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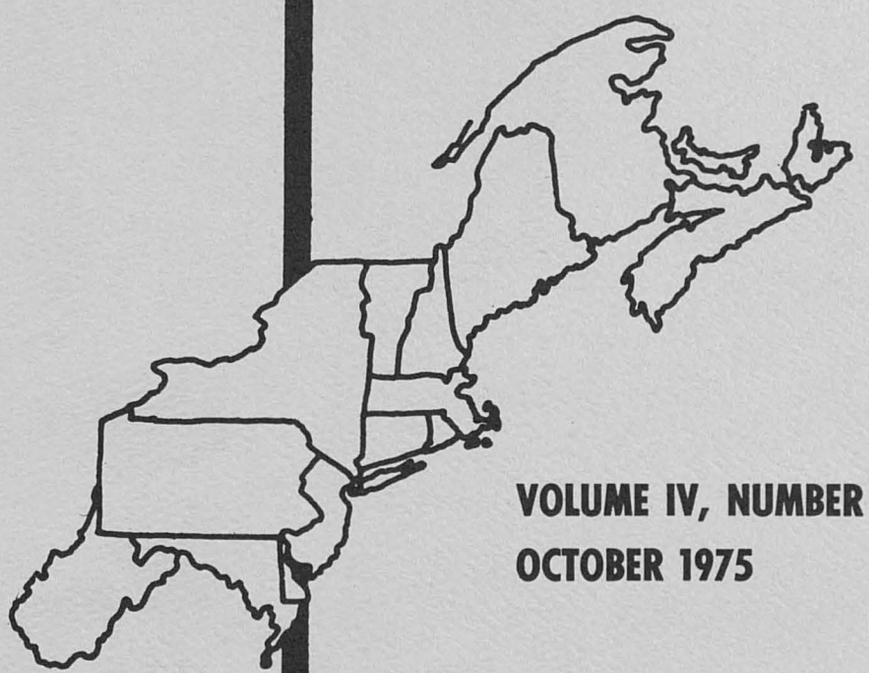

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IMPACT OF ALTERNATIVE TRADE POLICIES ON DAIRY FARM NET CASH INCOME, 1975-80*

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Preface

This paper is an outgrowth of an Economic Research Service study undertaken in 1974 with the cooperation of the Foreign Agricultural Service and the Agricultural Marketing Service. Many individuals, including the authors of this paper, were involved in the comprehensive study of the impact of dairy imports on the U.S. dairy industry (Agricultural Economic Report No. 278, January 1975). This presentation reflects one part of the overall study.

Introduction

Dairy products are among the most protected of all commodities in international trade. Section 22 of the Agricultural Adjustment Act of 1933, as reenacted and amended, restricts imports into the United States to about 1.5 percent of domestic milk production. While dairymen argue that this is too much, others ask whether the current policy of import quotas is justifiable.

Some of the questions asked are: What is the competitive position of the U.S. relative to other potential supply areas? Can foreign exporting nations supply the American consumer with dairy products at a lower cost than our own farmers, processors, and retailers? If so should we proceed towards a freer trade policy?

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Of course, the benefits of freer trade also have some costs. One such cost would be the possible traumatic adjustments forced upon the domestic dairy industry. The central question addressed in this paper is how dairymen would fare under a more liberal import policy: What would be the impact of changing our current quota policy as it relates to the net cash income positions of U.S. producers?

Trade Situations Considered

Three policy alternatives were analyzed for the period 1975-80. Analysis was based on expected world supply and demand conditions and current dairy policies in major producing areas. Estimates were made of the volume of dairy imports that would enter the U.S. and the consequent impact on the milk price received by producers.

The trade alternatives considered were: (1) continued Section 22 import quotas, (2) free world trade in dairy products, and (3) an open U.S. market policy.

