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TABLE MARGARINE IN AUSTRALIA

by

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1. TABLE MARGARINE AS A COMPETITOR WITH BUTTER¹.

Margarine, the principal substitute for butter as a table fat, has been subject to hostile government legislation in many countries, and regulations governing its production, sale, import, packaging and colouring have been very common. Because of its price advantage—it is usually about one-half the price of butter in a free market—many governments have felt the necessity to protect their dairying industries from such strong competition.

The earliest restrictions in many countries were ostensibly designed to prevent fraud, and took the form of measures providing penalties for the sale of margarine as butter. Other enactments have aimed at preventing the addition of artificial colouring in imitation of butter. Some governments have gone further and directed that margarine must be coloured to distinguish it from butter. Excise taxes and license fees, sometimes discriminatory between coloured and uncoloured margarine, have also been used.

On this issue Brownlee has commented:

Similarity in the taste and appearance of butter and margarine does present opportunities for misrepresentation. Taxes and other similar devices, however, are not the sole nor the best means for enforcing identification. The relatively heavier taxation and frequent outright prohibition of the sale of coloured oleomargarine cannot be justified on grounds of preserving the identity of the product. As is true with any other food product, misrepresentation can be controlled by labelling requirements, coupled with state and federal inspection of the conditions of manufacture and distribution, enforced through a technique such as licensing².

¹The word "margarine" as used in this article refers to table margarine as distinct from cooking margarine, except where otherwise stated.

²O. H. Brownlee, *Putting Dairying on a War Footing*, Wartime Farm and Food Policy Pamphlet No. 5 (Revised Edition) (Ames: Iowa State College Press, 1944), p. 41.

Writing of the margarine position in the United States in 1944, Howell said:

Excise taxes varying from 5 to 15 cents per pound are imposed on the manufacture and sale of margarine in nineteen States, and license fees varying from \$1 to \$1,000 for the manufacture and from \$1 to \$500 for the sale of margarine are imposed in seventeen States. The Federal Government levies a manufacturing tax of 10 cents per pound on all margarine colored in semblance of butter and $\frac{1}{4}$ of 1 cent per pound on all uncolored margarine. In addition the Federal Government imposes a license fee of \$600 on manufacturers, \$480 on wholesalers, and \$48 on retailers of colored margarine. But if only the uncolored product is sold, the tax is \$200 for wholesalers and \$6 for retailers³⁴.

In Canada, the Dairying Industry Act of 1935 prohibited the production, importation and sale of margarine.

In South Africa, until recently, the quantity of margarine to be produced was determined by law, whilst its importation and wholesale distribution was the function of the Dairying Industry Control Board.

On the other hand, some governments have at times encouraged the manufacture and consumption of margarine, either to provide an edible fat cheaper than butter for the lower income groups or, as is the case in Denmark, to create a large exportable surplus of butter.

Post-war shortages of butter have to a large extent been offset by a high level of margarine consumption, especially in European countries. Accompanying this trend has been increased interest in the controversy surrounding margarine restrictions, and, in many countries, increased agitation on the part of margarine producers and dairyfarmers for and against the restrictions.

The intermittent controversy in Australia over this issue thus fits into a world-wide pattern. Examination of overseas happenings reveals that in recent years margarine restrictions have been relaxed. This applies to the restrictions in all three of the countries mentioned earlier, the United States, Canada and South Africa.

On March 6th, 1950, all federal taxes on table margarine in the United States were repealed. However, the laws of twenty states prohibiting the sale or manufacture of coloured margarine and state taxes on margarine were not affected by the passage of the federal act⁵.

In Canada, a decision of the Supreme Court in December, 1948, legalised the production and sale of margarine, though its importation remained prohibited⁶. Appeals against the 1948 decision have so far been ineffective. In October, 1950, the Privy Council upheld the decision of the Canadian Supreme Court that the Federal Government had no power to legislate on the manufacture, sale or distribution of margarine. It was suggested that other Federal legislation covering

³ L. D. Howell, "Trade Barriers for Margarine," *Journal of Farm Economics*, Vol. XXV, No. 4 (November, 1943), p. 796.

⁴ To set these figures in perspective it should be remembered that the average retail price in the United States for A grade butter was 52.7 cents a pound in 1943.

⁵ *I.F.A.P. Monthly Bulletin*, Vol. I, No. 10 (February-March, 1950), p. 9.

⁶ Commonwealth Economic Committee, *Dairy Produce*, 1950, p. 79.

dairy product substitutes, such as vegetable product substitutes for ice cream, cheese, etc., now made entirely from milk and dairy products, and now protected by Federal regulations, might also be invalid⁷.

In April, 1950, the South African Parliament repealed the federal tax on coloured margarine. From 1st July, when the act became operative, coloured margarine (which is described as practically indistinguishable from butter) may be served in restaurants provided it is in triangular pats. In shops, coloured margarine costs approximately half the price of butter⁸.

2. THE COMPOSITION OF TABLE MARGARINE.

Table margarine is a product of vegetable oils, the most commonly used being coconut oil, soybean oil, sunflower-seed oil, cotton-seed oil, peanut oil and rape-seed oil. A very wide range of vegetable oils can be utilised in the manufacture of margarine, the main limit being cost. Hardened palm oil is sometimes added for colouring and, in some products, a small amount of shark liver oil is added as a source of vitamin A. In some countries skim milk is sometimes added as an emulsifying agent. Cooking margarine is mainly composed of animal fats. Vegetable oils are also used to produce vegetable shortening, used in Australia almost wholly as a cooking fat. Such shortening is not considered to be margarine, as defined by the New South Wales Dairy Industry Act, 1915-50, under the current interpretation of that law.

There is no complete agreement as to what extent margarine is a substitute for butter nutritionally. However, the main body of evidence seems to suggest that vitamin-fortified margarine is equal in nutritive value to butter as far as the present knowledge of nutrition goes.

One ounce of butter provides approximately 1,200 international units of vitamin A and about 24 units of vitamin D. Two brands of margarine in New South Wales are fortified with 600 units of vitamin A and 600 units of vitamin D to the ounce. The addition of vitamin A to margarine is a simple and cheap process and most margarine on the local market is vitamin-fortified.

Recently, Deuel reaffirmed the fact that vitamin-fortified margarine has a nutritional value substantially equivalent to that of butter⁹. This belief is supported by the conclusions of an entirely unprejudiced group, the Committee on Public Health Relations of the New York Academy of Medicine, which recommended in its report of February, 1943, that wide publicity, both lay and professional, be given to the fact that margarine, fortified with vitamin A, is nutritionally equal to butter. A similar conclusion was reached by the Food and Nutrition Board of the United States National Research Council¹⁰.

