

tion of purchased goods and services in production may prove a financial hardship. In such years outlay may be held down by deferring the purchase of equipment and the postponement of all except the most pressing items of repair and upkeep.

On the other hand, in years of favorable price relationships replacements of permanent equipment, new investments, and extensive repairs, as well as debt reduction, should receive major consideration in utilizing the larger excess of income over operating expense.

New techniques in farming require more judicious long-time financial planning in order to receive maximum benefit from them.

As most of these new techniques involve additional capital investments and also a larger volume of business to use them most effectively, they do create an additional financial burden for the starting farmer. The starting farmer needs not only more capital than formerly, but also more technical knowledge in order to use the new techniques to best advantage.

### Summary and Conclusions

1. Changes in farm techniques on dairy farms in southeastern Minnesota during the last 30 years include the substitution of mechanical for animal power, the general mechanization of the farm business, and the adoption of new varieties of crops and new practices in crop and livestock production.

2. In general these new techniques have resulted in increased output per man, per acre, and per animal.

3. Labor saved by power machinery has been utilized largely by increased numbers of livestock.

4. Larger production of crops and livestock has increased both gross and net income per farm. But the expense per dollar of income has also increased since more of the goods and services used in production are now purchased rather than produced on the farm.

5. The increased earnings that result from the adoption of new production techniques are highest in years when the purchasing power of farm products is relatively high. Even with a moderately low purchasing power of farm products, the farmer still has a larger excess of income over operating expenditures. In general, it is only when price relationships are extremely un-

favorable to the farmer, as they were in 1932, that the use of new techniques may prove to be a hardship. Farmers could ease this situation by deferring the purchase and upkeep of equipment, buildings, and real estate improvements to years of more favorable price relationships.

6. New techniques in production adopted during the period covered by this study may result in wider fluctuations in income from year to year than occurred before their adoption even though the average gross and net incomes are higher.

7. The great variability of net earnings from year to year resulting from the use of new techniques calls for careful planning of capital investments and debt servicing by the farmer and perhaps a more flexible type of credit for farmers generally.

8. New techniques put an increasing burden on the starting farmer as they involve more capital investment in machinery and equipment, the purchase of more of the goods and services used in production, a larger size of business, and much more technical knowledge, mechanical ability, and business judgment.

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**COMPETITION  
BETWEEN**

*Butter* **AND** *Margarine*

VIRGINIA POLYTECHNIC INSTITUTE  
AGRICULTURAL BRANCH  
BLACKSBURG, VIRGINIA

Rex W. Cox

MINNEAPOLIS  
1952



*Agricultural Experiment Station*  
UNIVERSITY OF MINNESOTA

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# Competition between Butter and Margarine, Minneapolis, 1952

Rex W. Cox

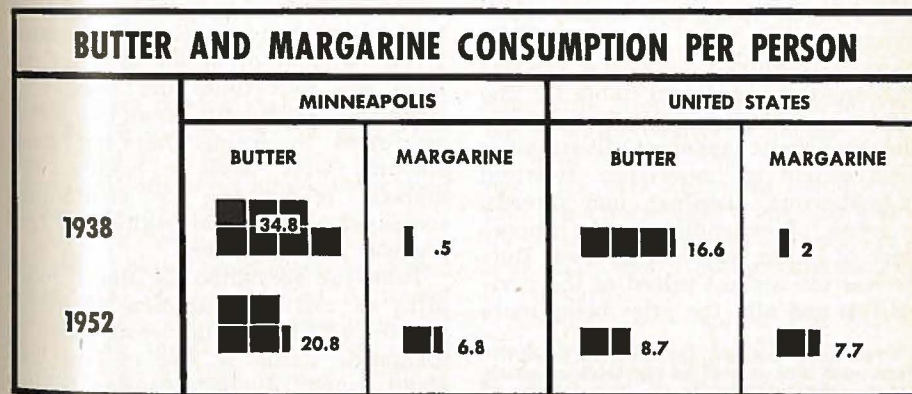
**T**HE MARKET position of butter and margarine has changed greatly since 1938 because of the large decline in the use of butter and the sharp rise in the use of margarine.

	Annual consumption— pounds per capita	
	Minneapolis	United States
Butter		
1938 .....	34.8	16.6
1952 .....	20.8	8.7
Margarine		
1938 .....	.5	2.0
1952 .....	6.8	7.7

The changes in the consumption pattern were initiated by conditions existing during World War II. Increased demand for fluid milk and expansion in cheese production for domestic consumption and for lend-lease shipments to our allies reduced the amount of butter produced during the war. Supplies of other fats and oils were also short. Consumption was limited by ra-

tioning. When supplies of fats and oils became more plentiful, there was a shift to margarine rather than a return to butter. This shift was encouraged by the differential between butter and margarine prices and by the reduction in federal and state restrictions on colored margarine. One consequence is that many consumers are unwilling to pay prices they formerly paid for a given supply of butter.