Under the first trade alternative, import quotas for dairy products were assumed to continue at the current level of 1.7 billion pounds of milk equivalent annually to 1980. The free world trade situation assumed the disappearance of trade barriers, export subsidies and price support programs in all countries. The third alternative considered an open U.S. market policy wherein we would discontinue import quotas and the price support system; other countries would be free to pursue their own policies and sell ("dump") their excess production in the U.S. Table 1 summarizes the estimated amount of imports that would enter the U.S. under the three policy situations and the subsequent impact on U.S. milk production and on the all wholesale milk price.

Benchmark Farms

Two dairy farm operations were synthesized to represent the New York and Wisconsin production sectors. The benchmark farms were constructed from record data of the farm business management projects in these states. Typically, reports of this kind include cautions that the records do not represent the average of all dairy farms in the state and are from better-than-average commercial dairy farms. The business records used represent a relatively profitable group of dairymen.

The 1972 records provided the basis for establishing the make-up of cash farm receipts and cash farm expenses for New York and Wisconsin farms with about 75 milk cows (Table 2). Dairymen in both states did fairly well in 1972, the last "normal" year we had.

Table 1
Estimated U.S. Milk Production
Level of Imports and Farm Milk Price
Under Three Trade Alternatives, 1975-80

	Year	U.S. Milk Production	U.S. Imports	Farm Milk Price
		--billions of pounds--		per hundred weight
Continued Quota	1975	114.8	1.7	$ 8.90
	1976	117.0	1.7	9.39
	1977	118.0	1.7	9.43
	1978	118.6	1.7	9.73
	1979	119.0	1.7	10.05
	1980	119.0	1.7	10.39
Free Trade	1975	114.1	2.9	8.77
	1976	116.4	2.8	9.04
	1977	116.8	3.8	9.02
	1978	117.1	4.3	9.25
	1979	117.2	4.8	9.54
	1980	116.9	5.3	9.72
Open U.S. Market	1975	111.0	12.2	6.94
	1976	107.2	13.4	8.26
	1977	109.3	10.5	9.00
	1978	110.3	9.2	9.61
	1979	111.2	8.0	10.22
	1980	111.6	6.7	10.90

Source: The Impact of Dairy Imports on the U.S. Dairy Industry, Economic Research Service, U.S. Department of Agriculture, Agricultural Economic Report No. 278, January 1975.

We define net cash income as the amount remaining when all cash expenses are subtracted from cash receipts. It includes money income for management as well as the return on the operator's investment in the business. This is the amount before state and federal income taxes which a dairyman has available to live on, to pay capital obligations, and use for capital expension. Of course, labor income (what a farmer earns for his year's work) is substantially less than net cash income.

Table 2
Major Structural and Financial Data
for Benchmark Commercial Dairy Farms, 1972

Item	New York	Wisconsin
Structural data:		
Farm records (number)	66	225
Cows (number per farm)	75	77
Milk (pounds per cow)	12,715	12,540
Financial data (dollars):		
Cash farm receipts	$70,470	$74,475
Cash farm expenses	50,250	46,985
Net cash income	$20,220	$27,490
Milk price (price per 100 pounds)	$6.42	$5.66
Revenue proportion (percent):		
Milk	86.9	73.3
Nonmilk	13.1	26.7
Total	100.0	100.0
Expenditure proportion (percent):		
Purchased feed	33.5	21.3
Dairy livestock	7.2	6.8
Labor	15.1	17.2
Fertilizer and lime	5.4	6.9
Other	38.8	47.8
Total	100.0	100.0

Source: 1972 Dairy Farm Management, Business Summary, New York, prepared by C. A. Bratton, and 1972 Wisconsin Farm Business Summary, prepared by R. A. Luening.

In 1972, the New York benchmark farm had a net cash income of $20,220 and the Wisconsin Farm had one of $27,490.[1/] Net cash income

[1/] Adjusting net cash income for changes in inventory, depreciation, interest on average capital investment, and number of operators yields a measure of labor income per operator: About $6,000 for the New York farm and $6,800 for the Wisconsin farm.

is an easily understood and manageable concept which provides a good indication of the financial, cash-flow position of dairy operations. Net cash income was used as the primary indicator of the impact of trade alternatives.