⁷ Commonwealth Bureau of Agricultural Economics, *Weekly Commodity Notes*, Vol. 3, No. 46 (17th November, 1950), p. 3.

⁸ Extract from the South African Liaison Office Newsletter, 18th May, 1950.

⁹ Deuel *et al.*, "Studies of the Comparative Nutritive Value of Fats," *Journal of Nutrition*, January, 1944, to June, 1946.

¹⁰ H. Leichenger, J. Eisenberg and A. J. Carlson, "Margarine and the Growth of Children", *Journal of the American Medical Association*, Vol. 136, No. 6 (February, 1948), pp. 388-390.

The evidence does not appear to be completely conclusive and nutritive differences between butter and margarine may exist. Differences in the nutritive value of competing foods are, of course, more the rule than the exception, but such differences usually are not considered an adequate basis for discriminatory restriction on the sale of the less desirable products. Restrictions on the local consumption of margarine serve other purposes.

3. THE RESTRICTIONS ON CONSUMPTION IN AUSTRALIA.

Legislative restrictions were imposed on the production of margarine in New South Wales as early as 1915 under the Dairy Industry Act. Under this Act margarine factories came under the same supervision and control as butter and cheese factories since they were classified in the Act as "dairy produce factories".

It was provided that no margarine be manufactured on the same premises as butter, or in adjacent premises, and that no butter-fat be added to margarine during manufacture (section 17). Furthermore, a heavy penalty was imposed for the use of the word "butter" in the sale of margarine, to prevent fraud (section 18). The addition of colouring matter to margarine was forbidden (section 19), and exports of margarine came under regulation to ensure that the margarine had been prepared in accordance with the provisions of the Act and that the package in which it was contained was branded and marked as prescribed (section 21).

The collapse of export prices for butter in the early 'thirties left butter producers very dependent on the home market, where they obtained a relatively high home-consumption price through the operation of the equalisation scheme. In the 1934-35 season the average local realisation was 70 per cent. above the average export realisation. The equalised (pooled) price received by the butter producer depended on the proportion of total butter production sold on the home market. A fall in the proportion sold locally would have tended to reduce the equalised price. It is against this background that the agitation of dairying interests against margarine should be viewed. This agitation was particularly active between 1934 and 1940.

The position in the other States in 1934 was similar to that described for New South Wales. Under the Health Act, 1928, and the Dairy Product Act, 1931, Victoria had passed similar measures for the control of margarine as had New South Wales.

Under the Margarine Acts, 1910-1931, Queensland had provided for the licensing of manufacturers and retailers of margarine, the licences being renewable annually. Provision against fraudulent sales of margarine as butter, against the manufacture of margarine in or near a butter factory, and regulations governing the packaging and branding of margarine, were also imposed. A similar position existed in South Australia, Tasmania and Western Australia.

At various times suggestions were put forward to impose prohibitive tariffs on the importation of vegetable oils used for margarine, to impose heavy excise taxes on margarine, and to enforce the artificial colouring of margarine to reduce its resemblance to butter.

Action designed to achieve the third objective failed because such legislation, to be effective, had to be uniform throughout the States. Constitutional restrictions prevented action at the Federal level. In 1935 Victoria passed legislation providing that margarine should be of "a prescribed colour", and, under regulations under the Act, the prescribed colour was any colour between saffron and tangerine. Western Australia passed legislation requiring a saffron colouring in 1936. Both measures failed because restriction of this type, applied in one State only, did not cover the possibility of a company being formed in another State to market the produce in the State imposing restrictions.

Hardened palm oil is often used to deepen the colour of margarine and give it a butter-like appearance. In the nineteen-twenties, a prosecution was launched, under the New South Wales Dairying Industry Act, against Lever Bros. for contravening the Act by adding artificial colouring matter to margarine. Levers' counsel successfully argued that the use of hardened palm oil did not contravene the Act, as it was a vegetable oil¹¹.

There was also some doubt as to the constitutional validity of a measure requiring that margarine be coloured artificially to reduce its resemblance to butter. According to some legal opinions expressed, such legislation would be invalid if drawn up in such a way as to enable a court to draw the conclusion that the legislation was really aimed at preventing interstate trade (thus violating section 92 of the Constitution), rather than protecting the public from fraud. It was suggested that the choice of colour would be important to the validity of such an act. It was held that an act would be in more danger of being declared invalid if it required margarine to be of such an obnoxious colour as to make it difficult to sell.

However, other means were eventually sought to give the dairying industry protection against margarine and these speculations were never tested.

The question of restrictions on margarine for a time centred around the imposition of an excise duty. This suggestion was eventually discarded, partly because some of the vegetable oils used for margarine (especially cotton-seed oil and peanut oil) were produced in Australia, and an excise duty would reduce their market. This argument, however, applied equally to the measures finally taken.

In 1938, as a safeguard against dairy produce factories being built in areas where it was considered that they were not needed, a Dairy Produce Advisory Committee was constituted to advise the New South Wales Minister for Agriculture regarding new applications for registration of premises as dairy factories¹². Under the Act, margarine factories are included in this category. The Minister was empowered to refuse any application if he was satisfied that registration was opposed to the best interests of the dairying industry in New South Wales. Thus this measure did in fact provide a means of limiting the number of producers of margarine, though not production.

¹¹ In some parts of the United States where there is a heavy tax on coloured margarine, the regulations are partially circumvented by some margarine producers who sell with their uncoloured product a packet of annattoo. The consumer mixes this substance into the margarine to get the required colour.

¹² It was alleged that this would result in an unnecessary duplication of plant and an increase in the industry's overhead costs.

Examination of Table II shows that in the years prior to 1940, Australian production of margarine, although insignificant in comparison with butter, rose steadily. In the statistical year 1939-40, Australian consumption of margarine was only 1.2 lb. per head per annum compared with a butter figure of 30.24 lb. Nevertheless, fears were held that margarine consumption on the local market would rise as it had in other countries¹³.

The local butter market at that time was yielding a premium of 17 per cent. over export butter realisations. The presence of margarine as a potential competitor further limited the extent to which the local butter price could be raised without a consequent reduction in demand. Since one of the alleged purposes served by the equalisation scheme was to compensate for falls in export realisations by manipulation of the home price, it is not surprising that the margarine industry was viewed with some trepidation by dairying interests.

Other avenues having been explored, attention was concentrated on the possibility of the States' imposing quotas on production of table margarine for local consumption. It was not proposed to limit exports of table margarine or production of cooking margarine, which is made from locally-produced animal fats. In the years immediately prior to 1940, lengthy negotiations between the States took place with the object of securing the uniformity in legislation necessary to the success of the scheme.

