production at either the farm-gate or processing level. Nevertheless, only a small percentage of collected levies go to R&D, and this has been generally purchased from the public sector.

4.2 Changes in R&D Environment

In addition to those economy wide changes discussed at the conclusion of chapter 2, Government policies have changed and are changing to provide an environment more beneficial to R&D and to lower transaction costs for market participants, (Jardine (1987)). The legal and regulatory framework has been strengthened in the area of patents and property rights to enable the funder to more readily capture the benefits of the research. Quotas and licencing legislation reducing competition are being phased out. The latter moves increases the benefits from innovation and provides a stimulus to the amount of R&D undertaken.

Although there have been no major moves on fiscal incentives (subsidies and tax breaks), moves such as deepening of the stock exchange, private venture capital firms, removal of restrictions on capital flows and general regulatory reform of the capital market aim to assist in lowering transaction costs.

Finally, powers for industry groups to impose levies are being widened and this will not only enable industries to meet an expanded share of funding, but will overcome the ability of individuals to free-ride (capture benefits without contributing to costs).

4.3 Effects of R&D Policy Changes

To some degree increases in revenue (from implementing user-pays) has offset the cuts in expenditure. Within MAF, the application of user-pays principles has increased revenue from $2.3 million in 1985/86 to an estimated $14.8 million for 1988/89.

As the user-pays base widens there is already apparent an increase in researchers accountability and links with the client, leading to improvements in efficiency. Together these improve the ability to determine whether R&D should or should not be done in the public sector. Both MAFTech and DSIR can point to considerable gains in operational efficiencies (Report of the Science and Technology Committee (1988)).

There has been no major shift in the kinds of agricultural research undertaken, although some funds have been allocated to new areas. For example, there has been a move by both MAF and DSIR into the area of biotechnology. There is also more contract research work occurring between Government and universities now, though it has yet to become a big component of total research work.

To date the Government has funded projects across the spectrum, from those where all the benefits can be appropriated by individuals to the more public good areas where appropriation is very difficult. Priority has moved to Government enhancing the regulatory environment to reduce transaction costs and enhance the degree of appropriability. It is recognised that there will probably be areas where practical enforcements and collection costs are too high to justify user pays and that Government will have a continuing role as supplier of R&D funds. While producers are the major beneficiaries of agricultural R&D, they have historically only contributed 0.1% of the value of production. A general 1% levy would meet all current expenditures.

4.4 Outlook - Future Directions in R&D

The future directions of agricultural R&D in New Zealand are still a subject of debate, because the Government has not yet made definitive statements on its level of intervention in conduct and funding or put in place clear long term policies. However, it is clear from the earlier discussion that there is a need for a consistent, across the board R&D policy, with concurrent policy determination in areas of conduct, funding and setting the environment.

The estimated figure for public expenditure on research and development for the 1988/89 year is $85.733 million. In real terms this suggests a reduction of approximately 19 percent on 1987/88. It is therefore apparent that the first sizeable real cut in expenditure is now being undertaken, and it is essential that the private market is in a position to make up the balance if it considers this to be a sound investment.

The existing system for user pays must be seen as an interim measure to separate Government funded public research and user demanded private research. In the desired environment, private firms need to be able to enter the market for public funded R&D, and likewise Government agencies need to be free to undertake all research, however funded. The change to the new commercial environment arising from user-pays nees also to be matched by a change in organisational structures of firms conducting R&D. Such changes are occurring.

Further differentiation of research requiring public funding needs to be undertaken. Where the beneficiaries are clearly industry specific, the appropriate policy response is to minimise transaction costs by using compulsory levies (e.g. marketing boards) to fund R&D. However, where benefits of agricultural R&D are across industries (new crops, soils, shelter belts, grasses) it will need to be possible to levy all primary producers. Moves in this area have been slow in developing. This then leaves an area of accepted public good R&D into issues such as food safety, environmental quality and non-appropriable research which will require public funding from taxation. Total revenue derived from levies will fluctuate annually given the variability of agricultural output and prices. Agricultural research trust funds would overcome this problem. Such funds in Australia also provide the means whereby beneficiaries can have a greater say in funding allocations and the research which is undertaken.

