

AGRICULTURE IN THE NEW ZEALAND ECONOMY

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The fortunes of the agricultural sector of the New Zealand economy are continually the subject of public interest. The press and broadcasting media keep the public well informed on developments in the agricultural industries, on the movements in export prices, and on the statements of farmers' representatives. The population of New Zealand would hear more about their agricultural industries, and are consequently better informed on matters of agricultural interest, than the citizens of most other countries. It is probably true to say that most New Zealanders would consider the agricultural sector as the "most important" in the economy of this country.

This bulletin discusses the role of agriculture in the New Zealand economy. No single method has been developed by economists to measure the importance of a sector in the total economy of a country, but it is possible to apply some simple criteria which have been widely used in other countries and will assist us in placing the agricultural sector in perspective in New Zealand.

The benefit that an economy, and ultimately the citizens of a country derive from any sector will depend on:

1. The percentage of the total labour force employed by the sector.
2. The amount of income generated within the sector.
3. Any special contribution it makes to the needs of the public generally.

The following sections take a brief look at some of the benefits which the New Zealand economy gains from agriculture in these ways.

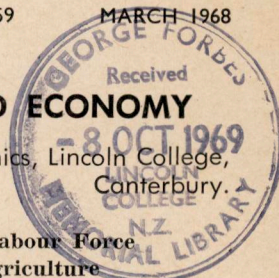
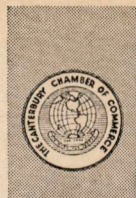
Percentage of Labour Force Employed in Agriculture

The number of persons employed¹ in farming has varied considerably since the early 1920's. This is shown in Figure 1.² The farming industry has acted, to some extent, as a buffer in the employment of the New Zealand work force. Although it will in some aspects over-simplify the situation, the graph in Figure I can be divided for convenience into five periods:—

- 1921-25 A period during which there was a substantial movement of labour to non-agricultural sectors, due largely to the falling prices for agricultural products, and the relative attractiveness of employment in secondary and tertiary industries.
- 1925-35 Deteriorating economic conditions throughout the whole economy, resulting in reduced employment in industry, led to a general and substantial movement of labour to the farming sector, particularly until about 1933. Much of this labour was under-employed, but farms offered a partial sanctuary from the unhappy conditions in depressed urban areas.

¹i.e. gaining their family income from farming. This category includes farm owners, owner-operators, share-farmers and farm labourers.

²Gaps in the graphs are due to lack of available or consistently calculated figures.



1935-41 From 1935-1939 improving economic conditions allowed many of the labour force who had moved to farms during the depression to return to employment in industry. The marked decrease in farm labour from 1939-1941 was of course largely due to enlistment in the armed forces.

1941-45 Towards the end of this period some soldiers returning from war service returned to farming as a permanent or temporary measure. Throughout this whole period government encouragement to maintain food production in wartime conditions was another factor responsible for the increase in the farm labour supply.

1945 onwards—Apart from a brief phase from 1945-47 when many returned servicemen who had originally returned to farms moved to non-farm occupations, this period represents "normal" economic conditions, and the gradual decrease in the labour force on farms continues (by about 2 per cent compound rate per annum).

Over the period 1921-1965 the number of workers gaining family incomes from direct involvement in farming fell from 146,000 to 118,800, a decrease of over 18%, and the percentage of the total labour force involved in farming fell from 28.5% to 12.0%. Although figures for persons employed in total primary industries³ are not available for all of this period, the same trend is clear from the early 1950's.

The labour force leaving farming has moved to both secondary and tertiary industries. Table 1 shows the disposition of the total labour force between the primary, secondary and tertiary sectors from 1953-1965.

The decline in the population of the work force which gains its living from the agricultural sector is typical of most economies in the world. As an economy develops from largely agriculture-oriented to a more in-

dustrialised economy, a long-term movement of population from farming to manufacturing industries occurs. Agriculture becomes more capital intensive and labour can earn higher rewards in industry. This trend continues, as a result of, and a stimulus to, economic development. In highly industrialised economies like the United States and the United Kingdom the percentages of the labour force directly engaged in agriculture were respectively about 6% and 5% in 1960. It is wise to be wary of comments which are frequently heard criticising the movement of population from rural to urban areas. In fact it has been suggested by some economists that the stage of development of an economy can be measured largely by the proportion of the labour force required to maintain agricultural industries.

TABLE 1

Percentage of the Total Labour Force Employed in Sectors of the New Zealand Economy

Percentage of Labour Force Employed in:

	Primary Industry	Secondary Industry	Tertiary Industry
1965	14.0	36.9	49.1
1964	14.5	36.6	48.9
1963	15.0	36.2	48.8
1962	15.3	36.3	48.4
1961	15.8	36.1	48.1
1960	16.4	35.8	47.8
1959	16.7	35.6	47.7
1958	17.2	35.1	47.7
1957	17.7	35.0	47.3
1956	18.1	35.4	46.5
1955	18.4	35.1	46.5
1954	18.9	34.4	46.7
1953	19.5	33.8	46.7

Source: B. J. Ross, Lincoln College, personal communication.

