

NEW ZEALAND ECONOMIC DEVELOPMENT:  
A BRIEF OVERVIEW OF UNBALANCED INDUSTRY GROWTH

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Views expressed in Agricultural Economics Research Unit Discussion  
Papers are those of the author and do not necessarily reflect the  
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Lincoln College, Canterbury, N.Z.

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## SUMMARY

Over a very long period of time, New Zealand's structural policy has devoted a low priority to the export sector. Up till the 1960's, New Zealand seemingly got away with the strategy for the agricultural segment of the export sector at least, as a result of rapid technical change. After this the impediments to growth became more obvious.

Attempts were then made to partially offset protection for imports with more protection (assistance) for export industries (SMP's, export incentives etc). This is technically known as tariff compensation.

The general conclusions that emerge from this discussion are:

i) A clear picture of the structure, conduct and performance of major industries and policies with the notable exception of the farm sector is not available. As a result it is very difficult to design a balanced restructuring programme. It is even more difficult to convince the public that the approach being taken is worthwhile, reasonable and equitable.

ii) The inertia and vested interest in the status quo makes it most likely that the past policy cycle will repeat itself at a large cost to society as a whole and particularly to the farm sector.

iii) Regardless of the trade policy settings chosen in the future (and they are crucial) there are a wide range of policy changes required to ensure that regulation and other distortions do not compound the bias against the export sector of the economy, including agriculture. These include stabilisation and exchange rate policies marketing policy, quality assurance and information policy.



## SECTION 1

### INTRODUCTION

"On some issues, New Zealand seems to be trapped in a time capsule. For decades, we thud around inside the glass, running through the same old cycle - hoping that this time we can break out and knowing that we are following a familiar routine." David Beatson (1985)

Over the last one hundred years, New Zealand's development strategy can be characterised as being inward looking (insulationist) with a large element of central direction.

Since 1888, successive Governments have intervened in the workings of the private sector using a wide range of policy instruments. At first glance it may appear as if there has been little or no common theme to these interventions. Nevertheless for long periods of time, basic policy strands are adhered to. At the same time interventions are made to moderate or slightly alter the direction imposed by the policy instruments making up the theme. This continual process which firstly, reinforces the direction of the policy and then proceeds to modify it in many ways, is a major strength of the democratic process, but it does make it more difficult to recognise and explain the direction, or even to know if there is a direction.

Another feature of the history of agricultural policy in New Zealand is that more often than not, we seem to have "been there before" in one form or another. An earlier quotation illustrates this fact:

"The most fundamental difficulty has been and still is the reduction of farming costs (including mortgage interest) to levels comparable with the new levels of export prices. Despite the fluctuating and at times very high prices of some years, the farming industries as a whole have suffered heavily. There have been and must still be reductions in land values: some land has gone out of cultivation, a great deal more has not been adequately worked for lack of adequate capital, and generally there has been a marked economic weakness in the rural industries", Condliffe (1930).

The familiarity of Condliffe's problem is in large part a result of the economic development strategy that has been adopted over a century. Relative returns and relative costs in New Zealand's export industries have been kept deliberately low compared to those in the import substitution industries. In fact this bias is probably greater today than it was in the year 1920 to which Condliffe was referring.

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## SECTION 2

### DEVELOPMENT POLICY

The development of New Zealand's agricultural resources over the past 150 years has been an outstanding accomplishment in international terms. It is easy, however, to exaggerate the relative importance of climate, soils and other biospherical characteristics and to underestimate the infrastructure that has been built up supporting all aspects of producing, processing and marketing farm based products to the world.

This infrastructure includes rural communities with their associated service industries, public and private research establishments, education facilities at all levels, information and marketing systems and public services including trade negotiators and quality control systems. All have had important roles to play in the development of the industry. They will continue to do so provided they continually adapt to changing needs. At the present time some of these changes are well overdue.

For most of the nineteenth century, government played a neutral role in economic development attending to society's and industry's infrastructural requirements. During this early period, high levels of material welfare were attained. New Zealand is reputed to have had the highest standard of living in the world towards the end of the 1890's, Gould (1982). Given the resource endowment at the time (low population density) and the state of technology and infrastructure, the Agricultural Sector contributed most to total real income.

It is worth digressing slightly at this point to recognise that had resource endowment differed at that time, so too the relative importance of farming would have been different. Agriculture happened to be able to exploit a wider range of market opportunities and technological breakthroughs than other sectors at the time. This fact told policymakers at the time very little about what the future importance of agriculture in New Zealand was to be.

Over the same period of time, high levels of relative economic performance coincided with high and variable levels of labour unemployment in the face of the international business cycle. This was the golden age of laissez-faire and social concerns that had been brewing for some time spilled over into action for change. The problem was attacked from a number of angles but this discussion focuses mainly on the industrial development approach that was used. Other policy approaches are perhaps more important to the solution of the unemployment problem but have probably had less impact on intersectoral growth.

One of the forms of government intervention that was adopted was the imposition (or raising) of tariffs on imports. The decision (in 1888) to use an 'import substitution' strategy to promote employment, had different effects in New Zealand as compared to other high income countries. There were three reasons for this:

- (i) agriculture was the largest sector in the economy,
- (ii) agriculture provided the bulk of foreign exchange earnings; and

- (iii) foreign trade constituted a relatively large proportion of Gross Domestic Product (G.D.P.)

As a contrasting case, the United States raised import tariffs on average from 10 per cent to 25 per cent at the turn of the century (Figure 1). The impact on industry and agriculture in that country was quite different because farming was much smaller (relatively), international trade was unimportant in the economy and export earnings, such as were required, were contributed by a variety of sectors, Economic Council (1975).

The decision to address the unemployment issue in New Zealand using trade policy was complicated at the time by the political weight of the farm lobby.

In simplistic terms, there were two main ways of reducing unemployment. It could have been addressed by providing a buffer of privately controlled resources or a buffer of publicly financed resources. A private buffer could have been provided by stimulating economic activity in the private sector at times of rising unemployment. Tariffs and other trade policies would have achieved this in the short term by raising the price of imports and raising the profitability of producing goods for the local market. Hence the demand for labour would have risen.

The other alternative was a public resource buffer in the form of unemployment benefits or special public sector employment. This alternative would have required large public revenues. At that time the additional tax burden would have been imposed mainly on farmers.

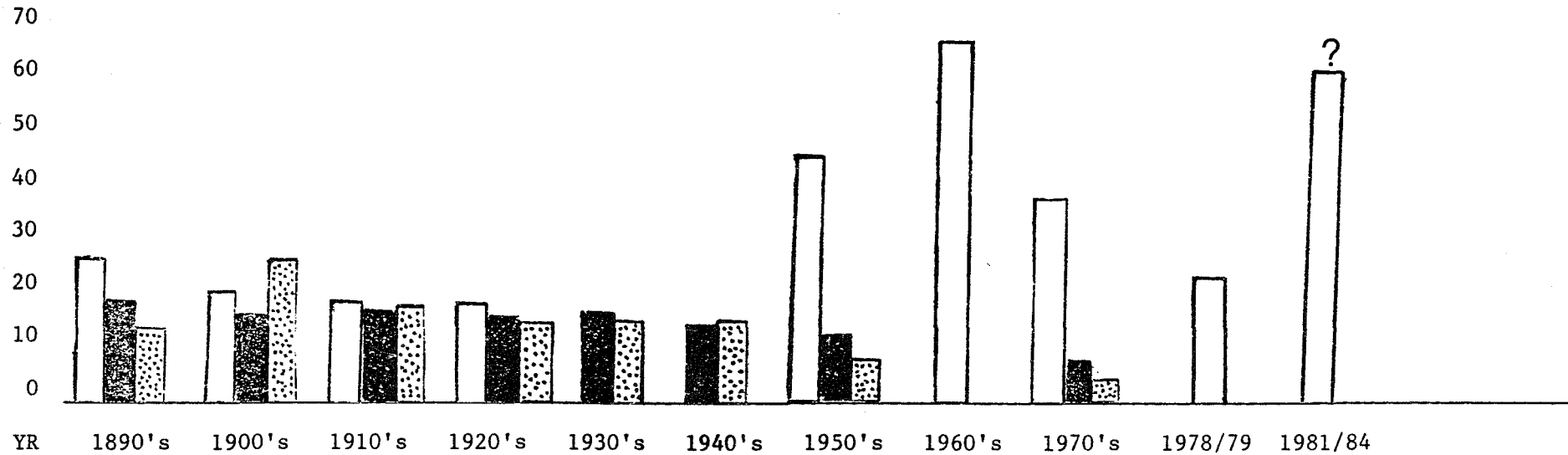
Related to the employment issue was the infant industry argument. This school of thought argued, and still argues, that balanced economic development requires initial import protection. In New Zealand's case, balanced development was taken to mean expanding the manufacturing sector principally by drawing capital and labour resources out of agriculture. Tariffs and other import restrictions achieved this by providing a subsidy to the import substitute segment of manufacturing and other sectors (in the form of the tariff) and an implicit tax on the whole export sector in the form of higher costs on inputs purchased from the rest of the economy.