The purpose of this study is (1) to show the variation in the consumption of butter and margarine by families in Minneapolis and to account for these differences, and (2) to search for information which will be useful in pointing out future changes in the competitive status of these products. Competition



KEY    ■ = 5 LBS.

between butter and margarine is, at least to some extent, a part of the competition among all edible fats and oils; in consequence, consideration is given to the consumption of lard, shortenings, spreads, and other fats and oils.

The study is based on the reported consumption of groups of families in various parts of the city. The families were selected to provide a good representation of conditions in the city as a whole. The areas and the number of families interviewed in each area had been previously designated in accordance with an overall sample design. The families were contacted in March and April, 1952, and the replies given by the housewives to questions about the weekly consumption of fats and oils, family preference, and family characteristics constitute the data of this study. Information was obtained from 1,179 families, which included 3,721 individuals or 2,574 consuming units.

Part of the analysis of the data was

directed toward finding out how consumers having different characteristics varied in their use of butter and margarine. The consumption of the various products has been converted to consumption per consuming unit for each family and averages have been calculated for each distinctive group of consumers. A consuming unit is an adult male equivalent eating all his meals at home. The consuming unit equivalents for all family members are:

Consuming units	
Adult male	1.0
Adult woman	.8
Children	
13 years or older	1.0
10-12 years old	.7
7-9 years old	.4
4-6 years old	.3
9 months to 3 years old	.1
Under 9 months	.0

If a member of a family ate some meals away from home, the consuming unit equivalent assigned to that individual was adjusted to reflect that fact.

## Variation in Consumption

### FAMILY USE AND CONSUMPTION RATE

A large proportion of the families included in the study used butter, shortenings, spreads, and dressings; more than one-third used margarine; and less than one-third used lard (table 1).<sup>1</sup> The dominance of butter in family consumption was quite apparent. Shortenings were second in importance, followed by margarine, dressings, and spreads. In terms of expenditures, the importance of butter was even greater. Butter was the highest priced of the various fats and oils, the price being more

<sup>1</sup> The term "shortenings" here includes hydrogenated lard as well as vegetable oil shortenings. Official statistics on consumption of lard and shortenings classify hydrogenated lard as shortenings.

than twice that of margarine. Butter price was one and one-half times that of spreads, which ranked second in expenditures.

The amounts of each fat and oil used for various purposes are given in table 2. The amount of butter used on the table was four times the amount of margarine. More butter than margarine was used in frying, but the same amounts were used in baking. The marked preference for shortenings compared with lard in baking and frying was quite apparent.

Table use accounted for almost four-fifths of total consumption of butter and three-fifths of total consumption of margarine (table 3). Use of lard was about equally divided between baking and frying, but twice as much short-

Table 1. All Fats and Oils: Consumption, Price, and Expenditures

Fat or oil	Proportion of families using	Consumption			Expenditures			
		Per family	Per consuming unit	Proportion of total	Average price paid per lb.	Per family	Per consuming unit	Proportion of total
Butter	90	1.27	.58	39.4	.82	1.05	.48	58.5
Margarine	39	.41	.19	12.9	.37	.16	.07	8.5
Lard	28	.15	.06	4.0	.13	.02	.01	1.2
Shortenings	85	.55	.25	17.0	.33	.17	.08	9.8
Oils	53	.12	.06	3.7	.33	.04	.02	2.4
Spreads	84	.36	.16	10.8	.55	.20	.09	11.0
Dressings	90	.40	.18	12.2	.37	.15	.07	8.6
All fats and oils		3.26	1.48	100.0		1.79	.82	100.0

Table 2. All Fats and Oils: Consumption per Consuming Unit in Various Uses

Fat or oil	All uses	Table	Baking	Frying	Vegetables	Salads	Others
Butter	.58	.45	.04	.03	.05	*	.01
Margarine	.19	.11	.04	.02	.02	*	*
Lard	.06	—	.03	.03	—	—	*
Shortenings	.25	—	.17	.08	*	—	*
Oils	.06	*	.01	.01	*	.03	.01
Spreads	.16	.15	—	—	—	—	.01
Dressings	.18	.03	*	*	*	.14	.01
All fats and oils	1.48	.74	.29	.17	.07	.17	.04

\* Less than .005 pounds.

Table 3. All Fats and Oils: Proportions Consumed in Various Uses

Fat or oil	All uses	Table	Baking	Frying	Vegetables	Salads	Others
Butter	100.0	78.8	7.0	4.6	8.0	.5	1.1
Margarine	100.0	60.1	20.2	9.5	8.1	.4	1.7
Lard	100.0	—	47.8	49.1	—	—	3.1
Shortenings	100.0	—	66.4	32.7	—	—	.9
Oils	100.0	2.6	21.7	19.2	1.1	48.3	7.1
Spreads	100.0	90.4	4.9	—	.7	.2	3.8
Dressings	100.0	17.7	.8	1.0	.9	75.4	4.2
All fats and oils	100.0	50.7	19.6	11.5	4.7	11.5	2.0

enings were used in baking compared with frying. About one-half of the oils were used in salad dressing preparations, most of the remainder being used in baking and frying.