The declining work force in New Zealand agriculture has not resulted in declining production. Over the period 1954/55 to 1964/65 farm production has increased by more than 36% and output per worker in agriculture (labour productivity) has increased significantly. Agriculture is becoming a more highly capitalised industry, where the substitution of labour for capital is a continuous process.

³Includes farming, forestry and logging, fishing and mining.

The above figures of course do not include the increasing number of people who are associated with the agricultural sector in servicing industries. Recent trends towards increased use of contract work, and the use of specialist services will affect the figures mentioned above.

Agriculture's Share of National Income

Another useful measure of the contribution of the agricultural sector to the New Zealand economy is the proportion of the national income earned by the agricultural sector. This measure is also widely used in overseas countries, and is accepted as one indication of the state of development which an economy has reached. It is true as a general statement that as an economy develops, and the industrial sector enlarges, the agricultural sector will contribute a smaller percentage of the national income. It is difficult to make international comparisons since the methods of calculation of national income are not completely uniform. However, farm income in both the United States and the United Kingdom comprise only about 4% of national income. In less developed countries the proportion is higher, e.g. India 48% (1960), Indonesia 56% (1959).

The trend in New Zealand in the post-war period is shown by the lower graph in Figure 2. The relative contribution of net farm income⁴ to national income will depend on the volume of production of agricultural products and their prices, and the income from the rest of the economy. Since the early 50s, there has been a general decrease in the percentage of national income earned by the farming sector, with fluctuations reflecting largely the level of agricultural prices. The increase in the relative

value of farming income prior to 1951 was due to both substantially increased agricultural production, and increasing prices for pastoral commodities in world markets.

Agriculture's Contribution to Export Income

Figure 2 demonstrates the well-known fact that the New Zealand economy is heavily dependent on rural exports as the major source of export income. The export of agricultural products has accounted for an average of 93.4% of all export income in the period 1920-1965. Furthermore there is no indication that any substantial change in the source of export income is likely, or even possible, in the foreseeable future. Although there has been some growth in the export of manufactured products in recent years, it remains a comparatively insignificant source of overseas funds.⁵

The lack of natural resources in New Zealand has created conditions whereby it is necessary for a high proportion of the raw materials used in secondary and tertiary industries to be imported. We have seen in Table 1 that the secondary and tertiary sectors of the economy are employing larger and larger proportions of the total work force. Figure 2 suggests that these sectors are in recent years earning increased proportions of the national income.

We have then the situation where the production of the relatively declining sector of the economy (agricultural sector) must earn virtually all of the export income to provide imports which are necessary for the existence and growth of the relatively expanding sectors of the economy (secondary and tertiary). Since imports into New Zealand are the nutrients of economic activity, it is obvious that if the standard of living of the population is to be maintained

⁴Net Farm Income includes personal income earned in farming and income of farm companies, less rates and land tax, with adjustments for the wool retention deductions and payments. See Philpott, B.P. et al, **Estimates of Farm Income and Productivity in New Zealand, 1921-65**, Agricultural Economics Research Unit Publication No. 30, 1967.

⁵On export income figures for the year 1964-65 a fall of 13.2c per lb. in the price of wool would have caused a fall in export income equal to the total value of non-pastoral export receipts. A fall has occurred of greater than this magnitude in the last year.

at its present level, the agricultural sector must continue to increase its ability to earn export income at a rate at least equal to the expansion of the New Zealand population. If the standard of living in New Zealand is to be increased, then it is also obvious that agriculture must earn sufficient export income to enable a higher level of imports per head of population so that real income per head of the population will increase.

The Agricultural Sector and Economic Policy

It will probably not be sufficient for the agricultural sector in New Zealand to increase its volume of exports by 4.1 per cent per year as suggested by the Agricultural Development Conference, since New Zealand markets primary products on a highly competitive and often very sensitive overseas market.

Large increases in the volume of some New Zealand exports, such as lamb and dairy products, are often followed closely by a fall in the prices received for these products. Secondly, in recent years there has been a decline in the price of wool. This decline in the terms of trade for agricultural products has meant that increases in the volume of exports has not produced commensurate increases in export income. The economy of New Zealand is therefore in the position where substantial increases in export income are necessary for increased standards of living, but substantial increases in the volume of exports may be directly responsible for an adverse movement in the terms of trade of some products.