South Australia made the first move in passing an Act regulating the manufacture of table margarine in that State for sale in any market. A quota was imposed on local consumption and manufacture for export was made dependent upon the granting of a permit. This provision for export followed closely upon an alteration made by the Commonwealth Government in its regulations concerning the export of table margarine. These regulations had hitherto provided that margarine exports should not contain any oil or other matter not necessary for their manufacture which caused the colour of the finished product to resemble butter. Though no statement was made to this effect it is understood that the object of the lifting of this colouring restriction was to open the way for building up an export market for Australian margarine.

By the end of 1940, acts had been passed in the six States of the Commonwealth, or amendments made to existing acts, with the object of imposing a quota scheme. On 1st January, 1941, the legislation took effect in all States, with the exception of South Australia where the legislation had already been in force for several months. Restrictions in the various States were fairly uniform but slight variations existed. For instance, artificial colouring matter was not allowed in table margarine produced in New South Wales for local consumption, though the restriction was ineffective for reasons previously given. On the other hand, artificial colouring of table margarine was allowed in Victoria.

¹³ Estimated consumption of margarine *per capita* in 1939-40 was 15.4 lb. in the United Kingdom, 34.6 lb. in Norway, 14.8 lb. in the Netherlands and 2.4 lb. in the United States. (Commonwealth Economic Committee, *Dairy Produce*, 1950, p. 81.)

The production quotas for table margarine for local sale laid down in the legislation of the various States are set out in Table I.

TABLE I.
Production Quotas for Table Margarine.

State.						Tons per week.
New South Wales	..	..	..	..	..	24
Victoria	..	..	..	..	..	23
Queensland	..	..	..	..	..	9
Western Australia	..	..	..	..	..	7
South Australia	..	..	..	..	..	6
Tasmania	..	..	..	..	..	4
Australia	..	..	..	..	..	73

The aggregate quota represented 4 per cent. of Australia's consumption of butter in 1940-41. The quotas were fixed after discussion between the States at a meeting of the Australian Agricultural Council, and were based on the production and consumption of margarine at the time. They were aimed at pegging consumption at existing levels.

Under the New South Wales Act (the Dairying Industry (Amendment) Act, 1941), manufacture of cooking or table margarine was made dependent upon the granting of the relevant license.

It was further provided that a special permit could be granted to anybody holding a license under the Act, for the manufacture of table margarine for export. Cooking margarine was defined as "any margarine which contains beef fat or mutton fat or both, in a quantity of not less than 90 per cent. by weight of the total fat and oil content of the margarine". All other margarine was considered to be table margarine¹⁴.

No restrictions have been imposed on the issue of licenses to manufacture cooking margarine or permits for the export of table margarine. Licenses for the manufacture of table margarine have been issued to the limit of the New South Wales quota of 24 tons per week.

A manufacturer has the right to the renewal of his license at the amount specified in the original license, unless, during the period of operation of the prior license, the manufacturer has contravened the conditions of the license or the provisions of the Act. These provisions thus confined the production of margarine to the existing manufacturers, since the Minister for Agriculture was not empowered to reduce the amounts of any license in ordinary circumstances. The licenses, however, could be transferred by the holders with the Minister's approval.

The spirit of the quota scheme was that no State should export any of its margarine production to another State. It was realised that section 92 of the Federal Constitution rendered direct enforcement of this arrangement impossible. Margarine manufacturers entered into a "gentlemen's agreement" to abstain from interstate trade in table margarine. A manufacturer who broke this agreement would not suffer the

¹⁴Cooking margarine containing not less than 75 per cent. animal fats may be sold in 14 lb. lumps to "prescribed persons", mainly pastrycooks.

loss of his license since renewal is guaranteed under the Act, and interstate trade does not contravene the provisions of the Act. On the other hand, the manufacturer's license would not allow him to produce more than his quota for local sale and any amounts sold interstate would be at the expense of the amount sold within his State. Although interstate trade could not, therefore, yield any increase in local sales to a manufacturer, a significant difference in prices between the States could provide an incentive towards interstate trade.

Various attempts have been made since 1940 to have the quotas increased. These attempts have been unsuccessful due to the operation of an arrangement (concluded in 1940) that no State should amend its Act without the matter being considered by a meeting of the Australian Agricultural Council. The amounts of the quotas are incorporated in the Acts in most of the States. If the quotas were contained in regulations under the Acts, legislative action would not be a prerequisite of any alteration of the quotas.

Protection of the dairying industry against imported margarine is secured through a prohibitive import duty together with the provision that imported margarine must be coloured pink by the admixture of alkanet root¹⁵.

4. PRODUCTION, CONSUMPTION AND PRICE OF AUSTRALIAN TABLE MARGARINE.

A significant increase in Australian production of margarine occurred in the pre-restriction period. Between 1937 and 1941 production increased by 146 per cent. About one-third of this increase was absorbed by increased home consumption, and the remainder by increased exports. Production did increase very considerably during World War II, but reference to Table II shows that production is now only slightly above the 1941 level.

During the war years, vegetable oils were controlled by the Commonwealth Government, and for a time civilian sales of margarine virtually ceased. Almost the entire output of margarine was taken up for service requirements, although after 1944 some raw materials were released for production for the civilian market.

The variability of production in the last five years, revealed by Table II, is accounted for partially by variations in export demand and partially by the dislocation of supplies of raw materials in the post-war period.

¹⁵ The following import duties apply to the raw materials used in the manufacture of margarine:—

Cotton Seed, 4s. per cental;

Soybean (from British countries), 1s. 1½d. per cental plus 5 per cent. primage; (from foreign countries), 1s. 6d. per cental plus 10 per cent. primage;

Coconut Oil (from British countries), 6d. per gallon plus 10 per cent. primage; (from foreign countries), 9d. per gallon plus 10 per cent. primage;

Edible Vegetable Oils, including cottonseed oil and soybean oil (from British countries), 1s. 6d. per gallon plus 5 per cent. primage; (from foreign countries), 2s. 10d. per gallon plus 10 per cent. primage.

TABLE II.
*Production and Gross Value of Table Margarine—New South Wales
 and Australia, 1936-37 to 1949-50.*

Year.	New South Wales.		Australia.	
	Production.	Gross Value.	Production.	Gross Value.
	million lb.	£1,000.	million lb.	£1,000.
1936-37	3.6	134	5.9	208
1937-38	4.0	149	5.6	212
1938-39	4.5	163	7.2	280
1939-40	4.5	164	8.8	334
1940-41	9.3	318	14.5	519
1941-42	19.7	662	21.6	740
1942-43	17.1	868	18.9	922
1943-44	20.4	1,044	21.2	1,075
1944-45	27.3	1,436	28.5	1,495
1945-46	15.2	759	17.4	877
1946-47	9.2	459	12.8	668
1947-48	5.2	314	10.8	683
1948-49	13.6	945	19.2	1,375
1949-50	9.8 ^a	^b	16.5 ^a	^b

^a Subject to revision. ^b Not available.