Table 4 gives further information on the use of butter and margarine. About three-fifths of the families consumed butter only. Table use accounted for more than three-fourths of the total consumption by this group of families. Of the families using both butter and

margarine, almost one-half used only butter on the table. The amount of butter used on the table was five times non-table use. Families using both products on the table consumed almost the same total amount of each; however, table use of butter exceeded that of margarine.

About 10 per cent of the families used margarine only. Table use was three times non-table use. The total consumption per consuming unit of

Table 4. Butter and Margarine: Proportion of Families Using, and Consumption in Table and Non-table Uses

Families using	Proportion of families using	Consumption per consuming unit					
		Butter			Margarine		
		Total	Table use	Non-table use	Total	Table use	Non-table use
	per cent	pounds per week			pounds per week		
Butter only	61.4	.71	.55	.16	—	—	—
Butter and margarine*	28.8	.53	.44	.09	.37	.18	.19
Only butter on table	12.8	.60	.51	.09	.26	—	.26
Both on table	15.8	.48	.40	.08	.45	.32	.13
Only margarine on table	.2	.29	—	.29	.50	.50	—
Margarine only	9.8	—	—	—	.71	.54	.17
All families	100.0	.58	.45	.13	.19	.11	.08

\* There were two families in this group that reported only margarine used on the table, and one reported the use of neither on the table.

margarine by this group was the same as the total consumption of butter by families using butter only. Also, the distribution between table and non-table use was about the same.

## VARIATION IN RATES OF CONSUMPTION

### All Fats and Oils

The average rates of consumption for the city as a whole were derived from families showing a wide range in consumption per consuming unit. Seventy per cent of the families were found in groups where the total consumption per consuming unit was between .80 and 2.00 pounds per week.

Table 5. All Fats and Oils: Cumulative Distribution of Families Consuming at Specified Rates of Consumption per Consuming Unit

	Consumption per consuming unit	Proportion of families
	pounds per week	per cent
Less than	.40	1.1
Less than	.80	9.3
Less than	1.20	32.3
Less than	1.60	59.7
Less than	2.00	79.1
Less than	2.40	89.4
Less than	2.80	94.8
Less than	3.20	100.0

Only 9 per cent used less than .80 pounds per week (table 5).

When the consumption of individual fats and oils was examined on the various levels of total fat consumption, all items were found to increase as the level of total consumption rose. This suggested that families were more alike in the composition of their consumption than in the amount of fat consumed. General food habits of families in preferring or not preferring a large fat intake thus appeared responsible for the larger differences in the total consumption per consuming unit rather than an association of larger consumption with an individual fat.

However, there were some marked differences in the proportions of the fats used at various levels of total consumption (table 6). The decline in the proportion of butter and the rise in the proportion of salad oils, spreads, and dressings were particularly marked. Thus, while butter consumption per consuming unit increased from .31 pounds in the group consuming less than .80 pounds of total fats to 1.17 pounds in the group consuming 2.80 pounds or more, the butter proportion dropped from 50.1 to 33.6 per cent. In the case of spreads and dressing, not only the amount increased sharply but also the proportion.

Table 6. All Fats and Oils: Proportionate Distribution of Consumption of Specified Fats and Oils at Various Levels of Total Consumption

Consumption per consuming unit	All fats and oil	Butter	Margarine	Lard	Shortenings	Oils	Spreads	Dressings
per cent								
Less than .80	100.0	50.1	11.4	3.2	15.9	2.7	7.7	9.0
.80-1.19	100.0	42.4	11.3	3.7	16.7	3.1	9.8	13.0
1.20-1.59	100.0	40.7	12.4	3.4	17.0	3.3	10.9	12.3
1.60-1.99	100.0	38.2	13.0	4.0	16.6	3.7	11.7	12.8
2.00-2.39	100.0	35.0	13.9	3.8	18.6	4.0	12.7	12.0
2.40-2.79	100.0	35.5	14.1	5.8	13.9	5.0	12.5	13.2
2.80 and over	100.0	33.6	11.9	8.2	17.5	5.6	10.9	12.3

Table 7. Butter and Margarine: Cumulative Distribution of Families According to Rates of Consumption per Consuming Unit

Consumption per consuming unit	Proportion of families consuming at specified rates					
	Butter			Margarine		
	All families	Using butter only	Using butter and margarine	All families	Using margarine only	Using butter and margarine
	pounds per week					
Less than .20	13.2	1.9	7.9	69.6	0	28.5
Less than .40	27.1	13.0	32.4	80.3	17.4	59.7
Less than .60	55.6	43.7	66.2	90.5	47.0	85.0
Less than .80	72.2	62.9	82.7	94.6	68.7	91.8
Less than 1.00	81.9	75.4	89.7	96.3	77.4	94.7
Less than 1.20	91.3	88.3	94.7	98.1	90.4	96.8
Less than 1.40	96.3	94.6	98.5	99.2	94.8	99.1
Less than 1.60	100.0	100.0	100.0	100.0	100.0	100.0

### Butter

More than one-half of the families included in the study consumed less than .6 pounds of butter per consuming unit per week (table 7). However, less than one-half of the families using butter only and two-thirds of the families using both butter and margarine consumed less than this.

