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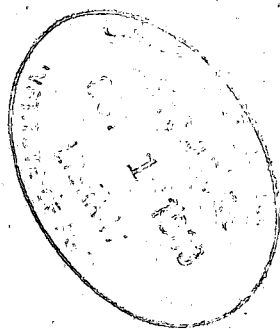
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# **Agriculture and the European Common Market II**

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## DAIRY PRODUCTS IN RELATION TO FUTURE MARKET FORMATIONS

### *Introduction*

IT is impossible at present to make any clear predictions about the future form of European markets. It is still quite uncertain how comprehensive EEC will be and it is also uncertain if the reforms will be carried through in EEC at the stipulated pace. The latest developments make it possible that a disintegration of the present EEC might take place—wholly or in part—even though it formally continues to exist. This may be an over-pessimistic evaluation as it is rather unlikely that one person can or will prevent the existence and further development of this association; but it is quite possible that considerable delays may occur. It is also possible that there will be no background of European political unification within the foreseeable future, while the desire may still exist for a stronger economic organization, which it will be difficult to create if sight is lost of the political aim.

There are, in Western Europe, several different bodies which separately may come to form the framework of the future economic organization in Western Europe. EEC is undoubtedly the strongest body, but the much weaker EFTA might conceivably form the framework of a future economic organization. If it proves impossible to establish a European economic community with the majority of the countries in EEC and EFTA as members, the next attempt to create an economic unit will presumably be made through OECD which comprises several countries in Western Europe besides those which are members of EEC and EFTA and—which is of vital importance—the U.S.A. and Canada.

If Europe is not yet ripe for such close political co-operation as EEC represents, the forms of co-operation likely to be chosen will presumably be of a rather loose nature. No nation will commit herself

<sup>1</sup> The author thanks Miss Grete Skou, Secretary of the Department, for translating this article into English and for discussions about its formulation.

to a strong and binding economic co-operation if it is clear from the start that long-term political unification is not the ultimate goal.

In considering the position of dairy products in the future in Western Europe it will therefore be necessary to discuss various possible group formations as one cannot tell which form will be the ultimate one. The procedure applied in this paper is to examine the figures concerning EEC (The Six), EFTA (The Seven), The Nine (EEC and England, Denmark and Norway), 'Other OECD countries' (included in some tables) and OECD which comprises twenty countries, viz. The Six, The Seven, five other European countries and the U.S.A. and Canada.

### *Trends in dairy production*

On the basis of the limited information that is available it seems that the number of milch cows in OECD has increased by about 10 per cent. since before the war and that the yield per cow has increased by about 15 per cent. The whole of the increase in the number of cows has taken place in the European part of OECD the number having decreased or remained the same in North America. FAO has published statistics of cattle population all over the world before and after the war.

TABLE 1. *The stock of cattle in the Western Market areas*

Area	Pre-war		1948-9			1959-60		
	Mill.	% of OECD	Mill.	Change in pre-war %	% of OECD	Mill.	Change in pre-war %	% of OECD
EEC . . . . .	38.8	25.3	38.4	-1	23.1	47.3	+22	23.8
The Nine . . . .	52.5	34.2	52.3	..	31.5	63.3	+21	31.9
EFTA . . . . .	21.8	14.2	21.0	-4	12.6	23.5	+8	11.9
U.S.A. and Canada	74.4	48.5	88.3	+19	53.2	105.5	+42	53.1
Other OECD . .	18.3	11.9	18.3	..	11.0	22.2	+22	11.2
Total OECD . .	153.3	100.0	166.0	+8	100.0	198.5	+29	100.0

Source: *Production Yearbook*, FAO.

The total stock of cattle has increased at a faster rate than the number of milch cows as since the war greater emphasis has been laid on meat production. Even though the U.S.A. and Canada have a smaller number of milch cows a very considerable increase in the total stock of cattle has taken place in both countries, and they still have about

TABLE 2. *Production of dairy products in Western Market areas*

	MILK			BUTTER			CHEESE			CONDENSED MILK			DRIED MILK		
	<i>Mill. tons</i>		<i>% change</i>	<i>Mill. kg.</i>		<i>% change</i>	<i>Mill. kg.</i>		<i>% change</i>	<i>Mill. kg.</i>		<i>% change</i>	<i>Mill. kg.</i>		<i>% change</i>
	<i>Pre-war</i>	<i>1959/60</i>		<i>Pre-war</i>	<i>1959/60</i>		<i>Pre-war</i>	<i>1959/60</i>		<i>Pre-war</i>	<i>1959/60</i>		<i>Pre-war</i>	<i>1959/60</i>	
EEC . . . . .	43.8	58.3	+33	731	1,020	+40	714	1,272	+78	255	865	+239	52	313	+502
The Nine . . . .	58.8	77.1	+31	974	1,237	+27	801	1,525	+90	488	1,109	+127	76	413	+443
EFTA . . . . .	24.4	28.8	+18	383	378	-1	206	425	+106	241	252	+5	31	152	+390
U.S.A. and Canada .	55.0	63.9	+16	1,128	798	-29	354	979	+177	1,056	1,398	+32	132	918	+595
Total OECD . . .	128.8	158.6	+23	2,318	2,272	-2	1,366	2,819	+106	1,552	2,539	+64	215	1,387	+545

Source: *Production Yearbook*, FAO

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the same proportion, 50 per cent., of the total stock of cattle in OECD as they had before the war.

The increase in the total stock of cattle in the whole world taken from before the war till recent years amounts to 30 per cent., about the same figure as in OECD. EEC has had the highest increase but one in the OECD area. In countries not specified in the survey the increase has been the same as in EEC while EFTA has had the smallest increase. EFTA's share of the stock of cattle was fairly modest, viz. 14 per cent. before the war and it is now about 12 per cent. If an expanded Common Market is formed its total stock of cattle will probably be a little smaller than that of North America but milk production will considerably exceed that of North America.