Recognising the time lag on investment returns, it is a duty of the policy makers to ensure that the framework is in place now to ensure that future generations do not suffer from an underinvestment today.

An important unsolved policy issue for agricultural R&D in New Zealand is the place of agricultural research in the total scientific framework. The most recent Scientific and Technology Advisory Committee Report has suggested that all public research money be pooled and the various organisations compete for a portion. It is also suggested that there be a redirection of funds away from scientific agricultural research to medical and other social areas. In this environment the move to user-pays becomes more important for agriculture.

5 RURAL LENDING

5.1 Historical

The New Zealand Government has been an active lender to the agricultural sector for the past three decades. Credit assistance has been a major part of policies to encourage higher export levels and thus exchange earnings, to compensate farmers for distortions elsewhere in the economy, and to offset deteriorating terms of trade. Concessional interest rates have been offered to farmers through the Rural Banking and Finance Corporation and its predecessor, and the old Lands and Survey and the Maori Affairs Departments. In recent years the government has provided about one-third of total and 50 percent of long-term lending to the agricultural sector.

The concessional element of these lending policies represented a transfer from taxpayer to agricultural borrower. In addition, it meant that Government may have crowded out private lenders from the farm credit market. Moreover, the benefits of low interest rates and other subsidies were effectively captured by existing landholders as these were capitalised into land values. As an example, in the period 1976 to 1982 farmland prices rose 240 percent while incomes rose by only 25 percent (Lloyd, 1987).

5.2 Changes

The Labour government indicated in its first budget (1984) that from 1985 government lending rates would be brought in line with market interest rates. This change would place agriculture on an equal financial footing with other sectors of the economy. The government indicated its intention to continue to conduct lending but remove its funding role. The phasing out of interest concessions was mandated by the Rural Bank's increased reliance on private, rather than taxpayer, funding sources. Credit from other departments was also to follow this pattern. Concessional interest rates on existing loans were to be gradually brought towards a market indicator rate while new loans after 1985 were to be issued at market rates.

Table 5.1 presents estimates of average interest concessions to agriculture for the period 1984-1988. During this period actual interest foregone increased through 1986 as market rates rose considerably faster than did the concessional rates. Since that time interest concessions have fallen and will continue to do so until existing loan rates are on a parity with market rates. At the time of writing, concessional interest rates were only 2 percentage points lower than indicator rates.

Table 5.1: Interest Concessions to New Zealand Agriculture

Year March	Average Interest Rate[1]	Market Indicator Rate	Interest Concession ('000)
1983/84	8.8%	15.7%	$167,700
1984/85	8.3	15.3	191,000
1985/86	9.8	20.6	313,900
1986/87	11.6	20.8	265,000
1987/88F	12.6	19.9	208,900

1 Applies to existing loans only. New lending after 1985 set at market rates.

Source: Tyler (1988)

In addition, the Bank discounted $230 million worth of farm debt in 1986 and 1987, moving certain clients to market interest rates without increasing loan repayments. This discounting scheme was part of a Government Farm Package. While helping selected clients, it may have affected financier confidence in the privatisation of the Bank, and the private sectors perceived ability to compete in long-term loans markets.

5.3 Effects

The loss of interest concessions when coupled with a rise in market interest rates has contributed to the severe cost inflation experienced by New Zealand farmers in the last three to four years. As a consequence farmers have largely been engaged in refinancing existing debts (NZMWBES, 1988). Interest payments alone has risen from 18% of sheep/beef farm expenditure in 1984/85 to 26% in 1987/88. A slight reduction to 24% is forecast for 1988/89.

While the impact of removing interest concessions is difficult to disentangle from effects of changes in other forms of assistance and from the effects of deteriorating farm incomes, several impacts can be observed. Total new government lending in 1987 has declined by approximately one-third since 1984. Over the same period, new loans from trading banks and building societies have risen by approximately 50 percent, (table 5.2) indicating these lenders may have been previously crowded out by Government intervention in the finance industry. In response to these events and the more general assistance reforms happening concurrently, on-farm capital expenditure (including stock) was reduced by nearly 50% in the same period, suggesting farms may of been overcapitalised. Land values have fallen in real terms by over 50%, reflecting higher interest costs, reduced capitalisation of subsidies and lower net returns.