### Margarine

Four-fifths of all the families used less than .4 pounds of margarine per consuming unit per week. About one-sixth of the families using margarine only and three-fifths of those using both products consumed less than .4 pounds.

## Factors Influencing Rates of Consumption

Income, nationality, and size of family appeared to be the principal factors responsible for variations in proportion of families using various fats and in

rates of consumption. The most important of these factors seemed to be family income. The population of Minneapolis is predominantly of north Euro-

Table 8. All Fats and Oils: Weekly Consumption, Cost per Pound, and Expenditure per Consuming Unit on Various Income Levels

Family income	Consumption	Cost per pound	Expenditures
dollars			
per week	pounds per week	dollars per week	
Less than 60	1.46	.54	.78
60-99	1.50	.54	.81
100-139	1.49	.56	.84
140 and above	1.46	.60	.86
All families	1.48	.55	.82

Table 9. All Fats and Oils: Consumption per Consuming Unit on Various Income Levels

Family income	Total	Butter	Margarine	Lard	Shortenings	Oils	Spreads	Salad dressings
dollars								
per week								
		pounds per week						
Less than 60	1.46	.53	.28	.08	.23	.04	.15	.15
60-99	1.50	.58	.19	.07	.26	.05	.17	.18
100-139	1.49	.61	.14	.05	.26	.07	.16	.20
140 and above	1.46	.62	.12	.05	.21	.07	.19	.20
All families	1.48	.58	.19	.06	.25	.06	.16	.18

pean stock, and the nationality groups with special consumption characteristics are comparatively small. Therefore, differences in nationality probably accounted for only a minor part of total variation in consumption of different products.

### FAMILY INCOME AND CONSUMPTION

The total fat consumption was approximately the same on all income levels. In consequence, the increase in expenditure per consuming unit per week was due mainly to the purchase of higher-priced fats and oils on the higher income levels (table 8). A previous study of the consumption of fats and oils conducted at a time when incomes were relatively low indicated a significant increase in consumption as well as cost and expenditure on the upper income levels.<sup>2</sup> It was likely that even on the lower income levels family

<sup>2</sup> W. C. Waite and R. W. Cox. *A Study of the Consumption of Fats and Oils in Minneapolis, 1938*. Minn. Agr. Expt. Sta. Bull. 344. 1939.

income was sufficiently high in 1952 to permit a volume of purchases comparable with that made by families in the upper income groups. The composition of purchases, however, differed significantly among income groups.

The increase in the average cost of fats purchased gives an indication of the shifts which take place between the sources of fat as the income level rises. The tendency for greater use of the more expensive fats in the high than in the low income groups is shown in table 9, which gives the consumption per consuming unit of each of the fats and oils on the various income levels. Consumption of butter, spreads, and dressings tended to increase, and consumption of margarine tended to decline with increases in income.<sup>3</sup> In similar studies of the consumption of fats and oils it was not unusual to discover that the average consumption of shortenings and of lard and shortenings combined is less in the upper income group because of the substitution of cooking oils in frying.

<sup>3</sup> These changes have been tested by variance analysis and found to be significant at the 5 per cent level.

Table 10. All Fats and Oils: Proportion of Consumption per Consuming Unit on Various Income Levels

Family income	Total	Butter	Margarine	Lard	Shortenings	Oils	Spreads	Salad dressings
dollars								
per week		per cent						
Less than 60	100.0	36.3	19.2	5.4	15.8	2.7	10.3	10.3
60-99	100.0	38.7	12.6	4.7	17.4	3.3	11.3	12.0
100-139	100.0	40.9	9.4	3.4	17.5	4.7	10.7	13.4
140 and above	100.0	42.2	8.1	3.4	14.4	4.8	13.0	13.7
All families	100.0	39.4	12.9	4.0	17.0	3.7	10.8	12.2

### DISTRIBUTION OF CONSUMPTION AND EXPENDITURES AMONG FATS AND OILS

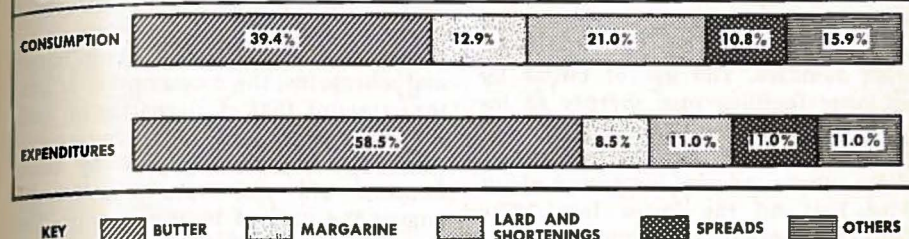


Table 11. All Fats and Oils: Proportion of Expenditures per Consuming Unit on Various Income Levels

Family income	All fats and oils	Butter	Margarine	Lard	Shortenings	Oils	Spreads	Salad dressings
dollars								
per week		per cent						
Less than 60	100.0	56.2	13.5	1.8	9.2	1.9	10.3	7.1
60-99	100.0	57.9	8.9	1.6	9.9	2.3	11.3	8.1
100-139	100.0	60.0	6.6	1.2	9.6	3.1	10.4	9.1
140 and above	100.0	62.0	5.4	1.2	7.6	3.3	11.5	9.0
All families	100.0	58.5	8.5	1.2	9.8	2.4	11.0	8.6

The relative increase in the consumption of substitute spreads and other oils by families in the upper income group was greater than that of butter. In consequence, butter and margarine combined accounted for a smaller proportion of the total consumption of fats on the upper than on the lower income level (table 10).