Table 2 shows changes in production of various dairy products between pre-war and 1959/60. It will be seen that production of liquid, dried and condensed milk and butter has been increasing at a faster rate in EEC than in the other OECD countries, but that the increase in cheese production has been considerably less. The figure for North American production included cottage cheese, amounting to 26 per cent. of the total whereas this was not included before the war.

#### *Foreign trade and consumption of dairy products*

Table 3 shows the net trade for dairy products in the same areas as shown on the preceding table.

TABLE 3. *Net trade in dairy products in Western Market areas:  
mill. kg.*

	BUTTER		CHEESE		CONDENSED MILK		DRIED MILK	
	<i>Pre-war</i>	<i>1959/60</i>	<i>Pre-war</i>	<i>1959/60</i>	<i>Pre-war</i>	<i>1959/60</i>	<i>Pre-war</i>	<i>1959/60</i>
EEC*	+59.7	-3.7	+51.0	-15.8	+163.4	+302.3	+14.2	+20.9
The Nine*	-230.4	-290.0	-80.8	-63.5	+109.3	+366.2	+1.2	+41.6
EFTA	-266.1	-275.0	-113.9	-23.5	-48.2	+62.3	-13.2	-52.9
U.S.A. and Canada	+9.5	+9.7	+15.8	-20.5	+23.6	+61.9	+1.4	+312.2
OECD	-184.1	-264.6	-46.9	-61.1	+142.6	+410.0	+2.4	+280.7

Source: *Trade Yearbook*, FAO.

+ = Net export.      - = Net import.

\* Western Germany excluded.

World trade in butter was smaller in 1959-60 than before the war. It appears that imports and exports in EEC have almost balanced during the whole period with, however, a minor surplus before the

war and a minor deficit today. The Nine have a larger deficit now than before the war. EFTA's foreign trade, which consists of a large net import, is of about the same size as it was before the war and OECD's total net import is larger than that before the war and amounts to 50 per cent. of the world turnover, as compared with 32 per cent. before the war. Whether it will be EEC and EFTA or an expanded EEC or OECD that ultimately forms the framework of the new market area there will certainly be a considerable trade with the areas outside, but the net turnover will still be modest in relation to the total production. No great expansion will be necessary before the OECD area will be fully covered, whereas EFTA is greatly under-supplied. The market formations may thus be decisive in determining from where the market for butter in EFTA will be covered. It is, of course, the English market which is the main factor in the turnover. It should be noted, furthermore, that the production in the two important export countries, Denmark and Holland, has remained unchanged while it has been possible to cover the increasing West German consumption by increasing home production.

The world export of cheese is now much larger than it was before the war and it will be seen that all the specified areas mean less in relation to the world turnover than before the war. EEC's net export before the war amounted to 19 per cent. of total world exports, and after the war the net import has been about 3 to 4 per cent. of the total. In both periods the Nine had a deficit but the figures for 1959-60 show both a relative and absolute reduction. For all periods EFTA shows a deficit which has, however, decreased from 40 per cent. of the world export to 5 per cent. The absolute deficit of the OECD area as a whole has increased a little but the relative deficit has decreased. As regards cheese the formation of market areas does not necessarily result in any essential decrease in the gross trade of the individual countries with countries outside the market, but a decrease may take place as the different areas are generally self-supporting in cheese.

World trade in condensed milk has increased considerably. Most areas show a surplus for both periods, but before the war EFTA had a minor deficit and in 1959/60 a surplus of about the same relative extent as this deficit. Both before and after the war EEC shows a surplus corresponding to 60 per cent. of the world export and OECD's net export has increased from a little more than 50 per cent. to slightly more than 80 per cent. of the world export.

TABLE 4. *Consumption of dairy products in the Western Market areas: mill. kg.*

	BUTTER				CHEESE				PRESERVED MILK			
	<i>Pre-war produc- tion</i>	<i>Consumption related to production %</i>	<i>1959- 60</i>	<i>Consumption related to production %</i>	<i>Pre-war produc- tion</i>	<i>Consumption related to production %</i>	<i>1959- 60</i>	<i>Consumption related to production %</i>	<i>Pre-war produc- tion</i>	<i>Consumption related to production %</i>	<i>1959- 60</i>	<i>Consumption related to production %</i>
EEC . . .	671	92	1,024	100	663	93	1,288	101	130	42	855	73
The Nine .	1,198	124	1,527	123	882	110	1,589	104	454	80	1,198	99
EFTA . . .	643	171	652	173	320	155	449	106	333	122	395	98
U.S.A. and Canada .	1,118	99	788	99	338	95	1,000	102	1,163	98	1,942	84
OECD total	2,496	108	2,537	112	1,413	103	2,879	102	1,622	92	3,235	83



A much greater increase has occurred in world trade in dried milk which is now almost twenty times as large as before the war, when EEC had the highest surplus and EFTA the largest deficit. North America now has a net surplus amounting to more than 50 per cent. of world exports. Since the war EEC still has a deficit which has increased absolutely but decreased relatively. EFTA's deficit is about four times as large but has decreased relatively from 44 to 9 per cent. of the world export.

### *Consumption of dairy products*

Calculations have been made of total consumption of dairy products on the basis of the tables of production and net trade already given. The varying stocks are not included in these figures (Table 4) but their influence on the calculated total consumption can be regarded as relatively insignificant.

