COMPETITION BETWEEN TABLE MARGARINE AND BUTTER

by

ALAN G. LLOYD

Economics Research Officer

In December, 1955, the New South Wales Government amended the Dairy Industry Act, 1915-1955, to increase the quota of margarine production in this State from 2,500 tons to 9,000 tons per annum[1]. Following on a large increase in the Queensland quota some years earlier, this development heightened the perennial fears of dairying industry organisations that competition from margarine would have very serious effects on the incomes of Australian dairymen. However, speaking during the second reading of the bill (November 23, 1955), the Minister for Agriculture and Food Production gave as his opinion that "whatever effect margarine has upon the dairy industry at present, the tendency in the future will be for it to diminish . . .". It is the purpose of this article to review recent developments in the butter-margarine position and to attempt to assess the effect of competition from margarine on the Australian dairying industry.

1. SUMMARY OF RECENT DEVELOPMENTS[2]

Effective quantitative restrictions on the production of table margarine throughout Australia first came into effect in 1941, following upon consultations between all State Ministers for Agriculture at meetings of the Australian Agricultural Council. Australia was by no means alone in taking this step. Vitamin-fortified table margarine is a close substitute for butter, authoritatively recognised as being of equal nutritive value, yet normally selling at about half the price of butter, and many governments throughout the world have legislated to protect their dairying industries from such strong competition.

The original quotas in the various States are set out in Table I, and these quotas ruled unchanged until December, 1951, at which time the New South Wales quota was doubled, following a severe shortage of butter. Early in 1952, shortly after the re-allocation of quotas, one

[1] The word "margarine" as used in this article refers to table margarine as distinct from cooking margarine. Cooking margarine consists mainly of animal fats, and table margarine, whilst it usually contains some refined tallow, consists mainly of vegetable oils, and sometimes whale oil.

[2] For a more detailed discussion of the margarine industry in Australia up to 1950, see Alan G. Lloyd, "Table Margarine in Australia", this *Review*, Vol. 19, No. 1 (March, 1951).

† 43193—2

New South Wales firm commenced producing in excess of its quota, and announced that it intended to test the validity of the quota legislation, on the grounds that the legislation contravened section 92 of the Federal Constitution, which prohibits interference with interstate trade. Another margarine producer followed suit (there are six licensed manufacturers in New South Wales), and consumption expanded rapidly to meet the previously unsatisfied demand. A large interstate trade was also rapidly developed, particularly in Queensland and Victoria.

Prosecutions were launched against the two firms, and the case eventually reached the High Court of Australia, where it was ruled, in March, 1955, that the New South Wales Dairying Industry Act was valid, and did not contravene section 92 of the Constitution.

The question of a higher level of quotas then arose, and was discussed at the Australian Agricultural Council. The only two States favouring liberal quotas were New South Wales and Queensland, which had somewhat different interests in the matter than the other four States. Queensland is, in total, the major supplier of the Australian-produced raw materials used in table margarine, namely peanut oil, refined tallow, whale oil, sunflower seed oil and cotton seed oil. New South Wales is the major producing State, and is the only State in which the manufacture of table margarine is of any considerable importance in terms of labour employed and capital invested[3].

TABLE I

Annual Table Margarine Quotas in Australia

State.	January, 1941.		December, 1955.	
	Total.	Per head.	Total.	Per head.
	Tons.	lb.	Tons.	lb.
New South Wales	1,248	1·0	9,000	5·7
Victoria	1,196	1·4	1,196	1·0
Queensland	468	1·0	4,236	6·9
South Australia	312	1·2	468	1·2
Western Australia	364	1·7	800	2·7
Tasmania	208	1·9	208	1·5
Australia	3,796	1·2	15,908	3·9

NOTE.—There were no changes in the State quotas between 1941 and 1951. The New South Wales quota was increased to 2,500 tons in December, 1951. The Queensland quota was altered on a number of occasions between 1951 and 1955, and at one stage was fixed at as high a level as 6,860 tons, which was considerably in excess of Queensland production and consumption. There were also small alterations in the quotas fixed by Western Australia and South Australia between 1951 and 1955.

[3] The only four hydrogenation plants in Australia are located in Sydney. Hydrogenation is one of the essential processes in converting oils to fats.