Assuming that 1972 is an appropriate base year and that the composition of farm purchases remains the same, price estimates were made for various income and expense items on the basis of past trends and recent events.[2/] Also computed was a breakeven blend milk price for each year to 1980 which would produce a net cash income equivalent to that in the 1972 base period.

Effect of Continued Quotas

Continuing the present policy of restricting dairy imports to about 1.5 percent of domestic production would have the effect of maintaining U. S. milk prices at levels which would allow producers to sustain their 1972 net cash income positions (in constant 1972 dollars). For example, it is estimated that U. S. dairymen will need a $10.39 blend price per hundredweight in 1980 to cover their increased production costs and maintain their 1972 level of income. This $10.39 price is the breakeven milk price that producers would need in 1980 to be no worse off (and no better off) than they were in 1972. A continued quota policy would result in such breakeven prices (Table 3).

Effect of an Open Market

Opening the U. S. market to dairy imports would have a substantial impact on the economic viability and financial position of dairy farms. The initial shock of importing over 12 billion pounds of milk equivalents in 1975 would drive the U. S. milk price to about $6.94 ($5.94 for manufacturing milk), whereas dairymen need a price of $8.90 to maintain their 1972 real income level. Comparing 1972 net cash income with 1975, the Wisconsin farm would suffer a 59 percent decrease, and the New York farm would actually show a negative income of $420 (Table 3).

This shock would create pressure for marginal farmers and efficient producers with large debt loads to quit dairying, especially when the depressed prices continued into 1976. Aggregate milk production would decline from an estimated 115 billion in 1974 to 111 billion pounds in 1975 and 107 billion pounds in 1976. Net cash incomes (for remaining farms) would be expected to improve from 1977 to 1980 as an expected decline in imports would create a tight market and higher prices in the U. S. By 1980, both the New York and Wisconsin farms would be somewhat better off than they were in 1972. In the aggregate, there would be 8.5

2/ Five receipt and nine expense categories are employed in the model. Consequently, price changes were estimated for each category (see Appendix Table 1).

Table 3
Estimated Net Cash Incomes of Benchmark Dairy Farms
Under Three Alternative Trade Situations, 1975-80

Year	Continued Quotas		Free Trade		Open Market	
	Net Cash Income	Percent of 1972	Net Cash Income	Percent of 1972	Net Cash Income	Percent of 1972
	Constant 1972 Dolalrs					
Wisconsin:[a/]						
1972 (actual)	27,490	100	. . . . .			
1975	27,490	100	24,600	89	11,285	41
1976	27,490	100	24,380	89	18,840	69
1977	27,490	100	23,500	85	26,800	97
1978	27,490	100	22,800	83	25,200	92
1979	27,490	100	22,800	83	27,060	98
1980	27,490	100	21,970	80	29,095	106
New York:[b/]						
1972 (actual)	20,220	100	. . . . .			
1975	20,220	100	14,510	72	-420	(c/)
1976	20,220	100	16,575	82	10,370	51
1977	20,220	100	16,800	83	20,500	101
1978	20,220	100	15,855	78	18,540	92
1979	20,220	100	15,680	78	20,450	101
1980	20,220	100	14,540	72	22,520	111

a/ A Wisconsin farm with 77 milk cows.

b/ A New York farm with 75 milk cows.

c/ Negative income in 1975.

percent (or 17,000) fewer dairy herds in 1980 with an open market policy than with the current quota alternative.

It is probably safe to assume that no country over an extended period of time is interested in providing a regular supply of dairy products to other countries at subsidized prices. Most exports of this type have been the result of short-run surplus disposal and could not be counted on year after year. No country can compete with the 18¢ per pound butter that Europe sold Russia in 1973. But then, how often could Russia be assured of butter from the EC-9 at that highly subsidized price? In the long run the key issue is the quantity of dairy products which countries with lower costs than the U. S. can ship to the United States.