There are several noticeable features here. First, in the case of butter, consumption has increased very considerably in EEC, remained stationary in EFTA, and declined in North America. By contrast the consumption of cheese has risen most rapidly of all in North America, where it is now almost three times as great as before the war, compared with increases of 100 per cent. in EEC and 40 per cent. in EFTA. Consumption of preserved milk, both dry and condensed, has increased in all areas. But it must be remembered that this accounts for only a very small proportion of dairy production, about 4 per cent. in Western Europe and  $6\frac{1}{2}$  per cent. in North America. This is illustrated in Table 5 which excludes non-fat milk for which figures are not available for all countries.

TABLE 5. *Percentage application of milk fat for the different products, 1957/8*

Percentage of the production applied for:

	<i>Liquid milk and cream</i>	<i>Preserved milk</i>	<i>Cheese</i>	<i>Butter</i>	<i>Fodder</i>	<i>Total</i>
EEC . . .	27.2	3.7	16.7	37.2	15.1	100
The Nine . . .	32.6	4.1	15.5	34.8	12.9	100
EFTA . . .	45.4	4.1	12.0	30.2	8.4	100
U.S.A. and Canada . . .	53.0	6.5	10.1	27.2	3.1	100
OECD . . .	41.3	4.9	13.1	31.7	9.1	100

Source: *Die Europäische Milchwirtschaft*. Berlin 1963.  
*Agricultural Statistics*. USDA 1959.  
*The Dairy Situation*. DS—286. USDA.

Table 6 shows the movements of the *per caput* consumption of milk (where possible including cream), butter and cheese in the individual OECD countries. At first sight the Table gives a rather varied picture as some countries have increased and others have decreased their consumption over this period. It is possible, however, to draw some conclusions from the apparently varying trends.

TABLE 6. *Per caput consumption of milk, butter and cheese in Western Market areas: kg. per year*

	MILK			BUTTER			CHEESE		
	<i>Pre-war</i>	<i>1959-60</i>	<i>% change</i>	<i>Pre-war</i>	<i>1959-60</i>	<i>% change</i>	<i>Pre-war</i>	<i>1959-60</i>	<i>% change</i>
France .	85.5	104.1	+22	5.3	10.6	+100	6.4	8.8	+37
W. Ger- many .	138.6	114.1	-18	8.8	8.1	-8	4.4	6.9	+57
Italy .	37.3	62.6	+68	1.3	1.8	+38	5.3	7.7	+45
Holland .	145.9	165.5	+13	5.6	4.4	-21	6.3	7.3	+16
Belgium- Lux. .	79.8	99.5	+25	8.1	9.5	+17	3.7	5.7	+54
England .	107.3	147.2	+37	10.9	8.3	-24	4.0	4.5	+12
Denmark .	166.7	181.0	+9	8.3	10.8	+30	5.4	8.6	+59
Norway .	175.9	223.0	+27	9.1	3.9	-57	6.7	8.0	+19
Sweden .	249.5	182.7	-27	10.9	9.9	-9	5.6	7.6	+36
Switzer- land .	244.3	181.9	-26	6.8	6.9	+1	8.1	8.5	+5
Austria .	185.8	167.2	-10	3.6	4.3	+19	3.7	4.4	+19
Portugal .	8.9	26.0	+192	0.6	0.6	..	0.9	2.3	+156
Ireland .	146.6	198.1	+35	14.6	18.7	+28	0.3	1.3	+333
Greece .	42.0	42.5	+1	1.1	1.3	+14	8.5	11.1	+31
Turkey .	39.4	40.2	+2	2.5	4.5	+80	6.0	6.1	+2
Canada .	185.6	189.8	+2	14.5	8.0	-45	1.7	8.2	+88
U.S.A. .	149.7	155.9	+4	7.4	3.5	-53	2.5	5.9	+136

Source: *Agricultural and Food Statistics*, OECD.

*Dairy Produce*—Commonwealth Economic Committee.

The simple average for the OECD areas for *per caput* milk consumption was higher in 1959-60 than before the war, but the countries which had the lowest average in general have increased their consumption while it has decreased in countries with the highest consumption. For instance, before the war Sweden had the highest consumption, viz. 250 kilogrammes. Since the war Norway has had the highest, viz. 223 kilogrammes. The gap between these two countries has thus become smaller. This tendency may be expected to continue as the countries with the lowest consumption will increase

their consumption gradually when it is made possible by the technical and economic conditions; the opposite tendency may be expected in countries with the highest consumption where the numerous competing drinks will have a tendency to reduce milk consumption, although, of course, milk consumption in varying forms may be influenced to a great extent by sales promotion. The value of these figures is somewhat limited as OECD publications do not give exact information as to whether the total consumption of milk, cream and skim milk in actual quantities is included in all cases.

*Per caput* butter consumption has increased in most countries compared with before the war but the main increase has not taken place in countries with the lowest consumption nor has the decrease been greatest in countries with the highest consumption. Butter consumption is influenced by many factors. For instance, the quality of the production may have contributed to low consumption in some countries. In other countries relatively low incomes together with relatively high butter prices may explain a low consumption. Finally, the discussion on the influence of butter fat and other animal fats on vascular diseases has certainly played an essential part in many countries particularly where a price policy has been pursued for butter and/or margarine which may have lowered the consumption of butter. It is, however, possible that this discussion has produced an advantage for butter, and that as a result of it butter will preserve and strengthen its preferential position in consumers' minds. It will, however, be necessary to make extraordinary efforts if the consumption of butter is to be increased greatly in countries, notably in Southern Europe, where other fats, such as oil, are used almost exclusively. Similarly increased *per caput* consumption may be difficult to attain in countries where people have become accustomed to a large consumption of margarine and a low consumption of butter, either as a consequence of the discussion mentioned above or the price policy pursued. In most countries it should be possible to attain a consumption of 8-10 kilograms which is the average consumption in countries with a high economic level. Ireland is an exception, but it is uncertain whether this country will be able to maintain this very high consumption if she becomes subject to an economic and technical development similar to that which has taken place in many Western European countries. North America is an exceptional case in the opposite sense. It should be possible to increase consumption in North America considerably owing to the high income level in these countries if only sufficiently