Up to the present time, New South Wales is the only State which has altered its quota since the High Court judgment of 1955. The new quota of 9,000 tons per annum, set in December, 1955, is considerably higher than the State's annual consumption, and thus allows for limited exports to other States. To have fixed the New South Wales quota at the level of current New South Wales consumption would have necessitated a severe curtailment in the output of an important industry. Whilst the present quota is in force, any increase in New South Wales consumption of margarine can only be at the expense of interstate sales.

The Queensland quota has not been increased since the 1955 High Court decision, but as in New South Wales, the quota is more than sufficient to meet the present State demand. Over recent years Queensland, like Victoria, has been obtaining most of its requirements from New South Wales, but in the future it is likely that most, if not all, of Queensland's consumption will be produced within the State, very largely by New South Wales firms with quotas in Queensland.

2. THE ISSUES INVOLVED IN RESTRICTIONS ON MARGARINE

The issues involved in this controversy are quite clear-cut and familiar; in the process of technological advance a new product is tending to displace an old-established one, with consequent potential benefits to consumers in the form of lower prices, and potential dangers to the producers of the established product in the form of loss of employment and capital investment. This process is occurring continuously throughout any progressive economy, but generally on a smaller scale, and in many cases the makers of the product being displaced are themselves the innovators.[4]

In the case of butter versus margarine, the threatened industry is one of Australia's largest, with an annual output in the vicinity of £80,000,000. As is the case with the wool industry, which is similarly threatened, it can be (and has been) claimed that the "national interest", as well as sectional interests, are involved, because of the large capital investment in dairy farms and factories and the employment afforded by the industry.[5]

However, dairymen's interests can only be identified with the national interest to the extent that *existing* employment and investment in dairying is threatened. An expanding local market for the produce of the dairying industry seems likely, and local consumption of margarine could therefore increase rapidly without reducing the demand for butter. Such a development would tend to reduce dairymen's

[4] To some extent this is possible in the Australian dairying industry. Many Queensland dairymen are producing vegetable oil crops (peanuts and sunflowers) as profitable sidelines to their dairying enterprises, and a number of New South Wales dairying areas are also suitable for the production of vegetable oil crops.

[5] To claim, on these economic grounds, that the national interest necessitates protecting the dairying industry from competition, involves demonstrating that the costs of transfer from dairying (including temporary unemployment and the obsolescence of human skills, plant and equipment) exceed the capitalised future savings to be derived by the community from producing margarine at approximately half the cost of butter. Of course, the issues are wider than the purely economic.

incomes below the level that would have ruled in the absence of competition from table margarine, but their incomes *would not be reduced below existing levels.* This would not threaten existing employment and investment in dairying, and therefore would not involve justifiable appeals to the national interest, at least on economic grounds.

The availability of alternative economic employment for land, labour and capital displaced from dairying by the competition of margarine is another important consideration. In a period of depression, when profitable alternative employment is difficult to obtain, the dairying industry's case for protection is stronger than in a period of full employment. The land, the labour, and to a lesser extent, the capital engaged in dairying are not completely specific, and a profitable expansion of sidelines might be possible in those marginal areas where competition from margarine would most seriously threaten established dairy farms.

A point often taken by dairying organisations is that Australian agriculture is entitled to protection from the produce of cheap foreign (native) labour in the same way that secondary industry is protected through tariffs, which raise the level of prices paid by farmers. One of the principal components of Australian margarine is coconut oil, which is imported from New Guinea, and it is claimed that this constitutes unfair competition. Even if the autarky argument is accepted, the following facts must be considered in evaluating this claim:—

(*a*) For the last 30 years the dairying industry has had a very large measure of assistance, similar in effect to tariff protection, in the form of a home-consumption price scheme, by which local prices for butter and cheese are raised above export parity. In addition, a Federal Government subsidy on butter reduces the price advantage of margarine over butter.

(*b*) There is a growing trend towards the use of a higher proportion of domestic raw materials in Australian margarine. A number of brands now contain less than 50 per cent of imported coconut oil.

(*c*) As far as imported raw materials are concerned, margarine manufacturers claim that the use of the term "foreign", as applied to Papua-New Guinea, is rather parochial. Australia has undertaken the responsibility of developing these territories, which are heavily dependent on copra. The capital invested in this industry is British, and indeed much of it is Australian.