In a country such as New Zealand where export earnings come virtu-

ally from only one sector of the economy economic policy should be geared to maintaining the prosperity of that sector in times of an economic reversal. In addition economic policy should seek alternative methods of earning export income, and rational means of import substitution.

New Zealand has an accepted agricultural production policy as expressed through the Agricultural Development Conference, i.e. encouragement of maximum production of farm products. There is little evidence however of an established marketing policy. It has been traditional for the marketing of agricultural products to be left mainly to the farming community or their representatives. With a minimum amount of government intervention in marketing, the authorities or commissions marketing New Zealand agricultural produce have been more or less successful to date in disposing of their produce at reasonable prices.

The last few years in particular have shown that there is a real need for co-ordinating agricultural production and marketing policies, so that the farming community can undertake further farm development with some degree of confidence in commodity prices. Perhaps the most effective way to achieve this co-ordination would be the creation of an organisation⁶ charged with the responsibility of marketing intelligence, and outlook estimates for farm products.

⁶The Bureau of Agricultural Economics, Canberra, could well be used as a model.

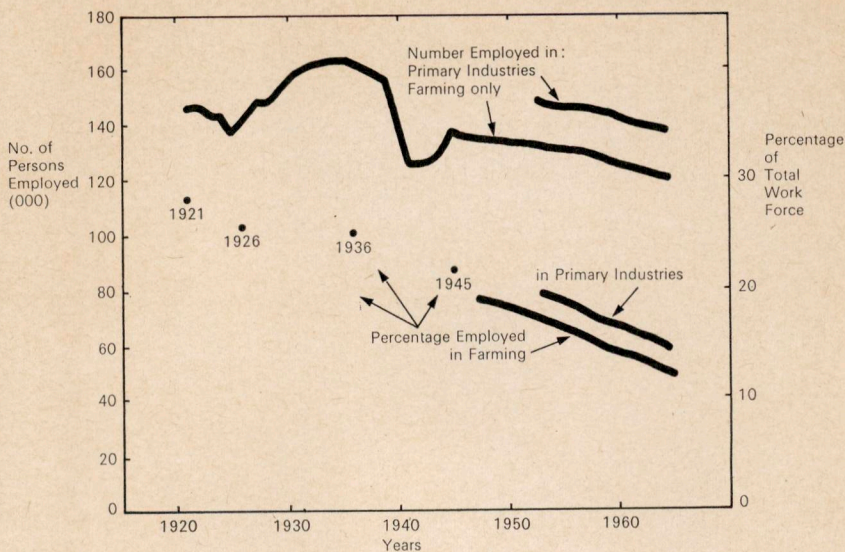


Fig. 1 Number and Percentage of Total Work Force Employed in Primary Industries and in Farming only

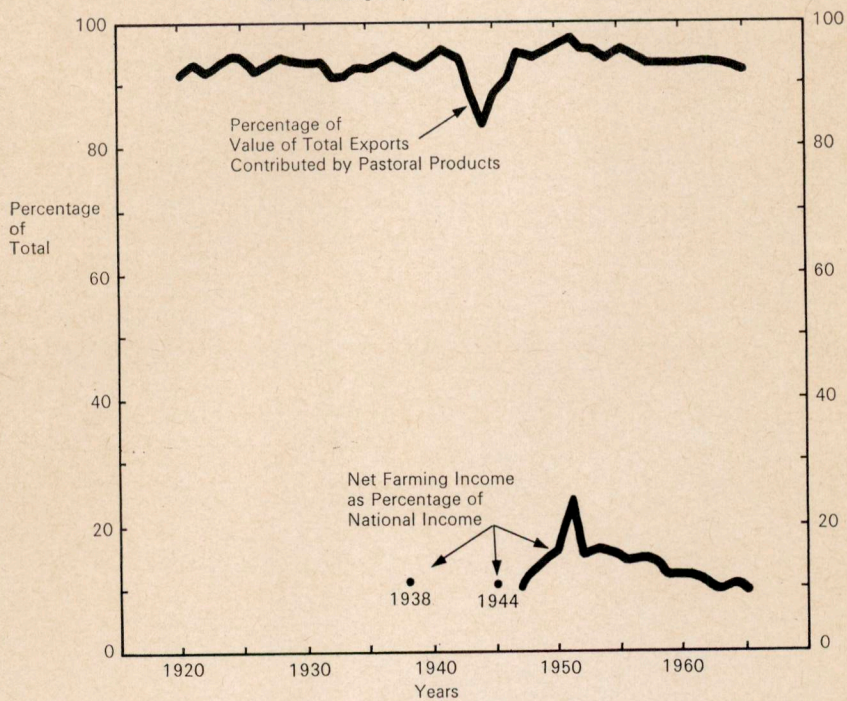


Fig. 2 Relative Contribution of Pastoral Products to Export Income, and Net Farming Income to National Income at Factor Cost.

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