good and uniform butter qualities are offered by the dairy industry. The high income level and the high technical stage have, however, so far resulted in an increased consumption of hot dishes and less consumption of sandwiches. In Europe, Norway and Holland are exceptional cases, due principally to the strong position of the margarine industry in these countries. Besides, in Holland efforts were made to use butter sparingly in the post-war period in order to have a larger quantity available for export and in Norway it has been found an advantage to produce and use margarine instead of butter owing to the prevailing income level. In these countries—and in the U.S.A.—milk producers have adopted a rather passive attitude and allowed the current discussion to cause a decrease in consumption.

Beside the general uncertainty over the validity of the statistics it is also uncertain how corrections are made for waste and the quantities in which processed cheese is included. The estimates of waste may vary considerably without the actual waste percentage necessarily being subject to the same variations. In some cases the processed cheese included may contain ingredients which may make up a considerable percentage of the weight. In other cases the figures concerning processed cheese may cover only the corresponding quantity of firm cheese.

The trends of cheese consumption are clearer than that of milk and butter consumption. In all countries consumption has increased considerably, but it is worth noting that Ireland and Greece before the war and in 1959–60 had the lowest and the highest consumption respectively. A simple average for the seventeen countries shows an increase from 4.7 to 6.3 kilogrammes *per caput* per year. The increase is generally larger in countries which had the lowest figures of consumption before the war. In the countries where the consumption has increased by less than 50 per cent. the average consumption was 7.4 kilogrammes *per caput* in 1959–60 while the average consumption was 4.8 kilogrammes *per caput* in countries with an increase of more than 50 per cent. It is most likely that this development will continue and it should not be unrealistic to imagine that consumption will increase to about 10 kilogrammes *per caput* per year in countries of a relatively high economic level.

#### *Producer and retail prices of milk products*

Changes in producer prices for milk products influence the level of milk production in relation to other agricultural production. Similarly

changes in retail prices will affect consumption trends. Table 7 gives comparisons expressed in the time wages of the country concerned. The time wages are in most cases identical with 'general wages'. Owing to lack of information concerning 'general wages', the time wages within some important branches of industry, such as manufacturing, &c., have been used for some countries. The producer prices are the prices actually paid to the producer (including subsidies).

TABLE 7. *Producer and retail prices of milk expressed in time wages*

	Producer price		Retail price	
	1938	1960	1938	1960
France . . . . .	0.105	0.159	0.209	0.280
Western Germany . . . . .	0.175	0.123	0.300	0.164
Italy . . . . .	0.345	0.197	0.558	0.388
Holland . . . . .	0.135	0.170	0.292	0.238
Belgium . . . . .	0.178	0.110	0.320	0.244
Luxembourg . . . . .	..	..	..	0.149
EEC (average)* . . . . .	0.188	0.152	0.336	0.263
1938 = 100 . . . . .	100	81	100	78
EFTA = 100 . . . . .	141	149	117	170
England . . . . .	0.190	0.126	0.453	0.230
Denmark . . . . .	0.085	0.061	0.246	0.126
Norway . . . . .	0.106	0.109	0.202	0.107
Sweden . . . . .	..	0.075	0.205	0.139
Switzerland . . . . .	0.151	0.113	0.243	0.157
Austria . . . . .	..	0.189	..	0.221
Portugal . . . . .	..	..	..	0.985
EFTA (average)† . . . . .	0.133	0.102	0.286	0.155
1938 = 100 . . . . .	100	77	100	54
Canada . . . . .	0.038	0.038	0.234	0.151
U.S.A. . . . .	0.061	0.040	0.171	0.116
North America . . . . .	0.049	0.039	0.203	0.133
1938 = 100 . . . . .	100	80	100	66
EFTA = 100 . . . . .	36	38	71	86

Source: *Yearbook of Labour Statistics*, ILO.  
*Production Yearbook*, FAO.

\* Exclusive of Luxembourg.

† Exclusive of Sweden, Austria and Portugal.

The table shows that in all areas the producer prices have moved in the same direction at given times. During the war they were relatively high but since the war they have again decreased to the pre-war level. The table also shows that EEC has a relatively higher producer price level than EFTA, while North America has an essentially lower

342 AGRICULTURE AND THE EUROPEAN COMMON MARKET level. Previously the prices in EEC were higher than those in EFTA and since the war this difference has become even more pronounced. A corresponding relative increase has taken place in North America although the prices in this area were lower than those in EFTA before the war and have remained so after it.

Retail prices were higher in EEC than in EFTA in both periods, but most pronounced after the war. In 1960 the retail prices in EEC were still almost twice as high as those of EFTA. In EFTA, EEC and North America 1960 prices were lower than they were before the war, but the trend was more pronounced in EFTA and North America.

TABLE 8. *The retail prices of milk in percentage of the producer prices*

	1938	1948	1960
EEC . . . . .	179	171	173
EFTA . . . . .	215	121	152
North America . . . . .	414	251	341

The ratio between retail prices and producer prices is shown in Table 8. In EEC it was relatively low in all periods while there have been greater movements in EFTA whose level was higher than that of EEC before the war. Since the war, however, it has been a little lower. In all periods the retail prices in North America have been relatively much higher than the producer prices. Since the war the tendency has been decreasing but it is now increasing again. The difference between EEC and EFTA may chiefly be due to the different agricultural policies pursued in the two areas. In EEC the consumers have had to pay the prices which were guaranteed to the producers, while the producers in EFTA have often received financial support, but without effect on consumer prices. It is thus surprising that EEC has had the highest increase in consumption but this may be due to income developments and the fact that EFTA before the war presumably had a higher total level of consumption and income. The increase in income after the war has therefore first and foremost resulted in an increased consumption of other goods. It must also be taken into consideration that supplies of good-quality milk have improved in EEC and that this by itself has stimulated consumption.