Source: Commonwealth Bureau of Census and Statistics, *Production Bulletin*, Part I, Secondary Industries.

Production of margarine for consumption in New South Wales is confined to five firms, but one firm amongst these produces three-quarters of the State quota.

Consumption in Australia, at the present population figure, is pegged at about one pound per head per annum, which is slightly below the 1940 figure of 1.2 lb. This is distributed in a rather uneven manner between the various states, as is shown in Table III.

TABLE III.
*State Quotas of Table Margarine Expressed as Annual Consumption
 Per Capita, 1950.*

State.	Consumption per head.				
	lb.				
New South Wales	c.87
Victoria	1.22
Queensland	0.88
South Australia	1.00
Western Australia	1.46
Tasmania	1.67

The quantity sold locally over the past ten years has been less than the quota in some years, because of wartime and post-war dislocations of supplies of raw materials.

In only a few instances, prior to the cessation of butter rationing, was the whole of the local quota not taken up. However, since the cessation of butter rationing in June, 1950, Australian consumption of table margarine has fallen to well below the quota of seventy-three tons per week, as is shown in Table IV.

TABLE IV.
Margarine and Butter—Monthly Deliveries by Factories for Consumption in Australia, March to November, 1950.

Period.				Margarine.	Butter.
				tons.	tons.
March	...	...	...	319	7,482
April	...	...	...	272	6,544
May	...	...	...	360	9,617
June	...	...	...	395	8,419
July	...	...	...	222	8,088
August	...	...	...	182	8,316
September	...	...	...	130	8,845
October	...	...	...	138	8,840
November	...	...	...	135	8,927

Source: Commonwealth Bureau of Census and Statistics, *Production Summaries Nos. 41 and 55.*

Apparent Australian consumption of margarine in November, 1950, was 185 tons (58 per cent.) below average monthly consumption in the three months, March to May, 1950. The corresponding figures for butter consumption show an increase of 1,046 tons (13 per cent.).

In effect, then, the margarine quotas do not actually limit local consumption in the present situation. However, the margarine manufacturers' incentive to advertise their product is reduced by the existence of the quotas.

The three main factors which have contributed to the fall in table-margarine consumption to below quota levels are:

- (1) The small price difference between table margarine and butter (4½d. per lb.) because of the operation of the butter subsidy. This is probably the main factor.
- (2) The present high level of incomes which reduces the significance of margarine's cheapness relative to butter.
- (3) The fact that, with consumption pegged at a low level, little advertising of table margarine is done.

It has not been possible to obtain official statistics on the price of table margarine in Australia prior to the introduction of price-fixing in World War II. However, according to information received from margarine manufacturers, the wholesale and retail prices per pound averaged approximately 9½d. and 11½d. respectively in 1939. The retail price of butter at that time was 1s. 7d. per pound.

In the following year there was an increase of about 1d. per pound in the wholesale and retail price of table margarine, after which prices came under governmental control.

In the early years of the war, distribution margins were pegged for table margarine and on 12th April, 1943, price ceilings were established. On 1st November, 1944, an increase of 1½d. per pound in the wholesale and retail price was allowed. Thereafter, prices regulations specified definite maximum prices, fixed on the dates shown in Table V. The ruling retail prices of butter on these dates are also shown.

TABLE V.
Prices of Butter and Table Margarine.

Date.	Table Margarine.			Butter.
	Factory Price per lb.	Wholesale Price per lb.	Retail Price per lb.	Retail Price per lb.
	s. d.	s. d.	s. d.	s. d.
18 Jan., 1945 ...	.....	1 0½	1 2	1 8
3 Nov., 1947 ...	1 4	1 5	1 7	1 8
23 Mar., 1949 ...	1 5½	1 6½	1 8½	2 2
3 Aug., 1949 ...	1 6½	1 7½	1 9½	2 2

The wholesale price of margarine is, in effect, the price received by the factory, since most factories sell direct to retailers. The above prices are those ruling in New South Wales. Prices differ slightly between States, mainly reflecting the cost of transporting coconut oil, the whole of which is extracted in Sydney. As with other commodities, the price of table margarine has been fixed by the State authority since September, 1948.

The price advantage of margarine over butter has decreased since 1939, both relatively and in absolute terms. In 1939 the retail price of margarine was 60 per cent. of the butter price. The present retail price of margarine represents 82 per cent. of the subsidised retail butter price of 2s. 2d. per lb. The price difference has decreased from 7½d. per lb. to 4½d. per lb. If the consumer subsidy on butter were discontinued and the retail price of butter were fixed at the price received by producers plus distribution costs (*i.e.*, approximately 3s. 1d. per lb.), the difference between the retail prices of margarine and butter would be 1s. 3½d. per lb.

The low retail price of butter, no doubt, has an effect on the retail price of margarine. According to manufacturers, costs of production of table margarine have risen steeply over recent years. However, the extent to which cost increases can be met by a rise in the retail price of margarine is limited by the competition of butter. If the price differential between butter and margarine were reduced much further, even greater difficulties might be experienced in selling the whole of the local quota, since butter has a definite quality premium in the eyes of most consumers.

If the cost of production of table margarine continues to rise while the retail price of butter is held down by the payment of the subsidy, the Australian table margarine industry might lose its entire local market.

5. EXPORTS OF AUSTRALIAN TABLE MARGARINE.

Exports of margarine, mainly table margarine, have expanded considerably since the imposition of restrictions on local consumption. Tabel VI shows that exports have risen from a negligible amount in 1939-40 to such an extent that in 1948-49 they were valued at over £1,000,000.

TABLE VI.
Exports of Margarine—N.S.W. and Australia, 1936-37 to 1949-50.

Year.	New South Wales. ^a		Australia. ^a	
	Quantity.	Gross Value.	Quantity.	Gross Value.
	1,000 lb.	£1,000	1,000 lb.	£1,000
1936-37	46	2	47	2
1937-38	70	2	73	2
1938-39	151	4	153	5
1939-40	276	8	289	9
1940-41	5,639	164	5,674	165
1941-42	22,036	726	22,079	727
1942-43	5,737	241	6,127	256
1943-44	11,961	656	13,179	717
1944-45	19,819	1,040	20,347	1,081
1945-46	8,431	421	8,777	437
1946-47 ^b	12,624	585	13,183	614
1947-48 ^b	1,879	103	1,891	106
1948-49 ^b	13,191	1,095	13,225	1,098
1949-50 ^b	9,117	666	9,191	628

^a Prior to 1946-47, statistics were only collected for "butter substitutes" and the separate figures for table margarine are not available. Thus the statistics prior to this date include ghee and tropical spread as well as small amounts of cooking margarine.