New Zealand was certainly not alone in pursuing this development strategy over the period 1895 to 1935. Many countries tried the insulation route and it is fair to say that import substitution policies failed badly in their attempts to stimulate industrial growth, Krueger (1980). Protection artificially raised costs and gave incorrect signals to all other firms in the economy. The range of market opportunities diminished as a result and along with it, the level of economic activity and job prospects. Second, infant industries rarely grow up. The industries receiving the highest level of protection in New Zealand in 1888 are the industries receiving the highest levels of protection today. They include parts of the textile, machinery, footwear and light industry sectors, Condliffe (1930). The same pattern can be observed overseas. Import protection limits expansion and cost reduction opportunities by confining firms to the local market. This is especially important in the New Zealand market where there is a very small local market in relation to the size economies available in many lines of industrial activity.

FIGURE 1 IMPORT PROTECTION, TARIFF EQUIVALENT NEW ZEALAND, CANADA AND UNITED STATES, SELECTED YEARS 1894-1984 (PERCENT)

New Zealand
  Canada
  United States

Weighted Average  
Tariff Equivalent (%)



Sources: Condliffe [1936:250]  
 Economic Council of Canada [1975:4]  
 N.Z. tariffs for the years 1955/58 to 1981/84 were derived from N.Z. Planning Council [1984:31]  
 and Department of Statistics [1982/83:8-9] and Pickford [1984].



Apart from employment, the other principal motivation for the adoption of the pattern of government intervention, was to promote 'economic development'. By convention, development at its early stages consists of a process of stimulating productivity in the food sector to enable it to produce a product surplus and hence enable the food sector to provide the capital and labour resources to establish and expand the secondary and tertiary sectors of the economy. Over time the relative size of the agricultural sector will diminish - that is the goal after all, Nicholls (1963). This process can be facilitated in a number of ways. A passive option would consist of ensuring that the financial and labour markets were functioning smoothly to effect the resource transfer required. The approach adopted in New Zealand might be characterised as passive prior to 1935 but after this period was more active. An active development strategy involves attempts to speed up the resource transfer by discriminating in favour of the non-agricultural sector and discriminating against agriculture using taxes and subsidies.

Development policies of this type involve costs in terms of living standards and lower agricultural incentives in the short term, but in large countries with balanced resource endowments, the short term distortions created may be justified to some extent by the longer term gains.

Many countries in Europe and America have been in this position. New Zealand, however, is somewhat peculiar in this regard. With the benefit of hindsight it can be seen that New Zealand was going to depend heavily on the agricultural sector for a long time after the inception of active economic development policies in the early part of the twentieth century. Discrimination against agriculture at this time created the incentive for resource transfers at the expense of future farm output, other things being equal.

Other things were not equal of course and that brings the discussion to the subsequent time period. Beginning in 1935, successive New Zealand governments reinforced the active development strategy by expanding the regulatory environment considerably, and by instituting higher tariffs and import licensing. The high level of discrimination in favour of local production and therefore against exporting was largely a response to the depression and reflected similar regimes in other countries. The crucial difference in the New Zealand case was the fact that it was kept in place for 40 years.

From the end of the 1930's, most other developed countries embarked on a process of reducing protection for the import substitute sectors of their economies. This is demonstrated by the tariff reductions by the United States and Canada after 1935 shown in Figure 1. This process was further stimulated by the successive GATT multilateral trade rounds from the late 1940's. The major reduction in protection achieved, contributed to a rapid increase in world trade in industrial products over a 40 year period. The trade growth in turn was a major source of economic growth for these countries. New Zealand missed out on this source of growth to a large extent, in part as a result of continuing high protection levels. World trade access for some industrial goods (including cars, textiles, clothing, footwear and some electronic goods) deteriorated during the late 1970's but these products are not likely to form a major part of the market niches in which New Zealand's comparative advantage in manufacturing lies. These more recent trade access restrictions tend to be limited to products like stereos, video cassette recorders, standard cars and other

products with long production runs which do not usually suit the strengths of the New Zealand manufacturing sector.

How did agriculture survive, and in fact grow rapidly, over the period from 1890 to 1970? The first and major reason was technological change, broadly defined. On an international scale the sustained rate of productivity increase in New Zealand agriculture was remarkable over much of this period. The technological change was highly tuned to the physical and economic conditions which faced the agriculture sector. It evolved from the efforts of farmers and other private firms supported by Government and University research, the latter largely sponsored by the taxpayer. Partially subsidised extension services assisted in disseminating the information provided from the research effort.

Secondly, governments partially compensated the agricultural sector for the excessive cost structure and loss of flexibility created by the regulated environment and the import substitution policy. Some of these compensating programmes are included in Figure 2 and Appendix 1. The compensation was clearly only partial and this can be seen by comparing the rate of assistance in Figures 1 and 2.

In spite of the compensation bias remaining, especially after 1935, the bank of technical knowledge built up from 1880 to 1960 was sufficient to enable agriculture to grow rapidly through the 1960's. However, the reduced financial incentives severely reduced the exploitation of export market opportunities. In this important sense New Zealand's living standards were lower and grew less rapidly than would otherwise have been the case.

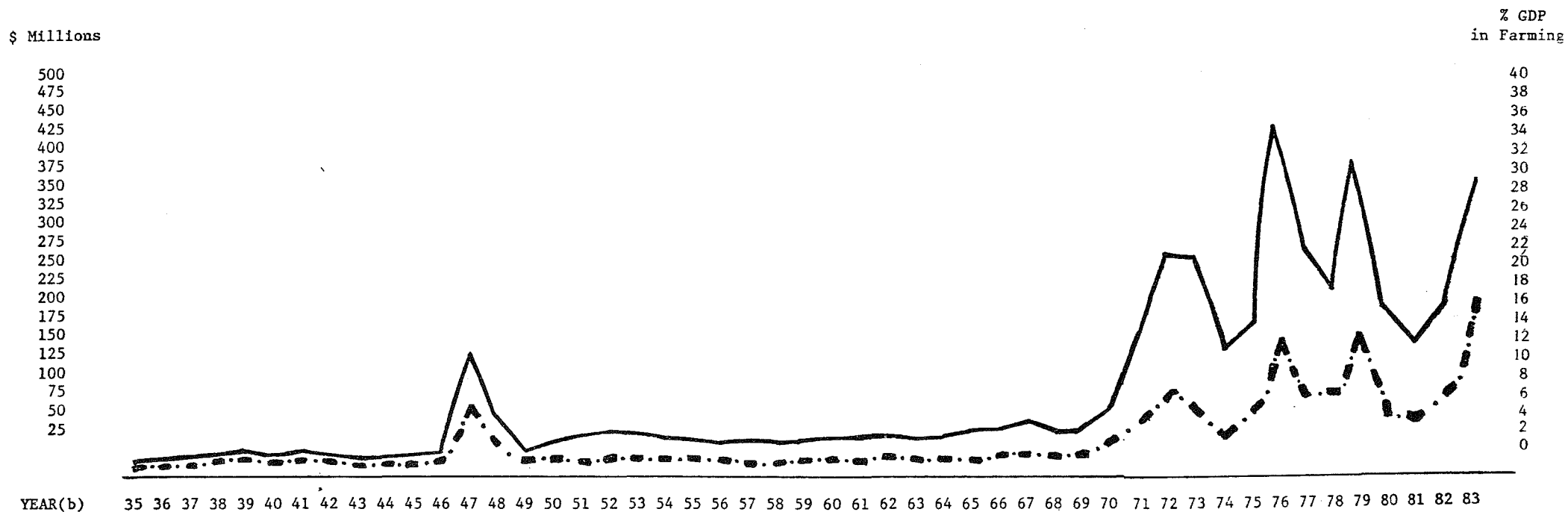
This situation of rapid agricultural growth in the face of less than full market incentives had some interesting but dangerous side effects. One was to create the impression in the minds of New Zealand policymakers that no matter what you did to the agricultural sector, or the extent it was exploited to promote so-called 'development', the industry would keep on growing. In its most extreme form this fallacy takes the form of a perverse output response in agriculture, ie. the fallacy that if one lowers farm prices and/or income, the farm sector will produce more, not less. This misconception may have led into less concern for the longer term effects of the inward looking development policy of the time.

Agricultural output responds positively in the aggregate to the level of incentives provided. However, when technical change is proceeding rapidly it is very difficult to separate the effects of changes in productivity due to technological progress, from market incentive effects.

A second side effect of high protection (and regulation) after 1935 was the chronic balance of payments situation it engendered; the very problem intervention was supposed to solve. This situation over many years has reinforced the notion that the state of the balance of payments is one of the prime indicators of the nation's wellbeing. Clearly it is not. The real living standards of individuals, and industry health are the primary indicators of national welfare. Such thinking is quite understandable given the level and pattern of intervention adopted and the effects it caused.