The difference between the retail price and the consumer price of liquid milk and butter is greater in EEC than in EFTA while the opposite is the case as regards cheese. This is a question of the sizes

of the margins and of the actual producer price. In Table 8 it is, however, the retail price of liquid milk which has been considered in relation to the average producer price of milk and this results in higher figures than if the price of liquid milk for consumption had been used.

*Cost of food in relation to income*

It is a well-known fact that the cost of food varies considerably, both totally and in relation to income. In this survey the expression 'private consumption expenditure' covers income. It is accordingly considered expedient to apply this expression as it covers that part of the *per caput* national income that is at the disposal of consumers. In order to be able to make comparisons similar to those made in the preceding passages private consumption expenditure and the cost of food could be expressed in time wages. In this case, however, a reasonable comparison cannot be made owing to the variation in the income distribution from country to country, the varying representativeness of the time wages and the varying number of working hours. In some countries the time wages may in the registered industries be high in relation to those obtained by other larger groups of the working-class population. It is, furthermore, likely that a considerable group of the population has very high incomes. The economic structure in the countries covered by this investigation varies too much and the procedure mentioned above cannot be used. In several of the big Western European countries of a high economic level the income distribution may be less even than it is in the Scandinavian countries; and in some of the less-developed countries the time wages may be less representative than in countries with a highly developed industry.

Table 9 shows the expenses for foodstuffs as a percentage of private consumption expenditure for the countries where the necessary infor-

TABLE 9. *Percentage of private consumption expenditure used for foodstuffs, 1959*

EEC			EFTA			North America		
France	.	32	England	.	31	U.S.A.	.	22
Italy	.	45	Denmark	.	26	Canada	.	23
Holland	.	32	Norway	.	30			
Belgium	.	30	Sweden	.	27	Other OECD		
			Austria	.	35	Ireland	.	40

Sources: *Yearbook of Labour Statistics*, ILO.  
*Yearbook of National Accounts Statistics*, UN.

mation is available. The figures show that the cost of food plays a relatively small part in countries with the highest income level. The low figure for Denmark in relation to the other EFTA countries may be due to the fact that food is cheap in Denmark. But this does not seem to explain the whole difference between, for instance, England and Denmark, as food is generally also cheap in England. According to Table 7 dairy products are, however, more expensive in England than in Denmark and this applies in particular to liquid milk. Generally Denmark has the lowest prices among all OECD countries.

### *Future consumption and production*

In the preceding passages an analysis has been made of consumption and production and of incomes and prices of dairy products. On this basis an attempt will be made to calculate in which areas the greatest increase in consumption is likely to take place and how this will fit in with the present distribution of the production.

The development of total consumption is not only dependent upon the economic and technical development but also on the increase in population. This varies considerably from area to area. Table 10 shows the estimates of population development published by UN.<sup>1</sup> In order to make the tendencies clear estimates for the time up to 1975 will be given. Another reason for this is that it will hardly be possible before 1975 to trace the results of the expected increased efforts for a greater economic and technical development in the less-developed areas of OECD. This development is expected to influence strongly the future consumption of dairy products. The survey of the future population development made by UN was published in 1958. At that time only population statistics for 1955 were available and the figures for 1960 that were used were estimates. As the figures for 1960 are now available it has been possible to compare the estimates mentioned with the actual population in 1960. It has been necessary to introduce minor changes as regards some countries where the actual development from 1955 to 1960 differs from that estimated by UN in 1958. In view of developments up to 1960 the estimates for 1975 have been raised as regards England, Switzerland and Iceland and the figures for Denmark and Ireland have been lowered. The UN publication does not provide a separate estimate for Western Germany and that for 1975 has been made on the basis of the increase from 1955 to 1960.

<sup>1</sup> *The Future Growth of World Population*, UN, 1958.



As it appears from the first passage of this article it will be seen that in the coming years the increase in EFTA is expected to be smaller than that of the other areas. From 1960 to 1975 EFTA's population will presumably increase by only about 10 per cent. while the corresponding increase is estimated at 13 per cent. for EEC, 22 per cent. in North America and 26 per cent. in 'Other OECD'.

TABLE 10. *Expected increase in population in OECD from 1960 to 1975*

Millions

EEC	1960	1975	EFTA	1960	1975
France . . .	45·540	49·100	England . . .	52·450	57·000†
W. Germany . . .	54·500	64·500*	Denmark . . .	4·580	5·000‡
Italy . . .	49·368	56·100	Norway . . .	3·587	4·000
Holland . . .	11·480	12·800	Sweden . . .	7·480	8·280
Belgium . . .	9·200	10·000	Switzerland . . .	5·411	6·100†
Luxembourg . . .	0·328	0·355	Austria . . .	7·075	7·520
			Portugal . . .	9·125	10·500
Total . . .	170·416	192·855		89·708	98·400
1960 = 100 . . .	100	113		100	110
North America			Other OECD		
Canada . . .	17·814	22·800	Spain . . .	30·128	34·400
U.S.A. . .	179·323	217·000	Iceland . . .	0·176	0·200†
			Ireland . . .	2·834	2·700‡
			Greece . . .	8·340	9·690
			Turkey . . .	27·829	40·000
Total . . .	197·137	239·800		69·307	86·990
1960 = 100 . . .	100	122		100	126
Total OECD . . .	526·568	618·045			
1960 = 100 . . .	100	117			

Source: *The Future Growth of World Population*, UN, 1958.