Table 5.2: New Mortgages to Properties of 2 Hectares and Over by Source[1]

($ million)

Year Ending March	1984	1987	% change 87/84
Producer Enterprises	81.7	68.5	-16.1
Solicitor Nominee Companies	162.6	123.9	-23.8
Central Government	454.5	302.9	-33.3
Trading Banks	6.7	8.9	32.8
Savings Banks	16.5	22.6	36.7
Building Societies	25.0	43.5	74.0
Insurance Companies	105.3	57.6	-45.3
Other	502.0	446.5	-11.1
	1,354.3	1,074.4	-20.7

1 It is considered that the majority of properties 2 hectares and over would likely be in some form of agriculture.

Source: MAFCorp (1988)

5.4 Outlook

Given current directions in lending policies, reliance of the farm sector on government funds should continue to decline. Unless interest rates decline, capital expenditure on farms will remain low, especially during the period of depressed farm incomes. These on-farm trends may be offset by increased off-farm investment and/or proportionally more discretionary expenditure as full capital/development costs are borne by farmers. Changes to the way in which investment is treated under income tax calculations is likely to accentuate this trend. These changes suggest the capital outflow from agriculture is rational and that land values will continue to more closely reflect productive returns.

As part of the Labour Government's asset sales programme it intends to sell the Rural Bank during 1989. This full commercialisation will further distance Government from the provision of finance to agriculture, and allow for more private sector involvement in long-term lending.

6 RURAL SERVICES

6.1 History

Government provision of rural services has been a significant, if somewhat overlooked portion of agricultural assistance. Previous governments have encouraged resource movements into rural areas and more remote regions by a deliberate under-pricing of these services to rural customers. This "policy" has been implemented largely in the form of cross-subsidies where urban/town customers have born some of the higher costs of rural supply in order to equalise the price and availability of services. This underpricing of services has been justified on several grounds:

- compensation for import/industry protection policies which generally favour urban residents;
- promoting development of rural infrastructure to enhance agricultural output;
- general equity objectives in socio-economic policies.

These policies have facilitated a transfer of resources (capital and human) to rural areas. Insufficient data precludes current estimates of aggregate assistance levels. Evidence from other studies (Kolsen, 1983, Touche-Ross 1988) and considerable anecdotal evidence, including the recent pricing changes among State Owned Enterprises, suggest that these cross-subsidies constitute a significant resource transfer.

6.2 Changes

With an emphasis on reducing resource misallocation in the economy, the Labour Government has encouraged rural services to be priced on a marginal costs basis. As this policy directive is implemented the extensive regimes of cross-subsidisation are being reduced. Table 6.1 shows the changes to a subset of relevant services. These services are all undergoing changes in their pricing and/or supplies in order to reflect actual costs. Included in these changes is major revision of tariff structures and as a consequence the funding sources of operating revenues. This is being achieved, in the first instance through the creation of State Owned Enterprises (SOEs), and subsequently by deregulation of the relevant industries. For the purpose of this study, changes to electricity supply policies will be highlighted as an example of overall policy changes.

Electricity is supplied in a two tiered system in New Zealand. Firstly, the national grid supplies bulk electricity to wholesale customers known as Supply Authorities. These Authorities in turn retail the power to individual customers. The department managing the national grid has been turned into an SOE. As a consequence, the policy of uniform pricing along the grid is being examined to reflect actual costs of transmission (a function of consumption rates and distance from power sources). The local Supply Authorities are being encouraged to phase out policies of cost averaging (cross-subsidising) and move to a pricing structure which reflects actual supply costs. Currently each supply authority is given monopoly status over its district. However, if local

Table 6.1 Summary of Changes to Rural Services and Related Impacts

Service	Change	Aggregare Impact	Farm Level Impact
Road Services	Reduction in subsidies to local road boards	Higher roading costs/ reduced maintenance	Higher local body rates wear/tear on vehicles
	Marginal road maintenance criteria	Loss of support for maintenance of roading on dead end/remote roads	Costs born directly by users
Electricity	Change from uniform pricing along national grid	N/A	Rise in supply/maintenance costs for rural areas
	Policy directives to reduce cross-subsidies by local authorities		
Phone Services	Elimination/ reduction of cross-subsidies between tolls and rentals	N/A	
Postal Services	Loss of postal facilities		Reduced supply and access to services
	Possible end of cross-subsidy to rural delivery services	$15 million per annum	Rise in delivery costs

electricity supply is deregulated, as proposed by the Treasury, competition may force suppliers to adopt marginal cost pricing.