The extreme form of development strategy adopted in New Zealand in the 1930's had another unfortunate side effect. Pressures for

FIGURE 2 TOTAL DIRECT ASSISTANCE TO AGRICULTURE 1934/35 TO 1982/83, REAL DOLLARS (THOUSANDS), DECEMBER 1983 (=1000)  
AND TOTAL CURRENT DIRECT ASSISTANCE TO AGRICULTURE AS PERCENTAGE OF GDP(a)



Footnotes:

- (a) GDP-agriculture used for the years 1971/72 to 1982/83, prior to 1971/72, GDP-agriculture is estimated based on Gross Farm Income for those years.
- (b) Year ending 31 March.

Sources: Derived from Appendix to the Journal of House of Representatives of New Zealand, 1935/36 to 1983/84 and the National Accounts, various issues.

balance and equity at the industry and political level led to ad hoc measures in abundance, being introduced to compensate for the ill effects on the export sector. From an administrative and commercial viewpoint, a system developed of trying to have two wrongs make a right. The agricultural sector was the recipient of a number of these interventions (Bushnell and Gibson 1984). The tax system was adapted to create special provisions for farmers, regulatory powers were granted to farm groups in rather haphazard fashion and assistance and selected trade policy measures were added for agricultural commodities.

With the benefit of hindsight, it has become clear that the growth capacity of the economy was being restrained after World War II by the overall development policy. The compensation was not sufficient to outway the cost and regulatory excesses. Furthermore, opportunities were being missed. The cost excesses reduced the opportunities for the export sector (manufacturing, agriculture and services) to invest in new production and marketing systems, (Gould 1982, and Lloyd 1980).

Tentative steps were taken from 1967/68 to reduce this disincentive to produce for export. Devaluation assisted in realigning the exchange rate for all exporters, and manufacturers were partially compensated for the cost excesses through export incentive programmes. Prior to 1974, these offsets were quite modest in relation to import protection disincentives and the regulatory environment.

The results of this development policy are documented by Gould (1982), Lloyd et al (1980) and others. New Zealand retained its per capita income position in the top three countries as late as 1953 (Gould (1982) p.21). Shortly after this date, however, the cumulative effects of the import substitution strategy began to show. In 1960, New Zealand had fallen to seventh place, in 1965 to eighth place and in 1970 to seventeenth place. In 1978, New Zealand was in 22nd position in the world in per capita income performance. As discussed by Gould (and in contrast to popular belief) the damage done to New Zealand's income earning capacity was reflected during the 1950's and 1960's rather than the 1970's. This preceded the OPEC crises, Britain's entry to the EEC, the volatile international exchange and capital market period and a host of other factors that tend to be blamed for our history of poor economic performance.



## SECTION 3

### REGULATION POLICY

Tariffs and import quotas (import licences) were not the only instruments which biased incentives against the export sector; regulations increasingly played a major part. Of particular concern at the aggregate level were foreign exchange control, marketing, quality assurance and other regulations which persisted until 1984. Since it is easy to confuse the effects, some background may be warranted at this point.

If the export sector (including agriculture) is to be given the opportunity to exploit all the viable market opportunities available to it, the exchange rate should be at its equilibrium level. The equilibrium level is the exchange rate which clears the market for goods and services when government policy does not impede the ability of New Zealanders to buy and sell goods overseas. At the equilibrium exchange rate each sector will receive the most appropriate price and cost signals regardless of whether the sector is agriculture or manufacturing, export or import oriented.

Government intervention drives the exchange rate away from this equilibrium value and hence, biases development and lowers the standard of living of New Zealanders in two main ways. The first has just been described. The import tariffs and licences overvalued the New Zealand dollar in a structural sense, raising the incentives to produce import substitutes and lowering the incentives to produce for export.

Exchange rate controls and pegging systems can have precisely the same effect. This we might call short-term over- or undervaluation. These two effects can reinforce the bias against export production as they did at the time of the election in 1984. The New Zealand dollar was structurally overvalued as a result of the cost penalties on exporters imposed by trade policy. In addition, the exchange rate system being used overvalued the dollar even more, creating a double disincentive for exporting industries.

It is conceivable, however, that the exchange rate controls could have tended to undervalue the dollar at times. In this case the short term under-valuation would counteract the structural overvaluation due to trade policy bias. Other financial market regulations and Government overseas borrowing activity also have major effects on the equilibrium exchange rate.

Marketing regulations and competition policy (or lack of it) have been another source of efficiency loss in the agricultural sector as a whole. This is a difficult area to evaluate historically because some of this regulation may have been seriously distorted over time. Some regulations previously introduced to benefit farmers are probably now benefiting other groups to the detriment of the farm sector.

On the other hand, unregulated farm markets have a strong propensity to exhibit market failure arising from free-riders in the areas of promotion, grading, information and forward marketing. There are a number of examples of this occurring in fresh fruit export markets in the grading context. At least minimum quality standards are required to prevent some firms from ruining market opportunities for others. This requires collective action of some type. Unfortunately,

the information base and institutional and legislative arrangements are not currently designed to cope with solutions to market failure issues.

The financial sector appears to be in a better position to cope with the changes in policy it faces. In large part of this is because Government has in place a more robust information and monitoring system than currently exists in the Agricultural or Manufacturing sectors.

A recent quote by the Associate Minister of Finance, Mr David Caygill (NBR 1985), is instructive in this regard. Commenting on a major policy change in the finance sector, the Minister is quoted as saying, "You look at the compulsory reserve ratio system and you ask - what's the justification for that? - and the justifications offered are proven to be false, if not fraudulent. So you get rid of it. But you are still left with the question - does the central bank have a role in monitoring the financial soundness in general terms of larger financial institutions? Well, yes that seems to make sense".

The Reserve Bank has devoted significant resources over the years to monitoring the performance of the financial sector so the Minister is probably correct in assuming that the Bank is up to the monitoring task required to follow up on this major policy change.

The Agricultural Sector is not, in our opinion, similarly endowed. The identification of market failure requires a detailed monitoring system and collective action to overcome it. Corrective action for market failure requires empowering legislation and suitable institutions to apply it. Our history of ad hoc partial compensation to agriculture has not resulted in legislation nor institutions designed to deal with the new agricultural policy. Government services to agriculture and sector institutions were designed to deal with the old policy set.

The rapid increase in the size of the Government sector in New Zealand and elsewhere resulted from increasing efforts to monitor and control the private sector in various ways. Regulation has often been used in an attempt to achieve this purpose by fiat. Lay people and analysts alike are rapidly coming to the conclusion, based on extensive research, that in most cases government regulation becomes perverted over time. That is to say, regulations usually end up benefitting a group that it was originally intended to control. There are many reasons for this, not the least of which is the encouragement given to lobby groups to devote significant resources to efforts to offset the negative effects of past policy.

It is important to understand that these comments do not mean to infer that malicious intent is necessarily involved in the regulation issue. All firms naturally act in accord with the intervention signals they receive. Regulation of commercial and economic life changes these signals and quite naturally invokes reactions which are not desirable from the viewpoint of national economic development.

## SECTION 4

### ASSESSMENT OF POLICY CHANGES

It is possible to quantify these changes in relative industry assistance to some extent over the past century. The first index of assistance is that afforded the import substitution sector by way of tariffs and non-tariff barriers. This assistance is measured as in tariff equivalent terms for New Zealand, Canada and the United States over the period 1894 - 1984, Figure 1. The New Zealand estimates were derived from past studies for individual industries and weighted by trade share data given in Appendix 2.

There is a noticeable gap in the New Zealand protection data in the 1930's when the present import system was introduced but the high level of assistance to input substitution is obvious after WW II when the average nominal rate of protection was of the order of 60 per cent. The marked contrast between trends in import protection in New Zealand and in North America after the war is clearly visible.

Import protection has clearly declined in New Zealand since the 1960's to around 25 percent by 1979 but it is not clear how much protection currently remains. Pickford (1984) has estimated the nominal protection rate over the period 1981/84 for commodities subject to import licence tendering. Based on these findings, a weighted average nominal protection rate of around 60 per cent for this period has been computed. This is only a partial assessment of the current situation. Import goods not subject to licensing tend to have lower rates and goods subject to licensing but not tendering tend to have higher rates of protection.

On the other side of the ledger is assistance to the export sector. The assistance directed towards the Agricultural Sector was mainly in the form of direct Government contributions. The real cost of direct Government assistance to Agriculture is documented in Appendix 1 (Tables 1A and 1B). Total direct assistance derived from those tables is shown in Figure 2 in \$1983 and expressed as a percentage of the net output (GDP) of the farm sector.