(*d*) It does not appear that the relative cheapness of margarine can be satisfactorily explained in terms of "cheap native labour". Copra is imported from New Guinea at a world parity price. Furthermore, the very high level of wages in the United States does not prevent table margarine produced from domestic raw materials from selling at two-fifths of the price of butter. Rather, the explanation for the price difference seems to lie in the fact that the dairy cow is a relatively inefficient producer of fat, though an efficient producer of other important constituents in the national diet, such as protein and calcium. Per acre of land, copra yields from four to six times as much fat as the highest-yielding

vegetable oil crops. The best oil-seed crops in turn yield about four times as much fat per acre as dairying. Comparisons on the basis of production per man yield similar results.[6]

The issue of possible fraud is also involved in the controversy. Dairying industry leaders have always been very perturbed at the possibility of margarine being sold as butter, and various provisions of the New South Wales Dairying Industry Act and Pure Food Act operate to prevent this practice.

Finally, the controversy on margarine restrictions can be viewed in the wider framework of Australia's future food needs. Food production per head of population in Australia has fallen by 9 per cent since the immediate pre-war years. In the case of dairy produce, if our current level of milk production continues, and consumption remains at present levels, Australia will be barely self-sufficient in dairy produce when our population approaches 12,000,000. On present trends, this population could be reached in less than a decade.

3. RECENT TRENDS IN PRICES AND CONSUMPTION

Reference to Table II shows that the total consumption of butter in Australia has increased by 23 per cent since the immediate pre-war years, despite a fall of 8 per cent in consumption per head. This fall in per capita consumption has occurred despite a reduction of more than 10 per cent. in the real price of butter (i.e., after allowing for the rise in average earnings). Since the cessation of butter rationing in 1950, Australian demand has stabilised at 30 to 31 lb. per head, and the total Australian consumption of both butter and margarine has increased by approximately 8,000 tons.

Misleading inferences can be drawn from per capita consumption figures in Table II, showing that Australian consumption has fallen by approximately one pound per head since 1951-52, whilst margarine consumption has risen by slightly more than one pound per head. This has not been a transfer of demand at constant prices. Reference to Table III shows that the Sydney retail price of butter rose by 1s. per lb. in July, 1952, following a rise of 11½d. per lb. over the preceding twelve months, whilst similar price rises occurred in the other States. In 1952-53 per capita butter consumption fell by 1.8 lb. (6 per cent), whilst margarine consumption rose by only 0.4 lb. per head.[7] Butter consumption has since recovered to some extent as consumers have become adjusted to the higher price.

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[6] See R. P. Christensen, *Using Resources to Meet Food Needs*, Bureau of Agricultural Economics, United States Department of Agriculture, Washington, May, 1943 (mimeographed), p. 62; also G. Loftus Hills, *Some Rational Steps Towards a Stable Dairying Industry*, Council for Scientific and Industrial Research, Dairy Research Section, Melbourne, 1945 (mimeographed).

[7] In actual fact the fall in the demand for butter was approximately double the fall in the consumption figures. If one can assume that, in the absence of the butter shortage in this State during 1951-52, New South Wales consumption would have been equal to the 1950-51 level, then the demand for butter in Australia in 1952-53 was equivalent to 33.5 lb. per head. This would indicate a considerable potential in the demand for butter if the price can be lowered.

Three factors are mainly responsible for the rise in margarine consumption since 1950-51:—

(*a*) The very considerable change in the price relationship between butter and margarine.

(*b*) An improvement in the quality of margarine.

(*c*) Extensive advertising.

(*a*) In 1950-51, and to a lesser extent in the years immediately preceding, the consumption of margarine in New South Wales was considerably below the quota level of 1,250 tons per annum. This is hardly surprising, in view of the fact that over the period November, 1947, to July, 1951, the margarine price averaged close to 90 per cent of the butter price, compared with 40 to 50 per cent in those overseas countries in which margarine is an important item of consumption.