6.3 Impacts

In general, the reduction of cross-subsidised services will raise supply costs to rural areas. Low population density areas (eg hill country farms) will be greatest affected as supply and maintenance costs are generally higher to these areas. For example, a recent report estimates the maintenance/supply costs of telephone services to isolated rural areas to be as much as 10 times the comparable urban service cost (Touche-Ross, 1988). In Australia as much as 75 percent of possible rural electricity and 50 percent of road maintenance costs were cross-subsidised from urban ratepayers in the early 1980's Kolsen, 1983).

Electricity rates have often been a political decision as much as an economic one in the past, often benefitting farm/irrigation users. However, the net result of the marginal cost criteria and competition will be in most cases to raise electricity costs to a news of higher supply costs. More remote customers will likely see consumption charges raised significantly. Using the Australian estimates of cross-subsidies as a benchmark, it is estimated that full charging for electricity supply and maintainence could raise rural electricity costs by $30 million at current consumption rates. While the cost of electricity represents only 1% of 1987 sheep and beef farm expenditure, simultaneous rises in the changes for other rural services could have a significant impact on farm costs.

6.4 The Future

With the gradual elimination of price/supply subsidies, rural customers will increasingly be forced to pay a price more accurately reflecting the cost of services. Government will have a reduced role in conduct as well as playing a more neutral funding role. The impacts will be most felt in isolated areas of New Zealand and price changes will accentuate the problems of marginal farmers. In addition, the supply (and maintenance) of services may decline as demand is reduced due to price increases aligning, consumption with marginal productivity of the inputs. The higher cost of rural living may enhance the urban migration being experienced in New Zealand at present.

7 IMPLICATIONS FOR AGRICULTURE

7.1 Assistance Levels

The above sections have highlighted the present government's policy actions to reduce direct and indirect assistance to agriculture. These changes are part of an overall plan for government to become a more neutral participant in the New Zealand economy. The immediate effects on agriculture have been dramatic. Input subsidies, research and quality assurance assistance have been removed or scaled down. From 1984/85 the effective rate of assistance to pastoral agriculture has fallen from 20% of value added to an estimated 6% in 1987/88. These figures are inclusive of the negative assistance from import protection. Further, the cross-subsidies mentioned in Chapter 6 are crudely estimated to be worth between 3 and 6 percent of value added to New Zealand agriculture. Millions of dollars of public assistance has been provided to agriculture with little regard to the efficiency impacts of this assistance. However, with the changes in provision and pricing policies, the agricultural sector is being required to pay for these goods and services at realistic costs. As a consequence, farmers are being forced to fully evaluate the benefits and appropriate use levels of these inputs.

The agricultural community has generally supported government policy moves towards a more neutral assistance environment. Recently however, farmers have felt "hard done" as agricultural assistance has been eliminated more rapidly than assistance to the import substitution sector. There is clearly evidence becoming available which indicates that both the sequencing and speed of adjustment has been detrimental to agriculture. While other industries remain assisted, perverse resource shifts could occur which are not in the long-run national interest. Proposed labour market reforms have not progressed far, with some notable recent exceptions in the meat industry. In addition real interest rates remain high with consequential effects on the exchange rate.

It appears that the prevailing attitude among farmers is to stick with farming, albeit on a somewhat rationalised basis. A recent survey of Otago farmers indicated around 39% of farmers perceiving no need to changes operations, 40% indicating some adjustments were needed, 17% indicated the need to make major adjustments and/or diversify and 4% intended to leave farming altogether (Fairweather, 1987).