The increased consumption of the higher-priced products and to some extent the increase in prices paid per pound resulted in a marked shift in the relative expenditures among the

different income groups (table 11).<sup>4</sup> For example, the expenditures for butter were not only more than one-half of the total expenditures on the lower income level, but families in this group spent four times as much on butter as on margarine. In the upper income group expenditures on butter accounted for 62 per cent of the total and were about 12 times the expenditures on margarine.

<sup>4</sup> The average price paid for butter by families in the upper income group was about 2 cents more than the average price paid by families in the lower income group.

### NATIONALITY, SIZE OF FAMILY, AND CONSUMPTION

The influence of family income on the average rates of consumption of butter and margarine became all the more evident when both nationality and size of family were held constant. Table 12 shows the consumption rates for two different size groups of native whites on the various income levels.

Family income seemed to have no apparent effect on the consumption of butter by families of small size. However, on each income level the consumption per consuming unit of the small families exceeded that of the larger families. The use of butter by the large families rose sharply as income increased. For this group, the average consumption per consuming unit on the upper income level was about twice that on the lower level. The changes in margarine consumption were somewhat comparable to those of all families included in the study.

### FAMILY INCOME AND PROPORTION OF FAMILIES USING BUTTER AND MARGARINE

More concrete information of the influence of income on the consumption of butter and margarine is shown in table 13. The data in this table suggest that family income was more influential in determining the use of these products than in determining the

amounts used. For example, there was a marked increase in the proportion of families using butter only and a marked decline in the proportion of families using margarine only as family income increased. The proportion of families consuming both products was practically the same in all income groups.

On each income level, the consumption of butter by families using butter only was about the same as the consumption of margarine by families using margarine only. Also, the consumption of each product by these two respective groups of families was about the same on each income level.

Among the families using both butter and margarine, the consumption of butter exceeded that of margarine on each income level. The amount of butter consumed per consuming unit by these families did not vary significantly among the various income groups. The amount of margarine consumed by these families decreased from the lowest to the next income level, but remained practically the same for the upper three income groups.

It was evident that the use of overall averages based on both consuming and non-consuming families for the purpose of comparing the consumption on different income levels tended to obscure the real effect of income. When each consuming group was examined separately, the uniformity of consumption rates was surprisingly high; however, the proportion of families using

Table 12. Butter and Margarine: Consumption per Consuming Unit of Large and Small Native White Families on Different Levels

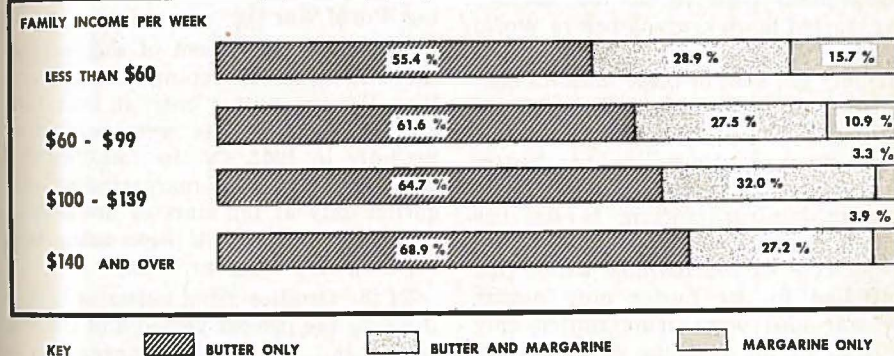
Family income	Butter			Margarine		
	All families	Small families	Large families	All families	Small families	Large families
dollars per week		pounds per week			pounds per week	
Less than 60	.52	.66	.32	.31	.27	.38
60-99	.60	.73	.52	.20	.19	.21
100-139	.60	.65	.57	.15	.12	.16
140 and above	.64	.69	.62	.12	.15	.12
All families	.59	.68	.53	.20	.19	.20

Table 13. Proportion of Families Using Butter, Margarine, and Both, and Consumption per Consuming Unit on Various Income Levels

Family income and product used	Families using		Consumption		
	number*	per cent	Butter	Margarine	Butter and margarine
dollars per week			pounds per week		
<b>Less than \$60</b>					
Butter only	163	55.4	.73	—	.73
Butter and margarine	85	28.9	.54	.46	1.00
Margarine only	46	15.7	—	.73	.73
All families	294	100.0	.53	.28	.81
<b>\$60-\$99</b>					
Butter only	316	61.6	.72	—	.72
Butter and margarine	141	27.5	.54	.37	.91
Margarine only	56	10.9	—	.69	.69
All families	513	100.0	.58	.19	.77
<b>\$100-\$139</b>					
Butter only	174	64.7	.68	—	.68
Butter and margarine	86	32.0	.53	.33	.86
Margarine only	9	3.3	—	.72	.72
All families	269	100.0	.61	.14	.75
<b>\$140 and above</b>					
Butter only	71	68.9	.72	—	.72
Butter and margarine	28	27.2	.46	.33	.79
Margarine only	4	3.9	—	.74	.74
All families	103	100.0	.62	.12	.74

\* The number of families in the upper income groups which used margarine was too small to warrant any comparisons. However, they have been included for totaling purposes.