^b Over the four years, 1946-47 to 1949-50, for which ghee statistics were collected separately, average exports of this product were approximately one million lb. per annum. These amounts are not included in the above statistics for those four years. However, small amounts of cooking margarine are included in the margarine statistics for the same period, though the quantities are relatively insignificant.

Source: Commonwealth Bureau of Census and Statistics, *Overseas Trade Bulletins*.

However, the large increase in exports is not solely, nor even primarily, a result of the restrictions on local consumption. The two main factors in the increase in table margarine exports were the large requirements for the allied services during World War II and the very large purchases since April, 1948, by the United Nations International Children's Emergency Fund. Most of the U.N.I.C.E.F. purchases appear in the statistician's records as exports to Italy, Poland, Egypt, and other European and Near Eastern countries. However, Australian margarine probably could not compete in these countries on the basis of private sales.

U.N.I.C.E.F. arranges its purchases by periodic contracts with Australian margarine manufacturers. Up to 31st October, 1950, over nineteen million pounds of table margarine had been exported under these contracts, the value being £A1,317,000. The average price that has been received under these contracts is 1s. 4.6d. per lb., and the most recent price is £A158 per ton (1s. 5d. per lb.), which is 2½d. per lb. below the wholesale price in New South Wales. Continued purchases of table margarine by U.N.I.C.E.F. depend partly on that body's programme, which might soon undergo alteration, and partly on the availability of funds. It would therefore be unwise to regard this market outlet as in any way permanent. A significant and regular market has

been developed in Malaya, Hong Kong and Singapore, but this market is threatened and price competition is strong. Exports to these three markets in 1949-50 were at approximately half the level of 1948-49.

As indicated earlier, costs of production of table margarine have risen substantially in recent years, necessitating rises in the local and export price. The major factor accounting for the rise in costs has been the increased price of copra, from which almost all Australian table margarine is now made. In 1939, copra cost Australian margarine manufacturers £14 to £20 per ton compared with the present price of £67 15s. od. per ton at the ship's side. Australia imports copra from New Guinea and other British possessions and dependencies in the Pacific. Imports of copra from New Guinea, our main source of supply, are controlled by a board, which purchases the product from the growers on behalf of the Federal Government. After Australian requirements are met, the balance is sold to the United Kingdom under a nine-year contract.

The United Kingdom Government purchases copra at a price equivalent to that paid by Australian margarine manufacturers, and sells it to English manufacturers. According to local manufacturers, the price of English margarine in the Far Eastern market has been reduced, despite the rise in raw material costs. This suggests the possibility of English exporters receiving copra at a reduced price. Whatever the cause, Australian table margarine is now reported as selling in Eastern markets "on quality" against stiff competition, with costs of production in Australia still rising.

The manufacturers maintain that export markets are considerably less profitable than the home market, partly because of increased competition, and partly because of the high cost of the tin containers in which margarine is exported. However, the export market allows manufacturers with a limited local market to spread their overhead costs by increasing their output.

Margarine has a natural advantage over butter in the hot climate of the Far East, in that it does not deteriorate in quality over long periods, even without cold storage. The bacterial content in margarine is very low, due to the processes of manufacture. Most table margarine exported is guaranteed to retain its quality for six months. Furthermore, table margarine can be treated so that its melting point is raised, which means that it can retain its consistency at a higher temperature than can butter. Butter exports to countries such as Malaya need refrigeration during transport and cold storage on arrival. The cost and availability of refrigerated shipping space are limiting factors applying to butter exports but not to exports of table margarine.

6. THE EFFECTS ON THE DAIRYING INDUSTRY OF THE RESTRICTIONS ON MARGARINE.

Restrictions on the consumption of margarine on the Australian market are only likely to yield increased returns to the Australian dairying industry in periods when the local butter price is higher than export parity. This was the situation from 1940 when the restrictions were imposed, until the 1944-45 season. Over this period, returns on

the local market were about 17 per cent. higher than returns from exports. However, rationing was in operation in the last two years of that period, reducing sales on the domestic market.

Since the 1945-46 season, the export market has been the more remunerative and the dairying industry has not benefited financially from any effect the margarine quota might have had in increasing the volume of local sales of butter. Dairying interests recognise these facts but are fearful that, in the future, the export market may again be less remunerative than the local market.

Returns to butter producers in the near future are in no way dependent on margarine restrictions, in so far as they are governed by the following factors:

- (1) A guaranteed price based on ascertained costs of production;
- (2) A stabilisation fund, containing over £3 million, to be used if export returns fall below the guaranteed price;
- (3) A United Kingdom contract, which includes a provision that prices for butter and cheese for any contract year shall not fall by more than $7\frac{1}{2}$ per cent. of the price ruling in the previous year;
- (4) A market situation in Europe which suggests that, in the immediate future, there will be no drastic drop in overseas butter prices¹⁸.

It is therefore to the more distant future that one must look in assessing the benefits to be derived by the dairying industry as a result of the restrictions on the sale of margarine. Benefits which attach to any period of time beyond the present or immediate future must be discounted to the extent of their uncertainty. Many of the factors involved in the assessment defy accurate prediction. However, speculation on the importance to the dairying industry of the margarine restrictions may be discussed in terms of two questions. These questions are:

- (1) To what extent would the table margarine industry compete with the dairying industry in the future, were the restrictions not in force?
- (2) To what extent might an expanding market for Australian dairy produce compensate for any increased sales of table margarine?

7. THE POTENTIAL COMPETITION OF TABLE MARGARINE.

In the absence of specific market research on this subject, remarks must be purely conjectural. One could examine the level of margarine consumption and the extent to which it was increasing at the time the restrictions were imposed, and extrapolate. It could be observed that the annual apparent consumption per head of margarine increased by over forty per cent. between 1936-37 and 1939-40, although consumption

¹⁸ A treatment of some of the factors which may influence the future demand and price of Australian dairy products is contained in Alan G. Lloyd, "The Market Outlook for Dairy Produce," *The Agricultural Gazette of New South Wales*, Vol. LXI, June, 1950, p. 288.

remained insignificant compared with butter¹⁷. However, so many factors in the situation have altered since 1940 that such an approach would be useless. For instance, the price difference between margarine and butter in 1940 was considerable (approximately 7½d. per lb.) and average monetary income was at a much lower level than is the case now. Furthermore, the quality of margarine has improved since pre-war years.