TABLE II

Consumption of Butter and Table Margarine (Including Farm Consumption)

Year ended June.	Butter.*		Table Margarine.†	
	Per Head.	Total.	Per Head.	Total.
	lb.	'000 tons.	lb.	'000 tons.
		New South Wales.		
1939	34·0	41·3	‡	‡
1950	25·8††	36·6††	0·7	1·2
1951	29·3	42·4	0·5	0·6
1952	23·0§	34·0§	1·5	2·3
1953	27·0	41·3	2·3	3·5
1954	27·9	42·4	3·8‖	5·7‖
1955**	28·3	43·8	4·6¶	7·1¶
		Australia.		
Average—				
1937–39 ...	32·9	101·0	0·9	2·8
1950	25·3††	90·9††	0·7	2·6
1951	30·9	114·6	0·5	1·7
1952	31·2	118·9	1·2	4·7
1953	29·4	114·5	1·6	6·2
1954	30·6	121·6	2·4	9·6
1955** ...	30·3	122·8	2·4	9·7

* These figures are incomplete for New South Wales, since they take no account of interstate movements by road and air

† These figures overstate actual consumption in New South Wales, since they include table margarine produced in New South Wales for export to other States. Unofficial estimates of actual New South Wales consumption in recent years are as follows: 1952–53, 3,000 tons; 1953–54, 5,000 tons.

‡ Not available.

§ In 1951–52 there was an acute shortage of butter in New South Wales and unrecorded imports from other States by road and air were considerable.

‖ Estimate based on statistics for the ten months available.

¶ Estimate based on statistics for the eight months available.

** Subject to revision.

†† Butter rationing in Australia ended on June 17, 1950.

Source.—Commonwealth Bureau of Census and Statistics.

TABLE III

Retail Prices in Sydney Metropolitan Area
Butter and Table Margarine

Date of Price Change.		Table Margarine per lb.	Butter per lb.	Margarine Price as Percentage of Butter Price.
		s. d.	s. d.	Per cent.
	1939	0 11½	1 7	61
January	1945	1 2	1 8	70
November	1947	1 7	1 8	95
March	1949	1 8½	2 2	79
August	1949	1 9½	2 2	83
April	1951	1 10½	2 2	87
July	1951	2 1	2 2	96
August	1951	2 1	2 8	78
October	1951	2 1	3 1½	67
November	1951	2 2	3 1½	69
March	1952	2 5	3 1½	77
April	1952	2 6	3 1½	80
July	1952	2 6	4 1½	61
May	1954	2 7½	4 1½	64
July	1955	2 7½	4 5½	59

Since 1951 the retail price of butter has more than doubled, mainly as a result of increases in production costs, but also because of reductions in the consumer subsidy on butter, from 1s. 1½d. per lb. in 1951 to 7¼d. per lb. currently.

(*b*) It is generally agreed that there has been a considerable improvement in the quality of table margarines in Australia over recent years. A number of firms have made a close study of overseas research results and considerable sums have been invested in new and improved techniques. Improvements in plasticity and flavour have been particularly noticeable. Coconut fats have the unfortunate characteristic of becoming very hard at temperatures below 20° C. This disadvantage has been offset by the inclusion of a suitable proportion of partially hydrogenated soft oil (such as peanut oil) in the fat blend. Animal fats have also been used to improve the low temperature plasticity of coconut fats. A further aspect of recent quality improvement is that all table margarines have been vitamised, at least up to the British Standard of 20 International Units of Vitamin A and 1.1 International Units of Vitamin D per gramme.

(*c*) Prior to 1951, very little money was spent on advertising margarine, largely because most firms had too small a quota to make advertising economic. The extensive advertising of the past few years has been largely aimed at correcting popular misconceptions about the nutritional value of the product.

4. THE CURRENT EFFECT ON DAIRYMEN'S RETURNS

To the extent that margarine displaces butter from the domestic market on to the lower-priced export market, the average return to butter producers from all markets is reduced. Elaboration of this point requires a brief outlining of the 1952-57 Dairying Industry Stabilisation Scheme.

Under this scheme, a price is guaranteed to dairymen by the Federal Government (currently 4s. 1.29d. per lb.) for all factory butter consumed in Australia, plus 20 per cent. Thus a substantial proportion of exports, ranging from 35 to 63 per cent over the past three seasons, is covered by the price guarantee. "Losses" on guaranteed exports (i.e., the extent to which export returns fall short of the guaranteed price) are met from Federal Government subsidy. Losses on unguaranteed exports are met by producers, being reflected in the average price paid to factories by the Dairy Produce Equalisation Committee Ltd.[8] At current export prices (January 25, 1956) net returns from export, after allowing for f.o.b. costs, are approximately 8.3d. per lb. below the guaranteed price to manufacturers of 4s. 5.9d. per lb. (choice quality).