With the exception of the immediate post WW II period, assistance to farming and export agriculture was negligible from the depression until 1971. As previously discussed, the adaptability of farming offset the effects of the 'export tax' implicitly applied to agriculture and other segments of the export sector. Agricultural output and productivity continued to expand, at least through until the mid 1960's, in spite of the penalty.

During the latter half of the 1960's, it was becoming apparent that the policy bias against the export sector was harming the overall economic performance of the country. The establishment of the Agricultural Production Council in 1964, the subsequent introduction of export incentives for manufacturing and devaluation in 1967 were part of the recognition of deeper underlying problems. These initial measures were expanded considerably up till 1984 as compensation for the bias against exporting. This trend in export assistance is reflected in the upsurge in direct Government assistance to Agriculture demonstrated in Figure 2. The stated intention of some of these schemes (eg. SMP's) was not necessarily the tariff compensation



argument, Chudleigh et al (1983). The need to stimulate output from a particular section was often the rationale provided. Whatever, the stated purpose however, the actual effect of these compensating policies was to partially realign the level of incentives in the export sector relative to the import competing sector and with that change relative output levels.

It was during the 1970's and early eighties that major changes in relative (export versus import substitution) economic incentives were made. Export incentives for manufactured and some horticultural products were expanded and initial steps were taken to reduce import protectionism; tariffs were reduced, import quotas were expanded and remaining import licences were offered for tender. However, there were notable exceptions to import liberalisation including exemptions for industries adopting 'Industry Development Plans'.

Looking back, the past decade was a very difficult one to choose to carry out major economic restructuring. The outside influences were particularly volatile and severe for New Zealand. One measure of this is the trend in the terms of trade since 1974 (Figure 3.) On the other hand the decade produced a confluence of outside influences which highlighted the basic problems associated with our heritage of development policy. There was also increasing evidence on the poor performance of regulatory policy. This has had a major impact on the way Government intervention is now viewed.

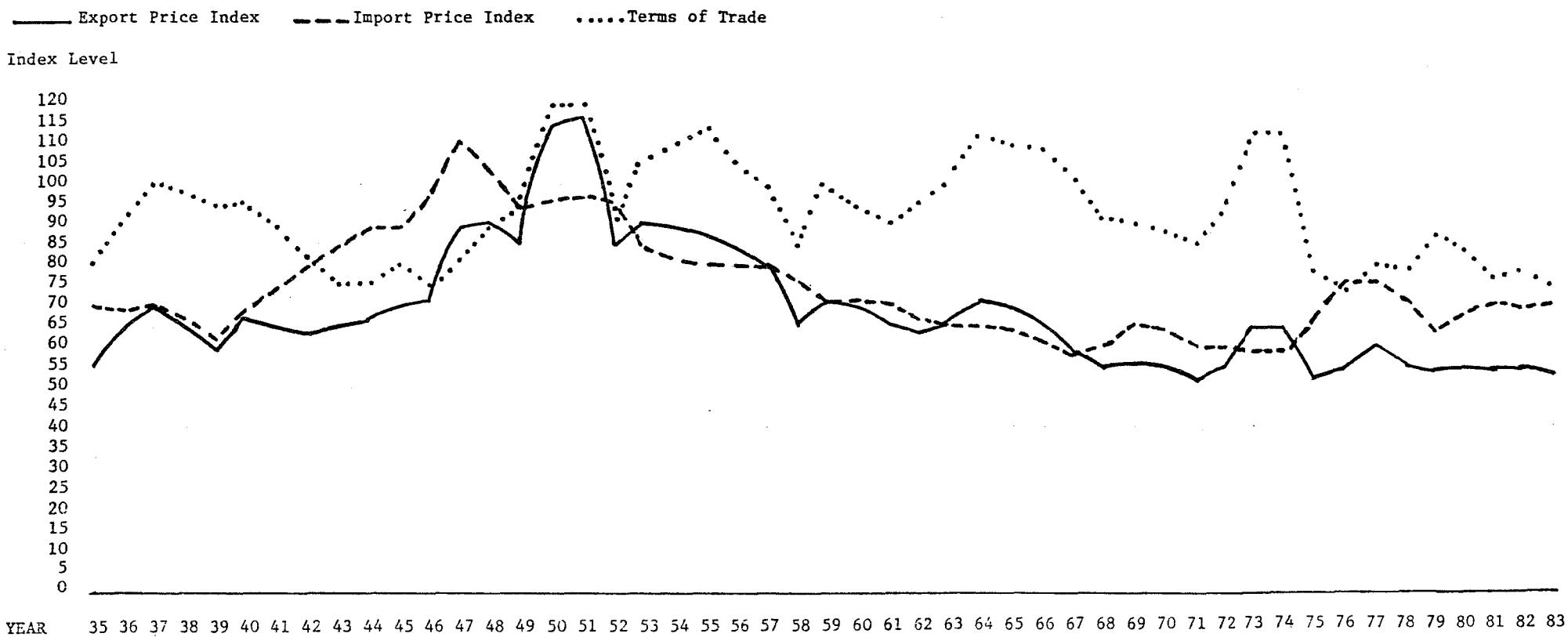
The period 1968-84 was characterised by high and volatile inflation rates worldwide stemming from the pattern of government deficit financing following the Vietnam war and two oil shocks. More recently, the world has experienced a savings shortage, which combined with inflation has resulted in extremely high real interest rates by historical standards. The Keynes prediction that long term real interest rates should hover around three per cent is now open to serious question. Related to these events has been the epidemic of unemployment.

New Zealand has suffered along with other countries from these effects but the influence in this country has been compounded by two factors. The pre-1974 economy was not designed for flexibility, indeed Hazledine (1984) would argue that this lack of flexibility or elasticity is a modern nation's most scarce economic or administrative resource. On the contrary, democratic nations, including New Zealand, are designed to resist change in all sectors including the service sector. Secondly, the economic shocks of the decade were amplified in commodity markets in a pattern which was particularly disadvantageous for New Zealand.

The response to this situation was a large increase in short term support for the agricultural sectors affected, using SMP's and interest rate subsidies particularly. Within the context of tariff compensation, however, the rate of assistance offered the agricultural sector at its peak (1983) was only a fraction of the assistance remaining in the import substitution sector of the economy.

The relative assistance currently provided to the export and import substitution sectors is not evenly spread over the various product areas. This is demonstrated in Table 1 which shows the effective rates of assistance (in % tariff equivalents) for selected export and import substitution sectors.

FIGURE 3 NEW ZEALAND EXPORT AND IMPORT PRICE INDICES AND TERMS OF TRADE, 1935 TO 1983, (1983 DOLLARS)



Source: National Accounts, various issues.

The first point that needs to be made is that the estimates given in Table 1 are not of even quality. The table does not show assistance levels for key specific industries from the point of view of farm costs. The rate of assistance, for example to P.V.C. manufacturers is 523 percent, and to motor vehicle assembly, 544 percent (Bushnell and Gibson 1984).

Second, there are technical problems in the Gibson and Bushnell analysis when converting the dollar amounts of assistance to Agriculture into percentage terms. These authors implicitly assume that all direct assistance to Agriculture is captured by farmers. This is not correct and to the extent the benefits of Government assistance programmes are shared by farming and allied industries, the percentage assistance values in Tables 1 and 2 are too high. For example, if SMP's for sheepmeats benefitted allied meat freezing and marketing firms to the same extent as sheepfarmers, the assistance level (percentage) for sheepmeats in Table 1 would be of the order of 25-40 percent rather than 75 percent.

The peak levels of assistance to the agricultural sector occurred in 1976, 1979 and 1983. In real dollar terms, this assistance ranged from \$400-500 million 1983 dollars, Figure 2. This peak level of assistance to agriculture needs to be contrasted with the level of assistance afforded the import competing industries. It was shown in Figure 1 that protection to import substitution industries over the period 1955 to 1979 averaged 40 percent or greater. This is part of the cost excess which was faced by the export sectors at that time. In recent years, the cost excess is thought to have been reduced and Government estimates such as those cited in Tables 1 and 2 make the assumption that the current 'cost excess' is 20 percent. (This 20 percent protection level is close to the 17 percent level assumed by Philpott (1985) in the current version of his economy-wide model.) If we accept the 20 percent 'cost excess' figure for the moment, it implies that the import substitution section of the economy is receiving assistance of around \$1.5 billion in 1983 dollar terms; 3-4 times the peak level of agricultural assistance. This imbalance is an indicator of the degree of disincentive currently being offered the agricultural sector.

Export incentives for manufacturing industries have provided an additional buffer for that portion of the export sector. The estimates made for the SYNTEC (1984) report suggest that this scheme may have compensated for the 'cost excesses' of the import policy.

However, there is reason to believe that the 20 percent 'cost excess' for the export sector is an underestimate of the current situation. First, Government has yet to provide a comprehensive estimate of current import protection and other cost excesses. The SYNTEC report (1984) encompasses only a small number of industries but Pickford (1984) has estimated that export products under licence and tendering were protected to the extent of 60 percent as recently as 1983.