### HOW INCOME AFFECTS BUTTER AND MARGARINE CONSUMPTION (MINNEAPOLIS, 1952)



the respective products varied significantly. This suggested that the higher average rates of consumption of butter and the lower average rates of the consumption of margarine by families on the upper income levels were due to

a larger proportion of families purchasing the higher-priced product and a smaller proportion purchasing the lower-priced product.

A similar study conducted at a time when incomes were lower might reveal

that income is effective not only on the proportion of people consuming the product, but also on the rates of con-

sumption of the respective consuming groups.

## Changes in the Consumption Pattern

In 1938, practically all Minneapolis families used some butter, but by 1952 the proportion had dropped to 90 per cent (table 14). The proportion of families using some margarine increased from 4 per cent to almost 39 per cent.

Table 14. Proportion of Families Using Butter and Margarine 1938 and 1952

Product used	Proportion of total families consuming	
	1938	1952
	per cent	
Butter only	96.0	61.4
Butter and margarine	3.5	28.8
Margarine only	.5	9.8

Additional information on the shifts in consumption over a period of years was revealed in an examination of the consumption patterns of 780 families that started housekeeping before World War II.

Ninety per cent of these families consumed butter only before World War II (table 15). About 75 per cent of the latter group continued to use butter only during the war, most of the remaining families shifting to the use of both butter and margarine. Almost 75 per cent of the families which had continued to use butter only during the war also were using butter only in 1952. Of the families which shifted to the use of both butter and margarine during the war, almost 50 per cent were using both in 1952, but 40 per cent had shifted back to the use of butter only.

Considering only the net changes between the prewar period and 1952, of the 703 families consuming butter only

during the prewar period, 66 per cent continued to use butter only or had shifted back to butter only, 27 per cent had shifted to the use of both butter and margarine, and the remaining small proportion had shifted to the use of margarine alone.

Of the families using both butter and margarine before the war, almost 82 per cent continued to use both during the war, and almost two-thirds of the latter were using both in 1952.

Only a few families were using margarine only before the war. These have been included in the table for totaling purposes.

While the consumption pattern of many families changes in many directions over a period of time, the data in table 15 indicate a certain persistency of the pattern that was established during World War II.

Seventy-one per cent of the families that started housekeeping during World War II used butter only at that time and one-half of these were using butter only in 1952. Of the families that used both butter and margarine or margarine only at the start of housekeeping, almost two-thirds were using both or margarine only in 1952.

Of the families using butter only during both the prewar period and the war period but were using margarine in 1952, about 72 per cent reported that the change was made because of the price of butter. The same reason was given by 60 per cent of the families using butter at the start of housekeeping during the war but which used some margarine in 1952.

Table 15. Butter and Margarine: Changes in the Consumption Pattern of Families Starting Housekeeping before World War II

Prewar period		During the war		1952	
Product used	Families using number	Product used	Families using number	Product used	Families using number
	per cent		per cent		per cent
Butter only	703	Butter only	523	Butter only	389
	90.1		74.4	Butter and margarine	105
Butter and margarine	66	Butter and margarine	163	Margarine only	29
	8.5		23.2	All uses	523
Margarine only	11	Margarine only	17	Butter only	67
	1.4		2.4	Butter and margarine	79
All uses	780	All uses	703	Margarine only	17
	100.0		100.0	All uses	163
		Butter only	8	Butter only	5
			12.1	Butter and margarine	3
		Butter and margarine	54	Margarine only	9
			81.8	All uses	17
		Margarine only	4	Butter only	7
		All uses	66	Margarine only	1
			100.0	All uses	8
		Butter only	2	Butter only	13
			18.2	Butter and margarine	34
		Butter and margarine	1	Margarine only	7
		Margarine only	8	All uses	54
		All uses	11	Butter and margarine	1
			100.0	Margarine only	3
		Butter only	1	All uses	4
			50.0	Butter only	1
		Butter and margarine	1	Butter and margarine	1
		Margarine only	2	Margarine only	3
		All uses	4	All uses	4
			100.0	Butter only	1
		Butter only	1	Butter and margarine	1
			50.0	Margarine only	2
		Butter and margarine	1	All uses	2
		Margarine only	1	Butter	1
		All uses	8	Margarine only	8
			100.0	All uses	8
		Butter only	11	Butter only	1
			1.4	Butter and margarine	1
		Butter and margarine	8	Margarine only	1
		Margarine only	8	Margarine only	1
		All uses	11	All uses	8
			100.0		100.0

## Responses to Changes in Price

The decision to buy butter only, margarine only, or both, depends in part on family tradition, psychological influences, price differentials, and price level of butter. From evidence obtained during the survey, it appeared that most consumers were more aware of the price level of butter than of the price differential between butter and margarine.