\* Calculated on the basis of the increase from 1955 to 1960.

† The figures are slightly higher than those of UN's estimate.

‡ The figures are slightly lower than those of UN's estimate.

Compared with the other market areas, EEC has the greatest population but even in 1975 it will not have attained the 1960 level of North America. It will also be seen that 'Other OECD' show a great increase so that in 1975 these countries may attain the same population figures as those of EFTA in 1960.

On the whole an increase in consumption of almost 20 per cent. might be expected solely as a consequence of the increase in population. In the absence of other factors this would not be the case, however, as the greatest increase in population is expected to take place

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in 'Other OECD'. At the same time the income level in these countries has been an essential obstacle to increased consumption.

Estimates of future consumption will be based on the analyses in the preceding passages, but in order to obtain a more detailed analysis, the countries are also considered in their geographical connexion, viz. North-west Europe comprising Iceland, Ireland, England, Norway, Sweden, Denmark, Western Germany and Holland; Central Europe comprising Belgium, Luxembourg, France, Switzerland and Austria; Southern Europe comprising Spain, Portugal, Italy, Greece and Turkey; and finally North America comprising Canada and the U.S.A. The calculated figures according to this grouping will not be given here but this grouping is considered more reasonable both as regards consumption and income.

Clearly the same level of consumption will not be attained in all areas. Within the North-west European area Western Germany and England have the lowest consumption, viz. 147 kg. and 114 kg. *per caput* per year respectively while Norway has the highest, viz. 223 kg.<sup>1</sup> The average consumption in this area is accordingly 140–150 kg. *per caput* per year and as it might decrease in certain countries and increase in others it is hardly to be expected that the average consumption will exceed 180 kg. *per caput* per year.

Today the consumption in Central Europe is lower but the technical and economic development is well under way and it is likely that the consumption will attain 170 kg. *per caput* per year.

The consumption in Southern Europe is very low, viz. 50–60 kg. *per capita* per year in the period considered and it is therefore unlikely that it will exceed 100 kg. *per caput* before 1975.

In North America the consumption is relatively high, viz. about 160 kg. *per caput* per year and as the technical and economic level of this area is very high it should be possible to attain a consumption of 180 kg. *per caput* per year which corresponds to the estimate for North-west Europe. The consumption in Canada already exceeds 180 kg. while that of the U.S.A. is considerably lower. The low consumption in U.S.A. is not primarily a question of income, but it should not be overlooked that in the U.S.A.—and in particular in the southern parts—a great part of the population has a low income level. To this must be added that it is not until recent years that cooling systems (refrigerators, &c.) together with the production of sterilized liquid milk have created the technical basis which is necessary for a

<sup>1</sup> Probably exceeded by Iceland.

high and constant consumption in the comparatively warm climate in some parts of the U.S.A. It is very likely that geographical differences in consumer habits will be eliminated by technical and economic developments.

On the basis of similar consideration, an estimate concerning the consumption of butter shows that the average consumption will be about *10 kg. per caput* per year in North-west Europe and Central Europe while the consumption in Southern Europe will hardly exceed *5 kg. per caput* per year, and it is doubtful whether North America will attain *8 kg. per caput* per year. This level has already been attained in Canada. There is, however, reason to expect that the low consumption in U.S.A. will change, as well as in other countries with a relatively high income level and a low butter consumption. Current discussions about the nutritional value of butter give butter the advantage. Much could be done to increase sales by concentrating on more uniform quality and by better packaging.

If there had been a decrease in the total consumption of fats, the situation would have been different. As this is not the case there is no reason to assume that butter should not regain its stronger position in countries where income does not present an obstacle.

In all areas the consumption of cheese has increased considerably and is likely to attain *10 kg. per caput* per year as the consumption is increasing in countries with high incomes and as there is a customary high consumption even in Southern Europe.

To a greater extent than butter, cheese may be included in varying forms of daily consumption as it may be used for sandwiches and as independent courses. So everything seems to indicate that an economic and technical development will have a stimulating effect on the consumption of cheese.

It has been maintained that increasing income as a result of technical development might result in a stagnation in the consumption of dairy products as the physical demands made on the workmen will gradually decrease. In this connexion the movement in the consumption of butter in the U.S.A. have often been mentioned. But it is hardly surprising that the consumption of butter has decreased in a country where previously margarine production had been prohibited. When the dairy industry overcomes its prevailing pessimism and adapts its produce to the consumers' taste, perhaps on the basis of research in the nutritional field with a subsequent sales campaign, butter should be able to regain its position as the fat preferred by

consumers, that is provided income does not present an obstacle. High incomes in connexion with changing demands may similarly have the effect that the consumption of cheese may increase owing to an increasing use as an independent course accompanied by various drinks. The nutritional value of milk has never been questioned and recent campaigns which to an increasing degree appeal to youth will no doubt exercise their influence on consumers in the next generation. In this connexion it should be remembered that many of the age groups which today represent decisive factors have been through the war during which there was often a great scarcity of drinks other than milk. When the young age groups take over, the tendency will presumably change to the advantage of liquid milk and perhaps dairy products and animal products in general.

Objections might be raised against these views because they are only to a limited extent based on the calculations available from the international organizations concerning income elasticities for dairy products. Elasticities cannot be considered reliable over long periods and the future income development cannot be expressed in absolute figures. Emphasis should particularly be laid on the lack of stability in consumers' habits. As regards the dairy industry and the agricultural industry as a whole it will be necessary to take an active part in influencing consumer preferences but this work must be carried out concurrently with the working up of the production of branded goods which appeal to consumers in all respects, i.e. as regards contents, size, packing, &c. This does not mean, however, that all work should be concentrated on this task as there is still a great need for technical development in the primary production field where methods have not been changed over a long period.