Second, it is not yet clear, how great the cost excesses (over world prices) associated with fuel refining and service industries will be.

TABLE 1

Effective Assistance, Selected Export (Pastoral Farming) and  
Import Substitution Sectors (Selected Manufacturing), circa 1980

Percentage Tariff Equivalent

SECTOR	AGRICULTURE <sup>1</sup>	MANUFACTURING	SECTOR
Sheepmeat	75	9	Food, Tobacco
Wool	10	223	Textiles
Sheep	34	74	Wood, products
Beef	3	45	Paper, printing
Sheep and Beef	23	48	Chemicals Petrol, Plastic
Manufactured Milk	9	17	Mineral Prods.
Town Milk	45	4	Metal, Basic
Dairy	12	76	Other Manu.
Pastoral	20	12	Forestry

1. The assistance rates for agriculture assume that import protection resulted in a 20 percent excess.

Source: Busnell, Peter and Brent Gibson (1984), 'Calculating Assistance Costs', The Agricultural Economist, MAF, Wellington, Vol. 4 (4).

TABLE 2

Forecast Effective Rates of Assistance to Sheepmeats (\$m)Year Ending 30 September

	Forecasts			
	1984	1985	1986	1987
(i) Value of Output (assisted)	800	968	900	905
(ii) Value of Inputs "	500	543	586	633
(iii) Value Added "	300	425	314	272
<u>Assistance to Outputs</u>				
(iv) SMP (export effect)	234	110	-	-
(v) SMP (domestic effect)	39	18	-	-
(vi) Other assistance to output a)	36	38	27	15
(vii) Total assistance to output	309	166	27	15
<u>Assistance to Inputs</u>				
(vii) Fertiliser subsidy	11	6	3	0
(ix) Other b)	7	8	9	10
(x) Total assistance to inputs	18	14	12	19
<u>Effect of manufacturing protection</u>				
(xi) Cost of excess on inputs c)	83	90	98	106
Unassisted Value Added	56	335	373	353
Assistance to Value Adding factors d)	105	132	126	124
Net subsidy Equivalent	349	222	67	43
Effective Rate of Assistance (%)	100+	66	18	12

- (a) Meat inspection 1983/84 - 1986/87, Meat hygiene 1983/84 only.
- (b) Livestock incentive scheme, Agricultural pest control, Miscellaneous.
- (c) Assumed cost excess rate of 20%.
- (d) Advisory services, Quarantine, Agricultural research, Animal Health, Interest concessions, Taxation concessions, Miscellaneous.

Source: Stonyer, E.J., "The Impact of Recent Policy Changes in the New Zealand Sheepmeat Industry", Paper presented to the Australian Outlook Conference, Canberra, March 1985.

## SECTION 5

### CURRENT POLICY ENVIRONMENT

The fast rate of policy change over recent months is expected to radically alter assistance levels to agriculture in 1985 and beyond. Government forecasts of the assistance level for sheepmeats over the next 3 years are given in Table 2.

This subsector of agriculture has received the most assistance in the recent past. As shown in Table 2, Government has estimated that the effective rate of assistance to sheepmeats will decline from over 100 percent in 1984 to 12 percent in 1987 under current policy; a reduction in assistance from \$327 million in 1984 dollar terms to \$34 million.

The estimates shown in Table 2 suffer from the same deficiency as those mentioned earlier for Table 1. With further analysis it may turn out that the residual protection for sheepmeats in 1987 will be only a fraction of the 12 percent figure given in the Table.

On April 10 1984 the Government agreed on a basis for negotiation on future import tariff and licensing arrangements with the Manufacturers Federation. Those negotiations are currently under way with the new Government.

In July 1984, the new Government devalued the dollar, accelerated the planned increases in import licence tendering and announced a phased withdrawal of SMP's. In 1984, the Minister of Trade and Industry announced a phased de-regulation of the wheat industry and the flour industry. The Budget of November 1984 included plans to remove a number of agricultural subsidies over the next two years. A large number of changes have been made in financial regulations and exchange controls.

These changes extended policy adjustments in the transport, tobacco, egg and wheat industries. The publication of Treasury views in July 1984 needs to be seen in this light.

The Economic Management report (Treasury 1984A) and Land Use Issues (Treasury 1984B) consist of a collection of views of Treasury officials on further changes that might be considered. It is probably fair to say that the public was surprised by what the 'Opening of the Books' documents consisted of. When it was announced prior to the election that the poor state of the Economy would be revealed in the 'Opening of the Books' immediately afterwards then it might have been reasonable to expect that the publication would describe and analyse the current state of industries and institutions in a detailed fashion, thereby providing the public with much fuller information upon which to base their views on changes that might be necessary. These documents do very little by way of reporting the current performance of the economy except at the macro level. The structure, conduct and performance of industry is not examined at all from an empirical point of view.

Instead, the reports summarise selected views on where existing policy instruments 'might' not be performing adequately and what alternatives 'might' be considered.

The fact that many of the suggestions in the July reports appeared in the November budget added fuel to the debate as to whether the Treasury reports ought to be considered as 'White Papers' or whether they are more than that.

At the time of writing (June, 1985) a large part of what might be considered the New Agricultural Policy, has been set in place. This has involved a major reduction in assistance to the export portion of the Agricultural Sector.

The marketing portion of the agricultural sector has not been the subject of Government regulatory changes, yet. The biggest uncertainty, however, lies on the production cost side of the ledger. This includes the future of import licensing and the height of the tariff to replace this system, and the future cost structure of the service sector (including Government).

In contrast to the change in agricultural policy, import policy continues to be negotiated. Sectors with Industry Development Plans and the oil refining industry will not be subject to general policy changes.

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A P P E N D I X 1

TABLE 1A DIRECT GOVERNMENT ASSISTANCE TO AGRICULTURE- AGRICULTURE VOTE, 1934/35 to 1984/85 (millions current dollars)

Category	YEAR									
	84/85(a)	83/84	82/83	81/82	80/81	79/80	78/79	77/78	76/77	75/76
Sulphuric Acid Transport	.309	.589	.750	.610	.610	.381	-	-	-	-
Special Ag. Assistance Fund	-	-	-	-	-	-	-	-	-	.002
Fertilizer & Lime Transport	15.399	21.613	21.549	24.101	25.306	28.771	23.427	16.112	12.722	9.161
Fertilizer Price	24.500	23.213	26.929	28.211	30.833	40.550	70.175	50.832	59.335	61.507
Fertilizer Bounty	1.372	1.529	1.433	1.672	1.965	2.371	7.846	16.017	15.516	14.697
SMP Scheme(*): Wool	80.150	208.254	134.961	-	-	.091	1.348	-	-	-
Meat	254.000	296.536	106.278	51.920	-	-	-	-	-	-
Dairy	-	-	-	-	-	5.037	-	-	-	-
Other Product Price Subsidy	-	-	-	-	-	-	-	-	-	-
Sharemilkers Suspensory Loan	.365	.360	.367	.407	.366	.400	.314	.371	.319	.145
Emergency Expenditure	.100	.031	.087	.067	.689	.341	6.054	.202	.374	.263
Meat Industry Hygiene Grant	-	1.765	2.053	1.752	2.313	1.402	.408	-	-	-
Land Dev.-Concess. on Interest	12.230	11.340	9.648	6.595	3.424	1.024	-	-	-	-
Rural Export Suspensory Loans	2.430	1.091	1.211	.579	.288	.031	.054	.033	-	-
Control of Potato Nematode	.040	.039	.022	.005	-	-	-	-	-	-
Livestock Incentive Scheme	17.290	21.649	18.328	19.127	11.513	7.009	2.297	.485	.001	-
Agricultural Pests Control	7.000	7.000	7.002	7.003	7.413	6.867	6.267	5.689	4.835	4.069
Assistance to Hydatids Authority	-	-	1.179	.970	-	-	-	-	-	-
Consumer Subsidy on Milk	19.000	-	-	-	-	-	-	-	-	-
Control of Animal Diseases	3.632	4.029	4.695	6.938	4.540	2.737	1.968	1.946	2.343	.047
Compensation	.060	.122	.149	.146	.093	.017	.008	.014	.011	.022
Grants to Ag. Organisations	6.266	5.124	3.385	13.388(b)	10.218(c)	2.661	4.317(d)	1.755	1.522	51.455(e)
Noxious Weed Eradication	8.482	8.925	9.817	9.259	9.002	10.739	10.718	9.242	0.019	3.145
Special Paymt. for Sheep&Cattle	-	-	-	-	.013	.079	58.571	-	-	-
Artificial Breeding Incentive	-	-	-	-	.055	.735	.416	-	-	-
Dairy Beef Scheme	-	-	-	-	-	.676	3.869	.404	.708	-
Grant to NZ Wool Board	-	-	-	-	-	2.000	2.000	2.000	2.000	2.000
Lucerne Establishment Grant	-	-	-	-	-	.040	.083	.070	.209	.655
Cartage Grant	-	-	-	-	-	-	.213	.547	.399	.264
Pipfruit Pesticides Rebate	-	-	-	-	-	-	-	.586	-	.391
Lime Transport Assistance	-	-	-	-	-	-	-	.003	.354	.379
Feed Storage Construction	-	-	-	-	-	-	-	.002	.818	.839
Farmer Assist.-Interest on Loan	-	-	-	-	-	-	-	-	1.276	1.306
Sheep Measles Control	-	-	-	-	-	-	-	-	.035	.279
Eradication of Bovine TB	-	-	-	-	-	-	-	-	-	-
Fertilizer & Lime Aerial Subsidy	-	-	-	-	-	-	-	-	-	-
Weedicide & Pesticide Subsidy	-	-	-	-	-	-	-	-	-	-
Milk in Schools Program	-	-	-	-	-	-	-	-	-	-
<b>SUBTOTAL- AGRICULTURE</b>	<b>453.125</b>	<b>613.206</b>	<b>349.843</b>	<b>172.752</b>	<b>108.641</b>	<b>113.959</b>	<b>200.353</b>	<b>106.310</b>	<b>112.796</b>	<b>150.626</b>