In order to obtain information on possible changes in consumption pattern accompanying specified changes in butter prices, each housewife was asked two questions, the responses to which are tabulated in tables 16, 17, and 18.

### USERS OF BUTTER ONLY

The price of butter at the time of the survey averaged 82 cents per pound. Table 16 gives the responses of the users of butter only to these questions:

1. At what price of butter would you buy some margarine?
2. At what price of butter would you buy margarine only?

About 30 per cent of the housewives indicated they would buy some mar-

Table 16. Families Consuming Butter Only—Proportion That Would Purchase Margarine at Specified Prices of Butter

Price of butter	Proportion that would purchase some margarine	Proportion that would purchase margarine only
cents per pound	per cent	per cent
85	1.7	.4
90	5.7	1.4
95	12.0	2.9
100	29.6	9.5
105	34.6	14.5
110	39.2	20.2
115	39.2	20.6
Never	60.8	79.4

garine if the price of butter rose to \$1.00 or more per pound, but 61 per cent said that they never would buy margarine. Almost 10 per cent replied that they would buy margarine only if the price of butter were \$1.00 or higher, but almost 80 per cent replied that they never would shift completely to margarine.

### USERS OF BOTH BUTTER AND MARGARINE

Table 17 gives the responses of users of both butter and margarine to these questions:

1. At what price of butter would you buy butter only?
2. At what price of butter would you buy margarine only?

Almost 50 per cent replied they would buy butter only if the price of butter declined to 60 cents. About 20 per cent, however, replied that they never would buy butter only.

Less than one-half of this group of families said that they would buy margarine only if the price of butter advanced to \$1.00. About 41 per cent replied that they never would buy margarine only.

### USERS OF MARGARINE ONLY

Table 18 gives the responses of users of margarine only to the questions:

1. At what price of butter would you buy some butter?
2. At what price of butter would you buy butter only?

Forty per cent of the users responded that they would purchase some butter if the price declined to 60 cents. More

Table 17. Families Consuming Both Butter and Margarine: Proportion That Would Purchase Butter Only and Proportion That Would Purchase Margarine Only at Specified Prices of Butter

Price of butter	Proportion that would purchase butter only	Price of butter	Proportion that would purchase margarine only
cents per pound	per cent	cents per pound	per cent
80	3.5	85	5.6
75	9.1	90	13.0
70	18.2	95	21.9
65	31.3	100	46.5
60	48.5	105	50.0
55	57.0	110	58.6
50	80.7	115	58.9
Never	19.3	Never	41.1

Table 18. Families Consuming Margarine Only: Proportion That Would Purchase Butter at Specified Prices of Butter

Price of butter	Proportion that would purchase some butter	Proportion that would purchase butter only
cents per pound	per cent	per cent
80	0	.9
75	2.6	.9
70	8.7	3.6
65	25.2	8.1
60	40.0	16.1
55	45.2	19.7
50	64.3	40.2
Never	35.7	59.8

It was evident that many consumers have sufficient income or such a high order of preference for butter that they would not change their traditional consumption pattern even though butter prices rose to high levels. However, this does not mean, particularly among families of lower incomes, that the same amount of butter would be consumed.

Also, the conclusion was warranted that once margarine became part of the established consumption pattern a strong resistance developed to restricting consumption to butter only.

A more informative type of response might have been obtained if the questions had been based on price differentials. Questions dealing with price differentials were included; however, the responses indicated that such questions led to confusion on the part of the housewife so that adequate response could not be obtained.

than one-third, however, replied that they would never buy butter.

Only 16 per cent of this group of users said they would change over solely to butter if the price declined to 60 cents. Almost 60 per cent said they never would confine their purchases to butter only.

## Other Comments on Margarine Use

About 72 per cent of the housewives reporting family use of margarine were able to identify the composition of their purchases, that is, whether the margarine consisted primarily of animal fats or vegetable oils. Only 24 per cent were aware of the current price differ-

ential between the two types, and only 4 per cent specified the 10-cent tax on margarine containing less than 60 per cent animal fat as the reason for the price differential.

Twenty-three per cent of the families using margarine mixed the latter with

butter before using it on the table, the usual mix containing about equal proportions of the two products.

Almost 80 per cent of the families colored the margarine; 26 per cent re-

ported they would buy more margarine if it were colored; and 33 per cent reported they would pay more for colored margarine.

## Conclusions

Before World War II, consumer buying habits were characterized by preference for butter and strong resistance to the purchase of margarine. The marked changes since then in the consumption pattern were initiated because of conditions existing during the war and have continued because of the high prices of butter relative to those of margarine and the improvement in the quality of margarine.