Instead of the geographical division of countries, the same grouping as that used in the previous tables is used in Table 11, with consumption estimates in 1975 using a conversion rate into milk of 20 for butter, 10 for cheese and 1 for liquid milk (which approximately corresponds to actual conditions).

This table emphasizes EEC's and North America's dominating position with regard to absolute quantities but the relative increase is largest in 'Other OECD'. When the percentages for the individual areas are considered it must, furthermore, be taken into account that EEC and also EFTA contain less-developed areas and that from an economic and technical point of view almost all 'Other OECD' are at a lower stage of development than the two first-mentioned areas.

It should be possible for OECD to stimulate the economic and technical development in the parts of OECD which are most backward today and if this is done an essential cause of low consumption would undoubtedly be removed.

TABLE 11. *Future consumption of dairy products: million tons*

	Liquid milk		% increase	Butter		% increase	Cheese		% increase	Milk equivalent		% increase
	1960	1975		1960	1975		1960	1975		1960	1975	
EEC . . .	16.3	30.2	85	1.19	1.65	39	1.31	1.93	48	53.1	82.5	55
EFTA . . .	12.3	16.7	36	0.64	0.93	46	0.47	0.98	108	29.8	45.2	52
North America .	31.2	43.2	39	0.75	1.92	157	1.13	2.40	113	57.4	105.5	84
Other OECD .	3.9	8.9	129	0.19	0.45	131	0.31	0.87	182	10.9	26.6	145
OECD . . .	63.7	99.0	56	2.77	4.95	78	3.22	6.18	92	151.2	259.8	72

In Table 12 the figures in the previous table have been considered in relation to the 1960 production in the same areas. It is expected that a corresponding increase will apply to that part of the milk production which is applied for other purposes but—as has been previously mentioned—only a fairly modest part of the milk production is used for other purposes. In the calculation milk used for feeding purposes in EEC is, however, indicated by a constant as the high consumption for fodder given in Table 5 is not likely to be maintained.

TABLE 12. *Future consumption of milk, butter and cheese in relation to present production*

*Consumption (demand) in 1975 if the production in 1960 = 100*

	Milk for all purposes	Butter	Cheese
EEC . . . . .	147	154	148
EFTA . . . . .	152	237	223
North America . . . . .	184	240	239
Other OECD . . . . .	245	220	275
OECD . . . . .	167	200	202

The table shows that it is in particular in 'Other OECD' that an expansion of production or sale is likely to take place but it must be taken into consideration that only cow's milk is included in the surveys and that some countries in these areas—especially Turkey—have a very considerable production of ewe's milk and goat's milk. There

is reason to expect that this production will gradually be replaced by cow's milk.

Comments have already been given with regard to North America. The estimated consumption in EFTA as a percentage of production in 1960 opens up the possibility of a considerable import. It is unlikely that producers in EFTA will be able to increase their production sufficiently. In this respect the situation in the other market areas differs from that in EFTA as none of these areas are obliged to import from the producers outside the areas. As far as liquid milk is concerned expansion of consumption has so far been covered through local or national production. In future, however, this need not be the case as modern techniques in this respect are such that trade in this product should expand considerably.

A final evaluation of how the tendencies in the consumption of dairy products are likely to influence future distribution of production will in the first place depend upon the areas in which the potential production capacity is least utilized and most easy to apply. Both Colin Clark<sup>1</sup> and Thorkil Kristensen *et al.*<sup>2</sup> have discussed concepts such, as for instance, Standard Farm Land, in order to make comparisons. Thorkil Kristensen has stated that Western Europe cannot expand its agricultural area to any considerable extent. This statement is among other things based upon FAO's information concerning unutilized productive areas. It appears from the latest information available<sup>3</sup> that in Europe there are only three countries with considerable unutilized areas, viz. France, Italy and Portugal. France may expand her agricultural area by about 20 per cent. to which must be added the permanent-grass area which makes up two-thirds of the present agricultural area. This may mean considerable hidden resources. The U.S.A. and Canada have also very great possibilities of expansion. In Canada the unused but usable area is stated to be larger than the agricultural area actually utilized, and of this area about half is permanent grass which could presumably also be made better use of. In OECD there are very considerable areas which are unutilized today. On the other hand, in many countries where consumption is expected to increase most, there are still considerable resources which should make possible a better utilization of the land which is already in use.

<sup>1</sup> Colin Clark, *The Conditions of Economic Progress*, London, 1958.

<sup>2</sup> Thorkil Kristensen *et al.*, *The Economic World Balance*, Copenhagen, 1960.

<sup>3</sup> *Yearbook of Production 1961*, FAO.

The pace of economic and technical development will determine where the increase in production will take place. Countries with both land resources and the possibility of better utilization of areas already utilized have presumably also the best chance of using the latest techniques. This is, however, only one side of the question as future market formations may be most decisive in determining relative competitive advantages. The so-called comparative advantages may call for a different production distribution than that which may be obtained if the areas are more or less clearly separated from each other. There may be areas with a considerable potential capacity for increased agricultural production but these areas may profit from applying more capital and labour for other purposes while other countries which especially want to increase their agricultural production on already high-yielding areas may find it most advantageous to continue on these lines. It will be possible to do this if OECD comes to work as a whole. But, if the area is separated into more or less clearly distinct areas, the result may be that the expansion of agricultural production will not take place where it would totally be most advantageous. Such a situation may mean that EFTA, which is in many respects weaker than the other market areas in OECD, may be put into a difficult situation. This will in particular apply to Denmark which, as compared with the other EFTA countries, might have the greatest comparative advantage from expanded agricultural production—including the food industry—instead of laying the main stress on other industries. Corresponding considerations also apply to other countries within OECD but a detailed analysis of potential capacity and comparative advantages are outside the scope of this article.