A second approach to the problem of estimating the potential competition margarine might offer to butter, is to look at the position in other countries. This approach suffers from three main disabilities.

(1) *Differing standards of living between countries.* One would expect to find that the cheapness of margarine relative to butter has less influence on purchases of table fats in a country enjoying a high standard of living than in a country having a low standard of living.

(2) *Differing consumers' tastes.* The extent to which the consumer regards margarine as "inferior," will differ between countries.

(3) *Differences in the quality of the product.* These may be very wide.

Nevertheless, the following three cases are of interest.

In the United States in 1949, consumption of margarine was 5.7 lb. *per capita*; that of butter 10.5 lb. The average retail price of butter was 86.7 cents per lb. and that of margarine (uncoloured) was 41.4 cents per lb¹⁸. It can be seen from these figures that margarine offers a great deal of competition to butter in the United States, where its price is less than half that of butter. It should be mentioned that the quality of United States margarine is very good.

In the United Kingdom, subsidies, standardisation and rationing distort the relative demand for the two commodities, and it is difficult to draw any conclusions as to the competition margarine would offer to butter if the market were uncontrolled. The butter and margarine rations vary throughout the year but, according to the latest information, the weekly ration of each commodity is four ounces¹⁹. The retail price of butter is 1s. 10d. per lb. (with 1s. per lb. subsidy), and the retail price of margarine is 10d. per lb. (with 4½d. per lb. subsidy), so that margarine has a very significant price advantage. Despite this, the *Economist* reported that:

For some months past the full weekly ration of 4 oz. per week [of margarine] has not been taken up, and margarine production has had to be curtailed despite the fact that the retail price of butter rose from 1s. 6d. per lb. to 1s. 10d. per lb.²⁰.

On the other hand, when the butter ration was increased to five ounces per week, the whole of it was taken up²¹. Table VII shows recent movements in United Kingdom consumption of margarine and butter.

¹⁷ No statistics on table margarine consumption were collected, but an "apparent consumption" figure (*i.e.*, production minus exports) should be sufficiently accurate for present purposes.

¹⁸ United States Department of Agriculture, Bureau of Agricultural Economics. *The Dairy Situation*, May, 1950.

¹⁹ *United Kingdom Information Bulletin*, 3rd December, 1950.

²⁰ *The Economist*, 8th July, 1950, p. 95.

²¹ *The Primary Producer*, 1st December, 1950.

It can be seen that over the period of one year, margarine consumption has decreased by 10 per cent. whilst butter consumption has increased by 34 per cent.

TABLE VII.

United Kingdom Consumption of Margarine and Butter.

Commodity.	Consumption for 8 months January to August.	
	1949.	1950.
	'000 tons.	'000 tons.
Butter	192	257
Margarine	278	251

Source: *United Kingdom Monthly Digest of Statistics*, September, 1950.

Both products suffer from standardisation. According to the *Economist*, "national" margarine is recognised as being of "very inferior quality," whilst dairying interests claim that "national" butter is inferior to the quality that would be obtained if proprietary brands were restored²². In assessing the relative prices, it should be observed that butter enjoys a higher subsidy than margarine, both absolutely and proportionately.

Recent developments in the butter-margarine position in Canada are set out in Table VIII. Since margarine restrictions were lifted in December, 1948, annual consumption per head of butter has fallen by almost 18 per cent. Consumption of table fats, *i.e.*, butter and margarine taken together, was 1 lb. per head higher in the first half of 1950 than during the corresponding periods in the two previous years.

TABLE VIII.

Consumption of Butter and Margarine in Canada, January to June.

Product.	Total (thousand cwt.).			Per caput (pounds).		
	1948.	1949.	1950.	1948.	1949.	1950.
Butter	1,494	1,299	1,318	13.0	10.8	10.7
Margarine ... ..	...	278	425	...	2.3	3.4
Total	1,494	1,577	1,743	13.0	13.1	14.1

Source: Commonwealth Economic Committee, *Intelligence Bulletin*, October, 1950, p. 4.

Consideration of the potential competition margarine might offer butter in Australia in the future involves the following three factors:

(1) *Price*. The price difference between the two products and the significance of that price difference in relation to money incomes at

²² "National" butter is the pooled product obtained from the various proprietary brands from different countries.

the time are important factors in determining the extent of the competition margarine might offer to butter. A price difference of, say, 6d. per lb. may not represent very much to purchasers of table fats at today's high income levels, but might be very significant if the level of monetary incomes fell.

The most important factor in relation to the butter-margarine price differential is the butter subsidy. This consumer subsidy keeps the price differential down very low, but the cost of maintaining the subsidy is growing rapidly and there is an increasing pressure for a rise in the retail price of butter²³.

If the butter subsidy were withdrawn, then the price advantage enjoyed by margarine in Australia would be almost as great as the price advantage enjoyed by margarine in the United States in 1948, after making allowances for differences in wage levels²⁴. United States margarine consumption in 1948 was 60 per cent. of butter consumption. This might be taken to indicate that margarine could be a strong competitor with butter on the Australian market in the absence of the butter subsidy and the quota on margarine consumption.

However, it is unlikely that the consumption of Australian margarine would immediately reach 60 per cent. of butter consumption, even if Australian margarine enjoyed the same real price advantage over butter as does American margarine. There is no reason to assume that consumers' tastes are the same in Australia and America in this respect. Australian consumers probably have a much stronger prejudice against margarine than United States consumers, having been restricted almost wholly to butter for a considerable period. Furthermore, American margarine is of exceptionally high quality.

(2) *Quality*. Technical advances in margarine manufacture have led to a significant improvement in the quality of margarine, especially over the last decade. Any continuance of this trend would further increase the potential competition margarine might offer to butter.

(3) *Advertising*. The lifting of restrictions on the local consumption of margarine would no doubt make it worthwhile for Australian margarine producers to advertise their product. The publicising of scientific evidence on the nutritive value of vitamin-fortified margarine might considerably modify popular ideas on this subject. This could have a **significant effect on buying habits**.

In considering the potential competition offered by margarine to the Australian dairying industry, it should be remembered that only about one-third of Australia's whole milk production is absorbed as butter on the local market. Even if margarine captured one-third of the local market for table fats, not much more than ten per cent. of Australia's dairy produce would thereby be displaced from the home market.

On the other hand, any disadvantages to the dairying industry, associated with such a fall in the domestic demand for dairy produce, would be largely concentrated on butter producers outside the areas supplying

²³ In 1942-43, the first year in which subsidy payments were made, the subsidy payments on butter, together with the linked subsidy on cheese, totalled £2,005,237. In 1950-51 subsidy payments on butter may approach £12 million, whilst the subsidy on cheese may be as high as £1.25 million.