Before making an estimate of the current effect of margarine on dairymen's returns, it is necessary to make some assumption as to the quantity of butter displaced from the local market by margarine. This is by no means equal to the total quantity of margarine consumed. According to a market survey carried out in 1954 by an independent market research firm, of the 63.2 per cent of Sydney housewives then using table margarine, 65.6 per cent used it for cooking only, 24.6 per cent mixed margarine with butter and/or used it on toast and sandwiches, and only 9.8 per cent used it by itself as a table spread.

To a certain extent, then, table margarine is supplementary to rather than competitive with butter, and competes strongly with other cooking fats, such as cooking margarine, white fats and lard. It seems likely that only relatively few people could afford to use butter for cooking in the same quantities as they use margarine. Furthermore, it cannot be assumed that a family which purchases a certain quantity of table margarine for use as a table spread, or mixed with butter, would increase its butter consumption by that amount if unable to purchase margarine. In the light of these facts, it is assumed for purposes of illustration, that the 9,700 tons of margarine consumed in Australia in 1954-55 replaced only 5,000 tons of butter.

[8] To a very limited extent these losses can be offset by payments from the Dairying Industry Stabilisation Fund, which was built up during a brief period in which export returns exceeded the guaranteed price.

The calculations in Table IV are based on the current net returns to the farmer (at factory) from the local and export markets, 1954-55 Australian consumption figures (factory butter only) and an Australian factory production figure of 180,000 tons.[9]

It would appear that in what might be termed a "good average" season, with export returns no worse than 8.3d. per lb. below local returns, the effect of current margarine consumption on the price received by butter producers is *approximately ¼d. per lb.*[10]

TABLE IV

Average Return to Australian Producers for Butter

	With Domestic Margarine Consumption at—	
	9,700 tons per annum.	Nil.
Production of Factory Butter (tons)	180,000	180,000
Consumption o :Factory Butter (tons) ...	119,600	124,600
Guaranteed Exports (tons)	23,920	24,920
Total Quantity Guaranteed (tons)	143,520 at 49·29d. per lb.	149,520 at 49,29d. per lb.
Unguaranteed Exports (tons)	36,480 at 41·0d. per lb.	30,480 at 41·0d. per lb.
Average Return per lb.	47·61d.	47·89d.

5. THE FUTURE EFFECT ON DAIRYMEN'S RETURNS

Little light can be thrown on most of the factors which will determine the future effect on dairymen's returns of domestic competition from margarine. Further improvements in the quality of Australian margarine seem probable, but their effect on local consumption is indeterminate. Unless the butter subsidy is to be permanent, some widening of the local price differential between the two products seems likely, but again the effect on consumption is difficult to predict. Nor is it practicable to forecast the future level of export prices for Australian butter—one of the most important factors in the problem.

[9] The lower the level of export returns and the higher the level of production assumed, the greater will be the calculated effect of margarine on the average return to dairymen. The current export price of 380s. sterling per cwt. in London for choice butter does not appear to be an unreasonably high assumption and, in fact, represents a fall of 20s. sterling per cwt. on the December, 1955, figure.

The production figure assumed, 180,000 tons, is 8,000 tons below the level achieved under the excellent seasonal conditions ruling in 1954-55, but is 24,000 (15.5 per cent) above the average production of the preceding five years, when cows numbers were only 3.6 per cent below the present level.

[10] If the loss on exports doubled, or if domestic margarine consumption doubled the total effect of margarine consumption on dairymen's returns would be equal to 0.55d. per lb. of butter, under the above consumptions.

However, some speculation can be offered if the problem is taken in reverse. Given the export price and the local price of butter, the return to the producer is determined by the ratio of exports to local consumption.

(*a*) A forecast of the future rate of increase in the dairying industry's local market will enable some estimate of that rate of increase of margarine consumption which is "critical", in the sense of forcing a higher level of butter exports than the current one.

(*b*) This figure can then be compared with the rate of growth of margarine consumption in overseas countries where dietary habits are somewhat similar to those of Australians.