Finally it should be emphasized that the author of this article is well aware that a number of prognoses concerning production and consumption are available from international organizations and other quarters. These prognoses are, however, usually less specified or they may be based on graphic studies or on calculations concerning elasticities and expected or desired increases of income. In this study it has been pointed out that other conditions may be decisive for the future level of consumption but this will to a considerable extent depend on the attitude of and efforts made by the dairy industry itself. Consumer habits are changeable factors. The tables and considerations are therefore not based on available statements and more extensive comparisons would not come within the scope of this work.

### *Conclusions*

The statistics show that North America with its high income level is today in many respects in a favourable position, and this is likely to continue. The increase in population is considerable but there are great resources available which altogether should make it possible to preserve and increase an already relatively high productivity. Compared with the rest of Western Europe, the EEC area has in several respects had the greatest development. Everything seems to indicate that this will continue in the foreseeable future. EFTA has remained almost unchanged and this may continue. The rest of OECD has been rather backward but it is now improving and, besides a considerable increase in population, an economic development is expected so that this area will exercise its influence on future development in Europe.

Milk production has remained relatively unchanged in North America and EFTA, as compared with that of EEC and 'Other OECD'. EEC and North America have never had a large net turnover in butter and cheese while EFTA has had a very considerable net import mainly from areas outside OECD. This import is also likely in the future to make up a large part of the supply for the European and particularly the English market. The EEC area has had a considerable net surplus of condensed milk, and North America has had a surplus of dried milk. EEC has to a large extent found markets in countries outside the market areas considered and has thus in this field an active position as compared with EFTA's 'passive' position with regard to butter and cheese. On a long view the considerable export of dried milk from North America may have an important economic value, as a great part of the dried milk is being exported to areas outside OECD. The value of this export must to a certain extent be regarded as potential, as surplus stocks are included in aid programmes for developing countries. Dried milk is also exported to countries at a high stage of development where it is used for livestock feeding purposes.

North America and EEC have the largest consumption of important dairy products but in neither of these areas is the consumption so large that no further increase *per caput* can be expected. In North America an increased consumption is more a question of changes in consumer habits than in EEC where a continued economic development is expected to result in an increased consumption of these



products. Generally the *per caput* consumption is higher in EFTA than in the other two areas, but here also consumption may increase owing to increase of income and changes in consumer habits. Apart from Ireland, 'Other OECD' have a low consumption of dairy products but the prospects of economic development are so favourable that it must be expected that this by itself will result in a greatly increased consumption of dairy products.

Both producer prices and retail prices are high in EEC and low in North America in relation to the prices in EFTA when calculated on the basis of time wages. The high prices in EEC have not prevented the increasing income level from resulting in an increase in consumption similar to the considerable increase in milk production. It is presumably true that the agricultural policy pursued in the countries in question has greatly stimulated the increase in production, and it is also true that consumers in EEC to a greater extent than those in EFTA have had to pay agricultural subsidies by increased prices, but this has not prevented an increase in consumption. In EFTA, however, the consumption has increased to a smaller extent, and the total consumption in EFTA has gradually become much lower than that in EEC. In many respects the agricultural policy pursued in EFTA has stimulated production although efforts have been made in this area to prevent too large an increase in production. In EFTA the subsidies granted have only slightly influenced consumer prices and they have therefore had no adverse effect on consumption. It cannot be said that it is the agricultural policy pursued in EEC in the post-war years that has created the difficulties for the countries in EFTA. The ultimate market formations will nevertheless be most decisive for the agricultural producers in EFTA as there are only limited possibilities inside this area today as well as in the future.

With a few exceptions the tendency seems to be that the farmers in the countries where the most active agricultural policy has been pursued have the lowest part of the national income. On the whole the agricultural policy pursued has supported dairy production partly because the production was most easily administered and partly because it was the most common production—not least in the small farms which had the greatest economic difficulties. The agricultural policy pursued may therefore have stimulated production in many areas but, on the other hand, it has no doubt contributed to the maintenance of an old-fashioned structure.

The increase in population and the economic development seem

to indicate that before long the future markets for dairy products will be found in EEC and 'Other OECD' while the position of EFTA will be relatively weaker. The same may apply to North America which has such large production resources that it is difficult to imagine that a relative increase in the price of dairy products will take place.

An evaluation of the future distribution of production with regard to market areas is not only a question of where the increase in consumption will take place. It is also a question of utilization of capacity and effectiveness and of commercial intercourse which again will be determined by future market formations. An analysis of the utilization of capacity and the effectiveness in the various areas does not fall within the scope of this article but it has been emphasized that there are considerable unutilized resources within OECD, particularly outside EFTA. On the other hand, sufficiently comprehensive market areas will provide a better background for utilization of the so-called comparative advantages. This means that it is possible that an increase in production can be realized at the lowest costs in areas which already have a high productivity in animal production, and which may also have developed a food industry. The effects on the future agricultural structure within OECD may be considerable if EEC becomes a sharply separated area, as EEC is a very important area for further consumption with considerable resources. By contrast in some other areas the technical development within agriculture including the processing industry, is more advanced. A closer unification of OECD and perhaps New Zealand and Australia, whose production must be taken into account in OECD and particularly in EFTA, may mean that the whole area will profit from allowing production of the various foods to occur where the relative advantage is greatest. This cannot be expected to happen if the OECD area is separated into more or less distinct market regions.