Source: Appendices to the Journals of the House of Representatives, 1935-84

TABLE 1A CONTINUED

Category	YEAR									
	74/75	73/74	72/73	71/72	70/71	69/70	68/69	67/68	66/67	
Sulphuric Acid Transport	-	-	-	-	-	-	-	-	-	-
Special Assistance Fund	-	.003	-	.185	9.786	-	-	-	-	-
Fertilizer & Lime Transport	8.182	11.649	12.480	8.945	7.050	5.579	3.165	2.367	2.632	
Fertilizer Subsidy	35.502	8.814	19.092	13.134	5.366	-	-	-	-	
Fertilizer Bounty	-	-	-	-	-	-	-	-	-	
SMP Scheme(*): Wool	-	-	-	-	-	-	-	-	-	
Meat	-	-	-	-	-	-	-	-	-	
Dairy	-	-	-	-	-	-	-	-	-	
Other Product Price Subsidy	-	-	-	-	-	-	-	-	-	
Sharemilkers Suspensory Loan	-	-	-	-	-	-	-	-	-	
Emergency Expenditure	.145	.951	.192	.313	3.541	.477	.316	.216	.068	
Meat Industry Hygiene Grant	-	-	-	-	-	-	-	-	-	
Land Dev.- Concess. on Interest	-	-	-	-	-	-	-	-	-	
Rural Export Suspensory Loans	-	-	-	-	-	-	-	-	-	
Control of Potato Nematode	-	-	-	-	-	-	-	-	-	
Livestock Incentive Scheme	-	-	-	-	-	-	-	-	-	
Agricultural Pests Control	3.025	2.728	2.535	2.339	2.173	1.958	1.918	2.044	2.040	
Assist. to Hydatids Authority	-	-	-	-	-	-	-	-	-	
Consumer Subsidy on Milk	-	-	-	-	-	-	-	-	-	
Control of Animal Diseases	2.979	2.985	3.604	2.132	1.396	1.272	-	-	-	
Compensation	.068	.019	.004	.003	.005	.007	-	-	.026	
Grants to Ag. Organisations	1.434	4.583(f)	18.250(g)	28.953(h)	1.666(i)	.498	.400	.370	.470	
Noxious Weed Eradication	.761	.766	.740	.512	.494	.376	.385	.358	.354	
Special Paymt. for Sheep&Cattle	-	-	-	-	-	-	-	-	-	
Artificial Breeding Incentive	-	-	-	-	-	-	-	-	-	
Dairy Beef Scheme	-	-	-	-	-	-	-	-	-	
Grant to NZ Wood Board	2.879	4.400	4.163	3.812	-	-	-	-	-	
Lucerne Establishment Grant	.417	-	-	-	-	-	-	-	-	
Cartage Grant	-	-	-	-	-	-	-	-	-	
Pipfruit Pesticides Rebate	-	-	-	-	-	-	-	-	-	
Lime Transport Assistance	.492	.572	.456	.241	.128	.088	-	-	-	
Feed Storage Construction	.219	-	-	-	-	-	-	-	-	
Farmer Assit.- Interest on Loan	.068	.044	.173	.032	-	-	-	-	-	
Sheep Measles Control	.162	-	-	-	-	-	-	-	-	
Eradication of Bovine TB	-	.080	.027	-	-	-	1.063	1.028	1.290	25.
Fertilizer & Lime Aerial Subsidy	-	.432	1.104	.497	-	-	-	-	-	
Weedicide & Pesticide Subsidy	-	2.479	5.416	4.701	4.021	3.259	-	-	-	
Milk in Schools Program	-	-	-	.014	.075	.355	.389	.668	1.820	
<b>SUBTOTAL-AGRICULTURE</b>	<b>56.333</b>	<b>40.505</b>	<b>68.236</b>	<b>65.813</b>	<b>35.701</b>	<b>13.869</b>	<b>7.636</b>	<b>7.051</b>	<b>8.700</b>	

TABLE 1A CONTINUED

Category	YEAR									
	65/66	64/65	63/64	62/63	61/62	60/61	59/60	58/59	57/58	
Sulphuric Acid Transport										
Special Assistance Fund										
Fertilizer & Lime Transport	1.514	.110	.084	.082	.080	.088	.654	.650	.802	
Fertilizer Price Subsidy										
Fertilizer Bounty										
SMP Scheme(*): Wool										
Meat										
Dairy										
Other Product Price Subsidy										
Sharemilkers Suspensory Loan										
Emergency Expenditure	.190	.330	.004	.104	.010	.040	.062	.048	.022	
Meat Industry Hygiene Grant										
Land Dev.- Concess. on Interest										
Rural Export Suspensory Loans										
Control of Potato Nematode										
Livestock Incentive Scheme										
Agricultural Pests Control	1.912	1.696	1.778	1.594	1.472	1.360	1.276	1.376	1.556	
Assist. to Hydatids Authority										
Consumer Subsidy on Milk										
Control of Animal Diseases										
Compensation	.006	.008	.038	.050	.622	.760	.730	.400	.388	
Grants to Ag. Organisations	.330	.374	.268	.250	.254	.242	.080	.073	.100	
Noxious Weed Eradication	.342	.286	.266	.264	.256	.280	.268	.274	.168	
Special Paymt. for Sheep&Cattle										
Artificial Breeding Incentive										
Dairy Beef Scheme										
Grant to NZ Wood Board										
Lucerne Establishment Grant										
Cartage Grant										
Pipfruit Pesticides Rebate										
Lime Transport Assistance										
Feed Storage Construction										
Farmer Assist.- Interest on Loan										
Sheep Measles Control										
Eradication of Bovine TB	1.418	1.580	1.448	1.264	.950					
Fertilizer & Lime Aerial Subsidy										
Weedicide & Pesticide Subsidy										
Milk in Schools Program	1.660	1.556	1.446	1.364	1.358	1.534	1.330	1.274	1.262	
SUBTOTAL-AGRICULTURE	7.372	5.940	5.332	4.972	5.002	4.304	4.400	4.095	4.298	

TABLE 1A CONTINUED

Category	YEAR								
	56/57	55/56	54/55	53/54	52/53	51/52	50/51	49/50	48/49
Sulphuric Acid Transport									
Special Assistance Fund									
Fertilizer & Lime Transport	.912	.964(k)	1.118	.988	1.268	2.108	1.746	1.454	1.068
Fertilizer Price Subsidy									
Fertilizer Bounty									
SMP Scheme(*): Wool									
Meat									
Dairy									
Other Product Price Subsidy									
Sharemilkers Suspensory Loan									
Emergency Expenditure	.028	.052	.001	.002			.014		
Meat Industry Hygiene Grant									
Land Dev.- Concess. on Interest									
Rural Export Suspensory Loans									
Control of Potato Nematode									
Livestock Incentive Scheme									
Agricultural Pests Control	1.496	1.360	1.430	1.430	1.446	1.376	.958	.814	.316
Assist. to Hydatids Authority									
Consumer Subsidy on Milk									
Control of Animal Diseases									
Compensation	.208	.196	.220	.302	.296	.300	.086	.080	.078
Grants to Ag. Organisations	.119	.100	.108	.098	.100	.105	.084	.067	.063
Noxious Weed Eradication	.162	.164	.154	.152	.104	.094	.060	.072	.064
Special Paymt. for Sheep&Cattle									
Artificial Breeding Incentive									
Dairy Beef Scheme									
Grant to NZ Wood Board									
Lucerne Establishment Grant									
Cartage Grant									
Pipfruit Pesticides Rebate									
Lime Transport Assistance									
Feed Storage Construction									
Farmer Assist.- Interest on Loan									
Sheep Measles Control									
Eradication of Bovine TB									
Fertilizer & Lime Aerial Subsidy									
Weedicide & Pesticide Subsidy									
Milk in Schools Program	1.172	1.062	1.046	1.014	.960	.904	.736	.640	.470
SUBTOTAL-AGRICULTURE	4.997	3.398	4.077	3.986	4.174	4.887	3.684	3.127	2.059