Effect of Free Trade

Assuming all countries eliminated their trade barriers on dairy products, both the United States and Europe would be expected to be net importers of dairy products. Almost all these imports would be from New Zealand and Australia. Milk prices and production would decline in the United States and especially Europe. Consumption would also rise somewhat. These decreases in production and increases in consumption would quickly absorb much, if not all, of the potential growth in milk production in Oceania. Total imports into the United States would increase from 2.9 billion pounds of milk equivalents in 1975 to 5.3 billion pounds in 1980.

Free trade in dairy products would force U. S. milk prices to a $8.77 level in 1975 and reduce the net cash income of Wisconsin and New York dairymen by 11 to 18 percent. Likewise, in 1976 and 1977, the net cash income of these dairymen would be reduced by 11 to 18 percent; in 1978 and 1979, by 17 to 22 percent; and in 1980 by 20 to 28 percent (Table 3). Although the income erosion evidence with free trade is substantial, American dairymen would be better off with this policy than with an open market policy. However, it is to be expected that both farm numbers and milk production would decline with free trade, and a moderate dependency on foreign imports would be created.

Conclusions

This paper analyzed the impact of three alternative trade policies in dairy products from the perspective of dairy farm net cash income. A general conclusion is that an open market or free trade policy would have a detrimental effect on the financial position of U. S. dairymen.

While the U. S. could favorably compete with Europe and Canada under a free trade situation, New Zealand and Australia would hold a competitive edge. A sufficient amount of imports from Oceania could enter the U. S. under free trade to have a substantial impact on producer income.

An open U. S. market policy could result in chaos in dairyland sufficient to outweigh any possible consumer benefit.

Thus, we are left with a policy of continuing Section 22 import quotas as the "best" alternative for dairymen. This allows for the importation of specialty-type dairy products, some price dampening and supply equalization in times of short domestic supply

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2. R. A. Luening, 1972 Wisconsin Farm Business Summary, Cooperative Extension Programs, University of Wisconsin, A2415, 1973.

3. U. S. Department of Agriculture, The Impact of Dairy Imports on the U. S. Dairy Industry, Economic Research Service, Agricultural Economic Report No. 278, Washington, D. C., January 1975.

Appendix Table 1
Selected Price Estimates Used in the Analysis[a/]

Item	Unit	Year						
		1974	1975	1976	1977	1978	1979	1980
Corn	$/bu.	3.00	3.25	3.00	2.55	2.65	2.76	2.87
Soybeans	$/bu.	6.50	7.50	6.60	6.35	6.85	7.40	8.00
Oats	$/bu.	1.50	1.55	1.40	1.25	1.30	1.35	1.40
Hay	$/ton	52.00	56.00	50.00	45.00	47.00	50.00	53.00
Dairy ration	$/ton	138.00	153.00	138.00	126.00	132.00	138.00	145.00
Beef	$/cwt.	39.00	38.00	40.00	45.00	50.00	56.00	60.00
Cull dairy cows	$/cwt.	24.00	20.00	22.00	28.00	34.00	38.00	41.00
Dairy replacements	$/hd.	500.00	450.00	425.00	455.00	490.00	525.00	565.00
Farm labor without room & board	$/hr.	2.25	2.50	2.70	2.88	3.00	3.15	3.30
Farm machinery	Index	167.00	181.00	194.00	207.00	222.00	237.00	254.00
Industrial commodities	do	160.00	173.00	180.00	187.00	195.00	202.00	210.00
Farm supplies	do	157.00	177.00	184.00	191.00	199.00	207.00	215.00
Building and fences	do	195.00	209.00	224.00	240.00	257.00	275.00	294.00
Motor supplies	do	168.00	182.00	188.00	193.00	199.00	206.00	212.00
Electricity and gas	do	150.00	173.00	188.00	203.00	219.00	237.00	256.00
Fertilizer and lime	do	205.00	285.00	325.00	341.00	351.00	354.00	354.00
Taxes	do	167.00	179.00	191.00	205.00	219.00	234.00	251.00
Consumer prices	do	148.00	160.00	169.00	178.00	187.00	196.00	206.00

[a/] Indexes in this table are based on 1967 = 100.