7.2 Farm Level Impact and Responses

It is difficult at this stage to evaluate the extent of economic efficiency gains from changes in government policies. New Zealand agriculture is generally in a state of retrenchment and restructuring caused by declines in farm gate terms of trade. Factors contributing to this cost-price squeeze include:

- depressed world commodity prices for most products;
- more volatile farmgate returns following the floating of the dollar;
- price inflation pushing up input and interest costs; and

- lower levels of input and output assistance.

Given the simultaneous occurrence of these events, one must isolate the impacts of economic liberalisation upon the efficiency of resource use in agriculture from other events.

As documented by Reynolds et al (1989), the last four years have witnessed a large decline in both capital and discretionary spending on farm. A large proportion of surplus resources have been transferred to debt retirement. As a consequence, it is difficult at present to determine whether there have been major changes in resource use and/or productivity. The current liquidity crisis in much of New Zealand agriculture appears to be taking precedence over other management issues.

The agricultural sector has scaled resource flows to reflect market conditions and reduced assistance levels. Freezing works are eliminating some excess capacity, especially since the removal of SMP's. Financial agents and marketing organizations have also rationalised operations. Significant reductions in capital expenditure, labour and other discretionary spending have occurred on farm. Evidence suggests that farms operations are diversifying to include more off-farm income and investment (Fairweather,1987).

What is apparent is that the costs and risks inherent in farming have been transferred more completely from the taxpayer to the farmer than with other industries. Demand for inputs, including public services, will in future be more based on their perceived marginal productivity. The public sector is now also receiving market signals from clients. This accountability issue will lessen the perverse resource use occurring in both public and private sectors. As a consequence, resources are likely to move out of marginal investments. Included in this change may be substantial restructuring in the more marginal farming areas.

7.3 Government

The case studies examined in this paper show how the Labour Government has initiated a number of reforms towards a more neutral relationship with the agricultural sector. While overall policy and funding changes have reduced distortions within agriculture, the Government, in the four and one half years of its term, has been incomplete in establishing the credibility of the reforms.

In terms of Government conduct, it has succeeded in removing itself from various assistance measures. It has eliminated most direct transfers to agriculture, put many services on a commercial basis as well as partly removing import measures which impact on primary producers. Direct involvement in the agricultural economy has been significantly curtailed.

Where reforms have been put in place efficiency gains are being made. Meat inspection services are still being rationalised, research programmes are beginnning to adjust to market needs and lending services are more closely reflecting demand and supply factors. These gains will extend to other rural services as reforms are implemented.

In the area of funding the Government has clearly cut back its contribution to private goods and services. The creation of State Owned Enterprises have imposed costs directly on to users. The user-pays system and the separation of funding and conduct roles occurring in departments has led to better definition of beneficiaries and to more private funding of research and development activities.

However, in areas where appropriability is an issue the Government has not yet actively or fully supported mechanisms to allow the private sector to fund R&D activities. There appears considerable work to be done in establishing levies and other collective funding mechanisms.

Possibly the area of greatest need for further Government action (intervention) is in the establishment of the new economic environment. To eliminate the traditional expectations of assistance upon encounter of hardship, the Government needs to be consistent in its policy directives. It is easy to discredit reforms by providing ad hoc assistance measures such as aspects of the Rural Bank discounting schemes, drought assistance and delays of proposed reforms. These peturbations go a long way to keeping the agricultural sector reliant on public resources for its well being.

7.5 Net Results - The Jury is Still Out

The Labour Government has succeeded in moving steadily away from the conduct role in agricultural services. It has instituted a variety of user-pays systems to privatise the delivery function of services. Most of the direct assistance to agriculture has been removed as a consequence. At present, the policy/programme of economic liberalisation is only half way complete. Government has been inconsistent in its directives, as it has reverted to intervention in difficult situations and this maintained expectations of traditional Government support mechanisms.

It is difficult to fully ascertain the gains and losses from government policy changes at this early stage in the reform programme. Some additional time for adjustment and an improvement in incomes/macroeconomic conditions in New Zealand will be needed before the response can be evidenced. Until then farming in the changed economic environment will be mostly a process of retrenchment.

It does appears that farmers are moving to reduce risks and debt exposure as well as ensuring a continuity of services. These activities are an appropriate response by the agricultural sector to the vagaries of climate, of international commodity markets, and currently of the Government.

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