TABLE 1A CONTINUED

Category	YEAR									
	47/48(1)	46/47(1)	45/46	44/45	43/44	42/43	41/42	40/41	39/40	
Sulphuric Acid Transport										
Special Assistance Fund										
Fertilizer & Lime Transport	4.798	10.618	.840	.804	.746	.669	.772	.826	.710	
Fertilizer Price Subsidy										
Fertilizer Bounty										
SMP Scheme(*):										
Wool										
Meat										
Dairy										
Other Product Price Subsidy			.168(m)	.158	.160	.154	.134	.132	.122	
Sharemilkers Suspensory Loan										
Emergency Expenditure		.022								
Meat Industry Hygiene Grant										
Land Dev.- Concess. on Interest										
Rural Export Suspensory Loans										
Control of Potato Nematode										
Livestock Incentive Scheme										
Agricultural Pests Control	.204	.152	.124	.128	.090	.074	.072	.060	.056	
Assist. to Hydatids Authority										
Consumer Subsidy on Milk										
Control of Animal Diseases										
Compensation	.078	.081	.078	.064	.074	.070	.062	.074	.074	
Grants to Ag. Organisations	.058	.102	.052	.125(j)	.120	.118	.135	.150	.135	
Noxious Weed Eradication	.064	.056	.052	.050	.040	.042	.050	.098	.102	
Special Paymt. for Sheep&Cattle										
Artificial Breeding Incentive										
Dairy Beef Scheme										
Grant to NZ Wood Board										
Lucerne Establishment Grant										
Cartage Grant										
Pipfruit Pesticides Rebate										
Lime Transport Assistance										
Feed Storage Construction										
Farmer Assist.- Interest on Loan										
Sheep Measles Control										
Eradication of Bovine TB										
Fertilizer & Lime Aerial Subsidy										
Weedicide & Pesticide Subsidy										
Milk in Schools Program	.472	.456	.405	.344	.294	.292	.346	.346	.315	
SUBTOTAL-AGRICULTURE	<u>5.674</u>	<u>11.487</u>	<u>1.719</u>	<u>1.673</u>	<u>1.524</u>	<u>1.419</u>	<u>1.571</u>	<u>1.686</u>	<u>1.515</u>	

TABLE 1A CONTINUED

Category	YEAR				
	38/39	37/38	36/37	35/36	34/35
Sulphuric Acid Transport					
Special Assistance Fund					
Fertilizer & Lime Transport	.608	.621	.436	.360	.320
Fertilizer Price Subsidy					
Fertilizer Bounty					
SMP Scheme(*): Wool					
Meat					
Dairy					
Other Product Price Subsidy	.116	.122	.090	.090	.100
Sharemilkers Suspensory Loan					
Emergency Expenditure					
Meat Industry Hygiene Grant					
Land Dev.- Concess. on Interest					
Rural Export Suspensory Loans					
Control of Potato Nematode					
Livestock Incentive Scheme					
Agricultural Pests Control	.060	.056	.044	.032	.024
Assist. to Hydatids Authority					
Consumer Subsidy on Milk					
Control of Animal Diseases					
Compensation	.082	.094	.076	.052	.035
Grants to Ag. Organisations	.460	.250	.135	.134	.035
Noxious Weed Eradication	.130	.150	.082		
Special Paymt. for Sheep&Cattle					
Artificial Breeding Incentive					
Dairy Beef Scheme					
Grant to NZ Wood Board					
Lucerne Establishment Grant					
Cartage Grant					
Pipfruit Pesticides Rebate					
Lime Transport Assistance					
Feed Storage Construction					
Farmer Assist.- Interest on Loan					
Sheep Measles Control					
Eradication of Bovine TB					
Fertilizer & Lime Aerial Subsidy					
Weedicide & Pesticide Subsidy					
Milk in Schools Program	.252	.125	.060	.006	
<b>SUBTOTAL-AGRICULTURE</b>	<b>1.708</b>	<b>1.418</b>	<b>.923</b>	<b>.674</b>	<b>.514</b>



TABLE 1B DIRECT ASSISTANCE TO AGRICULTURE-LANDS&amp;SURVEY, FORESTRY AND DSIR, 1934/35 to 1984/85 (millions current dollars)

Category	YEAR									
	84/85(a)	83/84	82/83	81/82	80/81	79/80	78/79	77/78	76/77	75/76
<b>Lands &amp; Survey:</b>										
Grants: Lincoln College	.060	.048	.047	.045	.038	.031	.028	.021	.019	.019
Tus. Gr.&Mt Land Inst.	.516	.512	.463	.423	.364	.274	.228	.135		
<b>SUBTOTAL-LANDS &amp; SURVEY</b>	<b>.576</b>	<b>.560</b>	<b>.510</b>	<b>.468</b>	<b>.402</b>	<b>.305</b>	<b>.256</b>	<b>.156</b>	<b>.019</b>	<b>.019</b>
<b>Forest Service:</b>										
Forestry Encouragement Grants	97.805(a)	25.306(a)	3.404(a)	2.004	1.461	1.528	1.135	1.115	.786	.642
<b>DSIR:</b>										
Grants: Massey University	.168	.196	.209	.238	.209	.158	.154	.145	.096	.070
Lincoln College		.136	.252	.020	.078	.085	.071	.061	.048	.036
Trials of New Horticult. Crops		.007	.010	.019						
WRONZ- Research Contract		.075								
Research Assoc.- Oper. Costs:										
Dairy	1.631	1.592	1.438	1.355	1.193	1.055	.964	.759	.607	.601
Fert. Manufacturers	.364	.321	.319	.267	.288	.195	.120	.150	.164	.118
Meat	1.631	1.261	1.280	1.091	1.141	.720	.751	.626	.557	.488
Wool	1.087	1.061	.958	.893	.782	.658	.620	.529	.426	.397
Research Assoc.- New Bldgs:										
Dairy Res. Institute	.280	.682	.797	.150						
WRONZ	.070				.034	.072				
Fert. Manufacturers			.005	.018						
Meat Research Inst.			.094		.007	.093				
Grants: Commonwealth Ag Bureau	.201	.173	.160	.147	.115	.094	.090	.087	.175	.096
Cawthron Institute	.560	.537	.505	.477	.410	.366	.287	.227	.226	.152
<b>SUBTOTAL-DSIR</b>	<b>5.992</b>	<b>6.041</b>	<b>6.027</b>	<b>4.675</b>	<b>4.257</b>	<b>3.496</b>	<b>3.057</b>	<b>2.584</b>	<b>2.299</b>	<b>1.958</b>
<b>GRAND TOTAL (Including Ag Vote):</b>	<b>557.489</b>	<b>645.113</b>	<b>359.784</b>	<b>179.897</b>	<b>114.769</b>	<b>119.288</b>	<b>204.801</b>	<b>110.165</b>	<b>115.900</b>	<b>153.355</b>

Source: Appendices to the Journals of the House of Representatives, 1935-1984.

TABLE 1B CONTINUED

Category	YEAR								
	74/75	73/74	72/73	71/72	70/71	69/70	68/69	67/68	66/67
Lands & Survey:									
Grants: Lincoln College	.016	.015	.010	.010	.010				
Tus. Gr. & Mt Land Inst.									
SUBTOTAL-LANDS & SURVEY	.016	.015	.010	.010	.010				
Forest Service:									
Forestry Encouragement Grants	.535	.316	.187	.090					
DSIR:									
Grants: Massey University	.058	.030	.025	.014	.014	.013	.009	.002	.002
Lincoln College	.027	.023	.025	.026	.051	.047	.051	.028	.024
Trials of New Horticult. Crops									
WRONZ- Research Contract									
Research Assoc.- Oper. Costs:									
Dairy	.520	.445	.480	.452	.340	.318	.261	.232	.390
Fert. Manufacturers	.093	.063	.066	.055	.044	.049	.038	.030	.020
Meat	.455	.326	.278	.310	.133	.103	.103	.085	.086
Wool	.385	.355	.330	.345	.301	.301	.193	.183	.168
Research Assoc.- New Bldgs:									
Dairy Res. Institute									
WRONZ									
Fert. Manufacturers			.009						
Meat Res. Institute		.110	.110						
Grants: Commonwealth Ag Bureau	.087	.045	.050	.036	.036	.036	.036	.034	.060
Cawthron Institute	.124	.092	.076	.056	.046	.044	.042	.040	.034
SUBTOTAL-DSIR	1.749	1.489	1.449	1.294	.965	.911	.733	.634	.784
GRAND TOTAL (Including Ag Vote):	<u>58.633</u>	<u>42.325</u>	<u>69.882</u>	<u>67.207</u>	<u>36.676</u>	<u>14.860</u>	<u>9.369</u>	<u>7.685</u>	<u>9.484</u>