About 39 per cent of the families included in this study used margarine in 1952. A similar study in 1938 revealed that only 4 per cent of the families used this product. The marked change in these proportions was strong evidence that resistance to margarine has weakened. Also, once margarine was fitted into the consumption pattern the chances were about even that its use would continue as long as butter and margarine price relationships remained about the same.

There were many families, however, who preferred to buy butter only and would continue to do so even though the price of butter was relatively high. There were also families who would not shift back completely from margarine to butter even though the price of butter were to decline sharply. In the case of most families the decision to buy one or the other product rested largely upon the price level of butter, or the price differential between butter and margarine.

Families with higher incomes used more butter and less margarine per consuming unit on the average than families with lower incomes. The differences in the average consumption rates, however, were due mainly to the increase in the proportion of families using butter and the decrease in the proportion of families using margarine. A decline in the price of butter very likely would result in an increase in the proportion of families purchasing butter only and, in particular, those families with lower incomes.

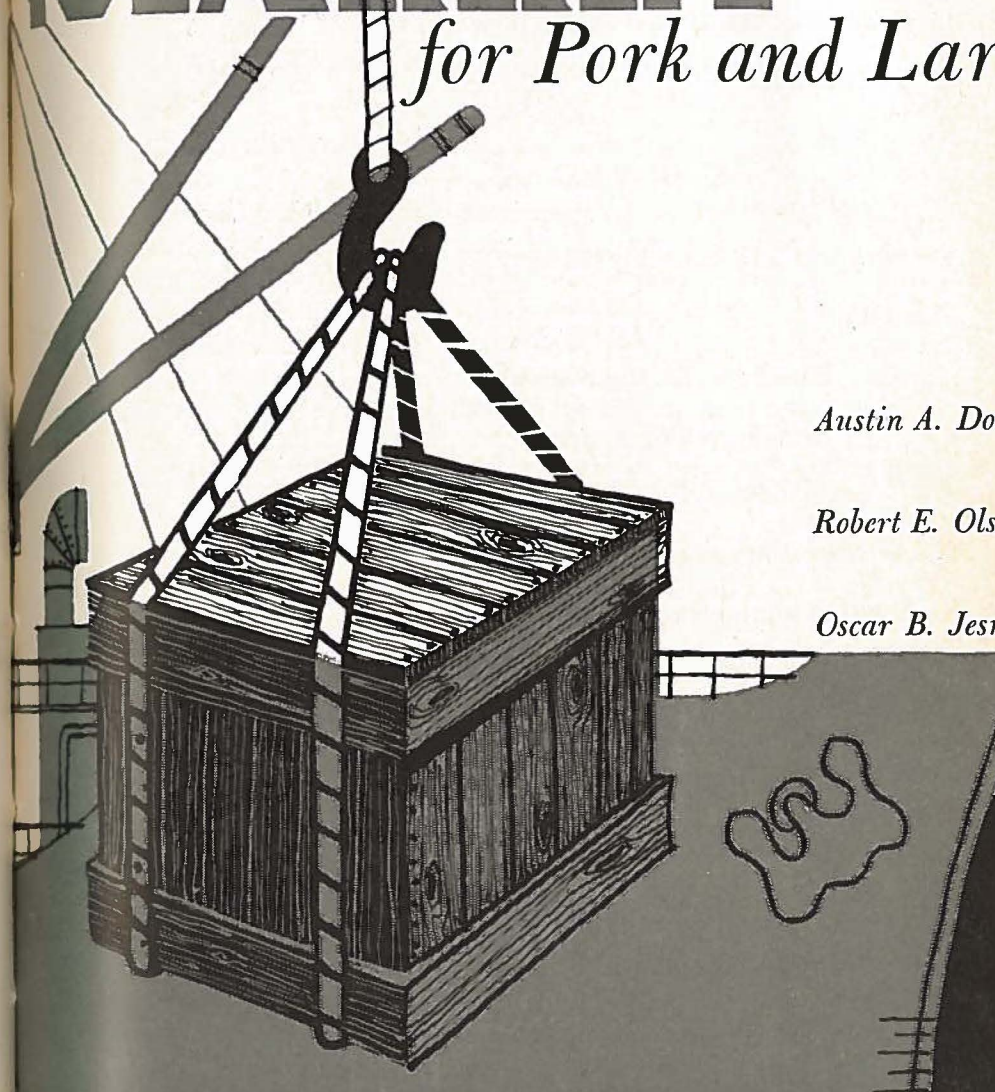
Butter and margarine prices did not change much in 1952 or early 1953. If butter price remained at levels prevailing during the forepart of 1953, there would be little prospect for an easing of the competitive situation. In fact, it is generally believed that the situation has become more intensified. Further, the situation would become even more so, should the general level of consumer incomes drop and butter prices remain at government support levels.

The proportion of families purchasing margarine has been influenced by state laws which prohibit the sale of colored margarine and which levy a tax of 10 cents a pound on all margarine sold which contains less than 60 per cent animal fat. The repeal of either of these laws would further enhance the market position of margarine.

# The EXPORT MARKET

## for Pork and Lard

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