(*a*) Since butter is a residual product, it is necessary to assess the future domestic demand for all dairy produce, including fresh milk, processed milk, cheese, etc.

The dominant factor on the local market is the rate of growth of population. Over the past six years Australia's population has increased at an average rate of 212,000 per annum. Migration has been an important contributing factor, but during this period the rate of natural increase of population has risen from 112,000 per annum to 127,000 per annum. Migration targets are of course variable, but the assumption of an annual population increase of 200,000 does not appear unreasonable. At current levels of per capita consumption, expansion at this rate would increase the domestic butter market by approximately 2,700 tons per annum, whilst local demand for other dairy produce would rise at the rate of 1,800 tons per annum, butter equivalent, a total of 4,500 tons.

In addition, the assumption of current levels of per capita consumption may be too conservative. Between 1937-39 and 1953-54, consumption per head of dairy produce other than butter rose from 32 to 41 gallons per annum, milk equivalent, equal to an average annual increase of 1,230 tons of butter. It would be absurd to project this trend far into the future, but in view of the rising standard of living in Australia, an annual rate of growth of 500 tons of butter equivalent, from this cause, at least in the immediate future, may not be too optimistic.

In total then, it seems that on the above assumptions, the Australian dairying industry has reasonable prospects of an annual increase in the domestic demand for wholemilk equivalent to 5,000 tons of butter. If it is correct that only 50 per cent of the margarine consumed in Australia replaces butter, then the critical annual rate of increase of margarine consumption is 10,000 tons, equivalent to 2.4 lb. per head at the present level of population. On the assumptions made, margarine consumption would have to accelerate at this rate before it had the effect of forcing a higher level of butter exports, and thus reducing the producer price of butter below the current level[11].

[11] This conclusion also involves the assumption that the production of wholemilk in Australia does not rise. If milk production increased by 2 per cent per annum (the equivalent of 5,000 tons of butter), then *any* increase in margarine consumption would force higher butter exports.

However, if the increased production were due wholly to higher productivity, the reduction in costs per unit of output would more than compensate for the fall in the producer price of butter. (A "costless" increase of 10 per cent in butter production would, under current circumstances, increase the average gross income

(*b*) If Australian experience parallels that of the United States, margarine will become a major item of consumption here, but the development will be gradual. Consumption of margarine in the United States was 2.4 lb. per head in the 1925-29 period, and rose to only 2.8 lb. in 1935-39. By 1949 consumption stood at 5.7 lb. per head, and this gradual increase continued to a peak level of 8.4 lb. per head in 1954. The steepest rise was over the period 1945 to 1954, when consumption per head increased at the rate of 0.5 lb. per head per annum—one fifth of the estimated "critical" rate for Australia.

In the United Kingdom, margarine consumption fell from 11 lb. per head in 1920 to 6 lb. in 1934, and recovered to 10 lb. in 1938. During the period 1939 to 1952, margarine consumption rose steadily to a peak of 19.3 lb. per head. This represents an annual rate of growth of 0.67 lb. per head, a figure somewhat higher than in the United States, but it must be remembered that butter was rationed in the United Kingdom from 1940 to 1954.

In Canada the manufacture, import and sale of margarine was prohibited under the Dairy Industry Act of 1935. These restrictions were removed by a Supreme Court decision in December, 1948, and margarine consumption rose very steeply to 6.8 lb. per head in 1950. Since 1950, however, consumption has risen very slowly, at the rate of 0.2 lb. per head per annum.

It might be expected that the margarine industry will develop rather more rapidly in Australia, on the grounds that benefits from overseas progress will enable a faster rate of improvement in quality.

On the other hand, it can be contended that national dietary habits are notoriously slow of change. In Australia, only a short period has elapsed since the use of margarine as a table spread was generally considered a social and nutritional *faux pas*. For pensioners and large families in the low-income groups, the savings possible by substituting margarine for butter are quite significant.[12] A family of five, consuming the average quantity of butter, can thereby save 5s. 3d. per week, and in the absence of the butter subsidy this figure would rise to 7s. 1d. per week. A marked traditional consumer preference nevertheless operates in favour of butter, and may persist strongly in the future.

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of butter producers by approximately 8.7 per cent despite the associated fall of 1.2 per cent in the producer price.) Over recent years, most of the increase in milk production that has occurred would appear to have been the result of good seasons and improved efficiency, rather than an increase in the land, labour and livestock used.