²⁴ The comparison is made between the percentage which the butter-margarine price difference represents of average hourly earnings in each of the two countries.

milk to Australian cities. However, whole milk is capable of a variety of uses, and it may be that expanding demand for whole milk in other markets would compensate for that part of the butter market lost to margarine.

8. ALTERNATIVE MARKET OUTLETS FOR DAIRY PRODUCE OTHER THAN BUTTER.

The future demand for Australian dairy produce on the world market is impossible to assess accurately. On the home market, however, there is some justification for expecting an expansion of demand for dairy produce. To the extent that this is true, the dairying industry has less need of protection from margarine.

A population increase of 17 per cent. over the past decade, together with an increase in consumption per head of dairy produce, particularly fresh milk, has led to a considerable expansion of local demand for the produce of the dairying industry. In the three years prior to World War II, Australia consumed 755 million gallons of milk in all forms. The corresponding 1950-51 figure is expected to be in the vicinity of 980 million gallons.

Local consumption of butter in 1950-51 should absorb approximately 580 million gallons of milk, compared with 494 million gallons in the immediate pre-war years.

Of considerable importance to the Australian dairying industry is the large and continuous increase in consumption of fresh milk that has taken place since pre-war years. Consumption of fresh milk and ice-cream will probably absorb about 252 million gallons of milk in 1950-51 compared with a 1936-39 average of 161 million gallons. Any reduction in the local demand for butter resulting from the competition of margarine might be more than offset by the increasing demand for fresh milk.

Dairying interests feel that increased consumption of margarine on the local market may intensify the problem of finding export outlets for butter in the future. However, unless Australian production of milk increases considerably, the surplus of butter for export is likely to decrease. At the existing level of production and consumption, Australia's output of dairy produce would be just sufficient to support a population of 10,700,000. Current developmental policy aims to achieve a population of this magnitude within a decade.

9. THE ARGUMENTS USED IN FAVOUR OF THE MARGARINE RESTRICTIONS.

The following were the main arguments in favour of protection put forward by dairying interests when the restrictions were imposed:

- (1) The annual value of Australian dairying production amounted to many millions of pounds.
- (2) The dairying industry provided employment for between 150,000 and 200,000 persons, directly and indirectly.
- (3) A large amount of capital was invested in the dairying industry in the form of farms, factories, transport and distributing businesses.
- (4) The raw material for margarine was mainly imported from "cheap labour" countries.

These arguments, in so far as they have an economic reference, are concerned with employment policy, and should be viewed in the light of three considerations.

The first is the availability of alternative economic employment for factors of production (*i.e.*, land, labour and capital) displaced by the competition of margarine. Obviously, these arguments have more significance in a period of depression than in one of full employment.

Second, the social cost of transfer of factors of production from one employment to another should be considered. Even in a state of full employment, certain social costs are involved in transfer, although these costs are likely to be far less important in that situation than if the transfer took place in a depression period. Usually some temporary unemployment occurs. Some plant and equipment and some human skills are rendered obsolete. But these points apply with more force to factories than farms, since farm resources are more capable of being quickly transferred to alternative lines of production.

The resistance of farmers, and people in general, to the readjustments involved in a transfer to other lines of production, perhaps to another industry in another part of the country, is an important social consideration. Social and family ties, the feeling of security in a familiar occupation and environment—these factors often mean that personal hardships are involved in the drastic readjustment of a way of life centred around a particular occupation and district. Often the farmer finds the economic hardships of resisting change the lesser of two evils. It has often been observed that farmers tend to remain in depressed industries despite strong economic incentives to move to alternative lines of production.

It should be stressed that the above two considerations are short-run factors. They should be measured up against a third consideration—the long-run social cost of retaining factors of production in a particular occupation regardless of the long-term demand and supply situation and the effect on the national product.

10. THE EFFECT OF THE RESTRICTIONS ON THE NATIONAL PRODUCT.

An economic allocation of productive resources, including manpower, necessitates an unimpeded movement of resources from less productive to more productive uses. Any misallocation of resources tends to lower the total national product.

In the situation where firms are prevented from producing sufficient table margarine for the local market in response to consumers' demand, productive resources are not being used at maximum efficiency in satisfying market needs. This inefficiency is manifested in part in the fact that some consumers are forced to buy the dearer product when they would prefer the cheaper product at the existing price difference.

However, not only the would-be purchasers of margarine, but all consumers, are affected. This applies in so far as all consumers would benefit if the lifting of the restrictions freed land, labour and capital engaged in dairying for other uses, enabling a higher national product. Such a loss occurs whether the raw materials for producing the margarine are imported or produced within the country. The adoption of a "beggar-my-neighbour" employment policy in periods of

domestic unemployment, using protection as a major weapon, can often lead to the fostering of industries at the expense of attaining the maximum national product in periods of full employment.

G. Loftus Hills, in an unpublished paper submitted to the Australian Dairy Produce Board in 1945, focussed attention on the aim of obtaining maximum efficiency in the use of scarce resources, measured in terms of physical output²⁵. Hills concentrated his attention on the question of the most productive use of dairying land.

He pointed out that the dairying industry occupies a large part of the high-quality agricultural land in Australia, and such land is a limited resource. For this reason, said Hills, considerable significance should be attached to the fact that one acre of suitable land produces considerably more fat under a vegetable oil crop than under dairying. Such a comparison implies that margarine raw materials could be extensively produced within Australia. At the present time, it is cheaper to import them.

The figure quoted by Hills for the annual yield of fat per acre devoted to dairying in N.S.W. is 50 lb. This figure can be compared with a probable annual yield per acre of 250 lb. of sunflower oil and 500 lb. of peanut oil, both of which are suitable for table margarine production. In 1945, Hills estimated the cost of production of oil-in-seed (sunflower) at 8d. per lb. and manufacturing costs at 4½d. per lb., giving a cost of production figure of 1s. 0½d. per lb. for margarine. The cost of production of butter at this time was 1s. 9d. per lb.

Hills was writing in a war economy and used the wartime criterion of maximum physical productivity from limited resources (in this case land), regardless of consumer preferences. However, Hills suggests that, even in terms of peace-time economics vegetable oils might provide a higher financial return to the dairyman than butter. His conclusion is that the dairy cow is a relatively inefficient producer of fats, though an efficient producer of certain other food constituents important in the national diet.

Earlier Christensen, in the United States, had used a similar approach to Hills, but extended the comparison. Table IX compares the output of fat from one acre of land, one hundred hours of labour and one unit of all farm resources, when applied to dairying and certain vegetable oil crops.