TABLE 1B CONTINUED

Category	56/57	55/56	54/55	YEAR 53/54	52/53	51/52	50/51	49/50	48/49
Lands & Survey:									
Grants: Lincoln College									
Tus. Gr.&Mt Land Inst.									
SUBTOTAL-LANDS & SURVEY									
Forest Service:									
Forestry Encouragement Grants									
DSIR:									
Grants: Massey University	.016	.016	.016	.012	.010	.012	.012	.012	.014
Lincoln College	.016	.016	.016	.012	.010	.011	.012	.012	.012
Trials of New Horticult. Crops									
WRONZ- Research Contract									
Research Assoc.- Oper. Costs:									
Dairy	.056	.052	.044	.042	.040	.036	.036	.030	.034
Fert. Manufacturers	.008	.008	.008	.006	.006	.006	.006	.006	.006
Meat	.040								
Wool	.008	.008	.008	.005	.004	.004	.004	.005	.005
Research Assoc.- New Bldgs:									
Dairy Res. Institute									
WRONZ									
Fert. Manufacturers									
Meat Res. Institute									
Grants: Commonwealth Ag Bureau	.028	.028	.028	.036	.028	.014	.014	.014	.013
Cawthron Institute	.022	.022	.022	.020	.018	.022	.022	.018	.016
SUBTOTAL-DSIR	.194	.150	.142	.133	.116	.105	.106	.097	.105
GRAND TOTAL (Including Ag Vote):	<u>4.291</u>	<u>4.048</u>	<u>4.219</u>	<u>4.119</u>	<u>4.290</u>	<u>4.992</u>	<u>3.790</u>	<u>3.224</u>	<u>2.164</u>

TABLE 1B CONTINUED

Category	47/48	46/47	45/46	YEAR 44/45	43/44	42/43	41/42	40/41	39/40
Lands & Survey:									
Grants: Lincoln College									
Tus. Gr.&Mt Land Inst.									
SUBTOTAL-LANDS & SURVEY									
Forest Service:									
Forestry Encouragement Grants									
DSIR:									
Grants: Massey University	.014	.014	.012	.008	.004				
Lincoln College	.010	.016	.014	.008	.006				
Trials of New Horticult. Crops									
WRONZ- Research Contract									
Research Assoc- Oper. Costs:									
Dairy	.034								
Fert. Manufacturers	.006								
Meat									
Wool	.005	.004	.002						
Research Assoc.- New Bldgs:									
Dairy Res. Institute									
WRONZ									
Fert. Manufacturers									
Meat Res. Institute									
Grants: Commonwealth Ag Bureau	.018	.008	.008	.006	.004	.004	.002	.002	.002
Cawthron Institute	.014	.010	.012	.008	.006				
SUBTOTAL-DSIR	.101	.052	.048	.030	.020	.004	.002	.002	.002
GRAND TOTAL (Including Ag Vote):	<u>5.775</u>	<u>11.539</u>	<u>1.767</u>	<u>1.703</u>	<u>1.544</u>	<u>1.423</u>	<u>1.573</u>	<u>1.688</u>	<u>1.520</u>

TABLE 1B CONTINUED

Category	38/39	37/38	36/37	YEAR 35/36	34/35
Lands & Survey:					
Grants: Lincoln College					
Tus. Gr.&Mt Land Inst.					
 SUBTOTAL-LANDS & SURVEY					
 Forest Service:					
Forestry Encouragement Grants					
 SUBTOTAL-FOREST SERVICE					
 DSIR:					
Grants: Massey University					
Lincoln College					
Trials of New Horticul.					
WRONZ- Research Contract					
Research Assoc.- Oper. Costs:					
Dairy					
Fert. Manufacturers					
Meat					
Wool					
Research Assoc.- New Bldgs:					
Dairy Res. Institute					
WRONZ					
Fert. Manufacturers					
Meat Res. Institute					
Grants: Commonwealth Ag Bureau	.002	.002	.002	.002	.002
Cawthron Institute					
 SUBTOTAL-DSIR	.002	.002	.002	.002	.002
 GRAND TOTAL (Including Ag Vote):	<u>1.710</u>	<u>1.420</u>	<u>.925</u>	<u>.676</u>	<u>.516</u>



A P P E N D I X 2



TABLE 2A ESTIMATED NOMINAL PRICE MARGINS OVER WORLD PRICE LEVELS DUE TO IMPORT PROTECTION IN MANUFACTURING INDUSTRIES  
AND TOTAL WEIGHTED AVERAGE TARIFFS- SELECTED YEARS 1894 TO 1981/84 (PERCENT)

Manufacturing Industry Group:	1894	1896	1906	1908	1925	1955/58	1964/67	1972/73	1978/79	1981/84
Food, Beverage & Tobacco						120.0	133.6	64.2	12.8	33.5
Wool Textiles						29.0	37.1	32.0	21.3	46.5
Other Textiles						28.8	62.1	28.9	(a)	(a)
Footwear						35.7	58.5	43.2	35.7	---
Clothing						47.9	102.8	62.9	54.4	64.5
Furniture						44.3	67.9	27.7	21.0	55.1
Printed Products						20.8	29.8	0.0	0.0	107.2
Leather Goods						20.8	53.4	35.6	28.5	82.1
Rubber Goods						22.2	56.3	43.7	36.7	51.1
Chemical Fertilisers						0.0	0.0	0.0	9.3	---
Petroleum Products						17.1	3.4	-10.1	0.0	47.3
Other Chemicals						28.3	45.4	32.6	25.7	54.7
Non-Metallic Mineral						4.0	23.0	19.0	12.7	94.0
Basic Metal Products						4.7	60.8	12.1	6.3	---
Metal Products						39.1	81.0	39.2	31.9	69.5
Machinery						45.9	59.0	33.2	36.0	---
Electrical Products						41.9	91.5	63.2	(b)	69.6
Vehicle Assembly						60.7	47.8	52.4	22.7	---
Other Transport Goods						35.0	35.0	45.4	(c)	60.6
Miscellaneous						34.4	73.6	44.5	36.9	89.4
TOTAL WEIGHTED AVERAGE	26.0	25.0	20.0	17.0	17.0	45.5	66.5	38.5	24.6	61.4

(a) Included in Wool Textiles

(b) Included in Machinery

(c) Included in Vehicle Assembly

Sources: Condliffe [1936:250]  
N.Z. Planning Council [1984:31]  
Dept. of Statistics [1982/83:8-9]  
Pickford [1984]

TABLE 2B MANUFACTURING INDUSTRY WEIGHTING FACTORS USED IN DERIVING WEIGHTED AVERAGE TARIFFS

Manufacturing Industry Group:	1982/83	Weighting Factors(a)		
	CIF Val (\$000)	1955/58 1964/67 & 1972/73	1978/79	1981/84
Food, Beverages & Tobacco	422,015	.085	.085	.171
Wool & Other Textiles	447,027	.090	.090	.181
Footwear	14,951	.003	.003	--
Clothing	33,669	.006	.006	.014
Furniture(b)	15,311	.003	.003	.006
Printed Products(c)	104,696	.021	.021	.042
Leather Goods	12,851	.003	.003	.005
Rubber	61,139	.012	.012	.025
Chemical Fertilisers	74,713	.015	.015	--
Petroleum Products(d)	220,681	.044	.044	.089
Other Chemicals(e)	31,871	.006	.006	.013
Non-Metalic Minerals	94,995	.019	.019	.038
Basic Metal Products	487,201	.098	.098	--
Metal Products	198,953	.040	.040	.080
Machinery	1,444,916	.289	.343	--
Electric Products	268,320	.054	(g)	.108
Vehicle Assembly	497,501	.100	.136	--
Other Transport Goods	179,346	.036	(h)	.072
Miscellaneous(f)	383,026	.076	.076	.155
<b>TOTAL</b>	<b>4,993,182</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>

- (a) Derived as a % of total 1982/83 CIF value of selected Manufacturing Industry Groups above.
- (b) Wooden articles, cork & basketware
- (c) Includes paper, paperboard & articles of paper pulp or paperboard
- (d) Artificial resins & plastic materials, cellulose esters & ethers
- (e) Essential oils & perfume materials, toliet, polishing & cleansing preparations
- (f) Includes photographic appartus, equipment & supplies, optical goods, & other miscellaneous manufactured goods
- (g) Included in 'Machinery'
- (h) Included in 'Vehicle Assembly'

Source: Derived from, Dept of Statistics, "Imports- Annual Volume, 1982/83, pp8-9

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