An expansion of dairying not associated with increased productivity throughout the industry would threaten marginal producers by reducing the butter price, particularly if associated with a rapid rise in domestic margarine consumption.

[12] The extent to which the consumer's total expenditure on a product is related to his income is measured by what is termed the "income-consumption elasticity of demand". In the Northern and Western States of the United States, the income-consumption elasticity of demand for margarine has been estimated at —.833, whilst that of butter is calculated at .327. (See W. C. Waite and H. C. Trelogan, *Introduction to Agricultural Prices* (Minneapolis, Minnesota: Burgess Publishing Company, 1949), p. 25. This means that as the consumer's income increases by (say) 10 per cent, his expenditure on margarine would fall by 8.33 per cent, and his expenditure on butter would rise by 3.27 per cent, indicating that the demand for margarine in the United States is very largely from the low-income groups. No published statistical data is available to allow a similar computation for Australia.

It must also be remembered that the progress made by margarine in overseas countries has been achieved under a much more favourable price relationship than is ruling in Australia. For instance, over the period 1945-54, the price of margarine averaged 42 per cent of the butter price in the United States, compared with the ruling figure of 59 per cent in Australia.

Table V shows that the price advantage of margarine over butter is much lower in Australia than in the other countries listed. Even if the Commonwealth subsidy on butter were removed, the price ratio would not fall below 53 per cent, compared with 38 per cent in the United States.

The quality of Australian butter is another important consideration. There is evidence of a decline in butter quality over recent years, and it is extremely important for the dairying industry, in competing with margarine, that this trend be reversed. Over the period 1946-47 to 1952-53, 93 per cent of New South Wales butter was officially graded as choicest; this figure fell to 83.3 per cent in 1953-54 and 78.8 per cent in 1954-55.

TABLE V

*Consumption and Prices of Butter and Margarine—International Comparisons**

Country.	Butter.		Margarine.		Margarine Price as Percentage of Butter Price, 1954.
	1938.	1954.	1938.	1954.	
	lb. per head.		lb. per head.		Per cent.
Australia †	32·9	30·3	0·9	2·4	64
United Kingdom ...	24·1	14·2	10·0‡	18·6‡	43
U.S.A.	16·4	9·0	2·9	8·4	38
Canada §	31·9	20·7	...	7·6	55
Denmark	18·3	19·2	47·4	40·1‖	44
West Germany	19·4	15·9	13·4	26·9	36
Belgium	17·9	24·5	14·8	21·2	¶

* International comparisons are difficult, because of difficulties of definition as between cooking margarine and table margarine. In Australia this distinction is defined in legislation, but in actual usage probably more than one-half of the table margarine consumed is used for cooking. Consumption of cooking margarine in Australia in 1953–54 was 5·6 lb. per head. In most overseas countries the distinction between cooking and table margarine is not made, at least not in the published statistics. The very high figure for Danish consumption of margarine reflects a very high usage in cooking, whereas in the United States, where the consumption of both butter and margarine is very low, the consumption of shortening and lard (for cooking) is very high. To further complicate the picture, some European margarines contain a percentage of butter.

† Average 1936–37 to 1938–39, and 1954–55.

‡ Butter rationing in the United Kingdom terminated in May, 1954. The figures for 1955 consumption were approximately five per cent higher for butter and four per cent lower for margarine.

§ The comparatively high price ratio reflects the ten per cent sales tax on margarine in Canada. The manufacture and sale of margarine is still prohibited in Quebec and Prince Edward Island. Allowing for this, consumption in the other Provinces was 11·3 lb. per head in 1953.

‖ 1953 figure.

¶ Not available.

Source.—Commonwealth Economic Committee, *Intelligence Bulletin*, June, 1955, pp. 21–22.

Consumption of margarine in Australia since 1951 has increased at an average rate equivalent to that of the United States, i.e., 0.5 lb. per head per annum, and the 1955 Australian figure could be interpreted as a slackening in the rate of increase. However, if overseas developments are any guide, Australian consumption should continue to rise, and should reach the maximum level permitted under the existing quotas within four to seven years, perhaps sooner, but there is little reason to expect a continuous annual increase of 2.4 lb. per head, even in the absence of legislative restrictions.