TABLE IX.
Average Output of Fat per Unit of Resources Used to Produce Butter and Certain Vegetable Oils.

Product.	Land— 1 acre.	Labour— 100 hours.	All Farm Resources— 1 unit.
	lbs.	lbs.	lbs.
Butter	46	104	35
Peanut	185	319	76
Soybean	150	1,252	97
Linseed	129	1,609	108

Source: R. P. Christensen, *Using Resources to Meet Food Needs*, Bureau of Agricultural Economics, United States Department of Agriculture, Washington, May, 1943 (mimeographed), p. 62.

²⁵ G. Loftus Hills, *Some Rational Steps towards a Stable Dairying Industry*, Council for Scientific and Industrial Research, Dairy Research Section, Melbourne, 1945 (mimeographed).

11. VEGETABLE OILS IN AUSTRALIA.

Australian agriculture differs from the agriculture of most other large food-producing countries of the world in that no significant section of it is devoted to the production of vegetable oils. In many instances such production of vegetable oils as has occurred in Australia has been of a by-product nature. For instance, peanuts rejected as unfit for direct human consumption are crushed for oil, and Queensland cotton provides cotton-seed oil as a by-product.

In most countries where the vegetable oil industry is important, a large part of the crop goes into the production of margarine and shortening. Australian consumption of table margarine has always been very low. This is probably the main reason why Australia has not grown any oil crops for food on a large scale²⁸.

The raw materials which have been used in the production of Australian margarine are set out in Table X. Small amounts of vegetable oil, particularly peanut oil, have been used in conjunction with animal fats in the manufacture of cooking margarine. However, such amounts are insignificant in comparison with the quantity of vegetable oils used for table margarine.

TABLE X.
*Vegetable Oils Used in Australian Margarine Production,
1936-37 to 1948-49.*

Year.	Coconut Oil.	Cottonseed Oil.	Peanut Oil.	Other Oils.
	1,000 gal.	1,000 gal.	1,000 gal.	1,000 gal.
1936-37	1,352	148	4 ^a	114
1937-38	1,496	157	225 ^a	153
1938-39	1,540	130	289	143
1939-40	1,548	147	382	43 ^b
1940-41	2,599	65	425	97 ^b
1941-42	2,541 ^b	113	407	77
1942-43	<i>c</i>	59	380	57
1943-44	<i>c</i>	75	421	26
1944-45	<i>c</i>	53	460	207
1945-46	1,681 ^b	9	416 ^b	33
1946-47	620	4	296	30
1947-48	1,253	12	316	26
1948-49	3,176	7	310	62

^a Converted from lb. using the conversion factor 9.2 lb. equals 1 gallon.

^b Including vegetable oils used in other works.

^c Not available.

Source: Commonwealth Bureau of Census and Statistics, *Production Bulletin*, Part I.

All of the coconut oil shown in Table X has been imported, mainly from New Guinea. The small amounts of other vegetable oils used in Australian margarine production have been partially imported, partially home-produced.

²⁸ I. A. Butler, "Vegetable Oil Crops for Australia," *The Farm Front* (Rural Bank of N.S.W.), Vol. 5, No. 10 (October, 1947), p. 146.

Since 1944-45 there has been a considerable decline in utilisation of vegetable oils other than coconut oil for the production of Australian margarine. The use of home-produced oils in the production of table margarine is now almost insignificant. Table-margarine manufacturers give as reasons for this trend the very small amounts of Australian vegetable oils now being produced and the high price of those oils when compared with coconut oil and with the retail price of butter.

In the United States the reverse has occurred. Heavy import duties imposed during the 'thirties on coconut oil led to the substitution of soybean, cottonseed and peanut oil for that raw material. As a result, the United States margarine industry now uses entirely domestic raw materials.

However, United States margarine technologists still insist that coconut oil makes the best margarine and that, even with present duties and taxes, is less costly than competing domestic oils²⁷.

From an agronomic viewpoint, the edible oil crops most capable of development in Australia are probably sunflower and peanuts²⁸. The possibility of such an expansion taking place is no doubt considerably lessened by the restrictions on the local consumption of table margarine.

The argument put forward in favour of the restrictions is that the lifting of restrictions would involve social costs of unemployment in the dairying industry. It is true that when one product rapidly replaces another, considerable hardship and distress is sometimes caused in the older industry. Sometimes, however, it fortunately proves possible for the makers of the old to make the new. In the case of scientific and technical advances, less dislocation is caused if they are adopted by those already in related businesses. In accordance with this principle, Hills has suggested that an expansion of the Australian vegetable oil industry is possible without conflict of interest, in so far as the raw materials for margarine could be grown on Australian dairy farms²⁹.

According to Hills, both of the crops recommended by Poggendorff (peanuts and sunflower) are suited to many Australian dairying districts. At the prices and costs ruling at the time of his survey (1945), Hills was of the opinion that they would have been profitable adjuncts to dairying.

The expansion of the Australian vegetable oil industry would also provide the livestock industries, including dairying, with a valuable source of high-protein oil-cake for stock feed.

²⁷ W. H. Nicholls. "Some Economic aspects of the Margarine Industry," *Journal of Political Economy*, Vol. 54 (June, 1946), pp. 221-242.

²⁸ W. Poggendorff, "A Review of the Vegetable Oil Position," *Journal of the Australian Institute of Agricultural Science*, Vol. 14, No. 1 (March, 1948), p. 8.

²⁹ Hills, *op. cit.*, p. 14.

12. SUMMARY.

Without the aid of specific market research into consumers' preferences within possible price ranges, it is impossible to assess with any accuracy the extent of the competition margarine might offer butter on the Australian market. However, the preceding discussion favours the impression that competition between such close substitutes could develop considerably over a period of years. Some of the factors favouring this interpretation are the high level of margarine consumption in other countries, such as the United States; the possibility of further improvements in the quality of margarine as a result of advances in technology; and the possible effect of a nutritionally-based advertising campaign on consumers' preferences.

The dairying industry may, in the future, benefit from protection from this competition if the domestic market becomes more remunerative than the export market. However, the protection thus afforded to dairying involves certain long-term social costs to the economy in terms of a failure to make the most productive use of national resources.

On the other hand, the lifting of restrictions on the local consumption of margarine could involve short-run social costs connected with a shift of resources such as labour and equipment from the dairying industry. Such costs would be less important (1) in a state of full employment, as at present, when transfer to another occupation could be rapid; (2) if there were an expanding market for the produce of the dairying industry, as seems likely; and (3) if the lifting of the restrictions were associated with the introduction of vegetable oil crops as side-lines on Australian dairy farms.
