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INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

OILS AND FATS  
TRENDS IN WORLD PRODUCTION, TRADE, CONSUMPTION AND PRICES

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## OILS AND FATS

### TRENDS IN WORLD PRODUCTION, TRADE, CONSUMPTION & PRICES

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## OILS AND FATS

### TRENDS IN WORLD PRODUCTION, TRADE, CONSUMPTION AND PRICES

#### INTRODUCTION

The purpose of this study is to review for oils and fats in general the trends up to the outbreak of World War II, the disruptions of the war and postwar period and probable future trends.

Owing to limitations of space, the study will be confined to the broad aspects of oils and fats as a whole and as major groups. Trends for individual oils and fats, which may diverge radically from general trends, will thus not be exhaustively considered. In consequence, great care should be exercised in the use of the conclusions drawn, when considering development possibilities for particular oils or fats in particular countries.

The scope of the study has been limited to vegetable, land animal and marine oils and fats. Thus, mineral oils have been excluded. Further, two broad groups, the vitamin oils<sup>1/</sup> and essential oils,<sup>2/</sup> have been excluded as also have certain of the minor oils and fats of vegetable or animal origin, which do not materially affect conclusions to be drawn on a world basis. A further limitation is that only visible oils<sup>3/</sup> and fats are considered. Even though the scope of this study has been thus limited it remains very wide, covering the following commodities:-

(1) Vegetable Oils -

- (a) Edible: Groundnut, soyabean, cottonseed, sunflower, sesame, and olive.
- (b) Palm : Coconut, palm, palm kernel, and babassu.
- (c) Industrial: Linseed, castor, rapeseed, oiticica, and tung.

(2) Land Animal Fats - Butter, lard and tallow.

(3) Marine Oils - Whale and fish.

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<sup>1/</sup> e.g. cod liver oil, etc.

<sup>2/</sup> e.g. citronella, lemon, spice, etc.

<sup>3/</sup> i.e. invisible fats consumed in fluid milk, meat, fish, chocolate, edible nuts etc., are excluded.

The statistics used have been obtained from five main sources (a) the International Institute of Agriculture, (b) the United Nations Food and Agriculture Organization, (c) the United States Departments of Agriculture and Commerce, (d) Unilever, and (e) national accounts of trade. It was not possible to obtain all the necessary statistics from a single source and, since the figures quoted by different authorities vary considerably owing to the use of different conversion factors and different coverage, some adjustments to ensure reasonable comparability have been made for this study. It is believed that errors of judgment, which may have occurred in the adjustment of such a tremendous volume of figures from which the few quoted were derived, do not affect the analysis made or the conclusions drawn.

It should be noted that all figures quoted are in terms of oil equivalents except where otherwise stated.

Note: The normal conventional treatment of whale oil statistics is to consider the production of a country's whaling fleet as all exported and all quantities entering a country as imported regardless of origin.

OILS AND FATS

TRENDS IN WORLD PRODUCTION, TRADE, CONSUMPTION AND PRICES

SUMMARY AND CONCLUSIONS

1. Only in very few cases are individual oils or fats used exclusively for food or non-food purposes. This interchangeability in use is a comparatively recent development, resulting from intensive effort to achieve suitability for food, particularly margarine manufacture. The degree of suitability of the different oils and fats for direct food consumption or for the manufacture of margarine, compound lard and similar products has, consequently, become of great importance for their marketability.

2. While technical progress has increased the competition between oils and fats, the use of particular varieties is influenced by other factors, such as: an important national supply (whale oil), tariff and tax policies (colonial products), use of by-products of seeds (oilcake), foreign exchange availability, etc. Thus, the competitive relationships between the different oils and fats are extremely difficult to trace and vary from one consuming center to another.

3. Even before the war price movements for the same oils and fats on different markets became largely independent of each other, owing to the rise of protectionist policies. Further, in many markets prices were directly controlled by government measures. Price trends for the different oils and fats were broadly similar. However, with rapidly increasing world production, and although demand was strong, oils and fats prices before the war were weaker in times of depression than other agricultural raw material prices.

4. Since the war, oils and fats prices, owing to the relatively slow recovery in world trade in oils and fats, have been strong; in the case of linseed particularly, high prices have limited exports in spite of urgent needs and large supplies. Oils and fats prices have recently fallen sharply with prices for agricultural commodities generally but they are expected to be stabilized at

a level relatively high to other agricultural commodities. This opinion is held on the grounds that there is a fundamental shortage in supplies which will persist for a number of years, varying between different oils and fats for different areas from 3 to 20 years.

5. The decline in world production of fats and oils in the five war years was relatively greater than the expansion which occurred in the preceding three decades. However, world production has almost recovered to the prewar (1935/39) level (19.8 million metric tons) and is forecast at approximately 20.0 million metric tons by 1950. Current development plans are largely directed towards the production of palm oil and groundnuts. Palm oil has by far the highest yield of oil per hectare of any variety and is one of the cheapest oils to produce. It has the further attraction of being suitable for many purposes including the manufacture of margarine, shortening and other edible fats as well as soap, candle making and tinsplate. Groundnuts have the highest yield of oil per hectare of the annual oil crops and are particularly suitable for large scale mechanical cultivation. Groundnut oil is suitable for all edible purposes and many industrial and technical uses. In addition, groundnuts provide a valuable by-product in the form of oilcake which adds to the profitability of their production. Further, there are vast areas suitable for the production of both these crops.

6. World exports have not recovered to anything like the extent of world production. World exports are now only 3.59 million metric tons or 60 percent of prewar (5.98 million metric tons) and are forecast for 1950 at 4.29 million metric tons or only 72 percent. The slow recovery is mainly attributable to the virtual absence of trade in Manchurian soyabeans and Indian groundnuts; the slow recovery of European butter exports and palm oil exports from South East Asia; the international agreement limiting whale oil production; and the foreign exchange shortages of importing countries in conjunction with extremely high export

prices. Only exports of palm oils from South East Asia are expected to stage a rapid recovery, while Indian groundnuts exports are expected to be permanently reduced to a fraction of the prewar level. Current development schemes are seen in true perspective if it is considered that the total finally anticipated exports of groundnuts from both the British East and West African Schemes will amount to only 82 percent of the fall in exports of Indian groundnuts between 1938 and 1948.

7. Eight countries\* take 75 - 80 percent of world imports. The United Kingdom and Germany together in 1937 took 38 percent of world imports and in 1948 the United Kingdom alone took 34 percent. The United States imports, which accounted for 17 percent of the world total in 1947, and were mainly vegetable oils, were about half the prewar figure in 1948, largely owing to much greater domestic production. A return of United States production to the average of 1937/46 would require very considerably increased imports, if consumption were to be maintained, and would reduce available import supplies for Europe and Japan. Shortage of foreign exchange, coupled with very high prices, has strictly limited import demand in postwar years so that even in the face of urgent needs world exports of linseed in 1948 were only 35 percent of the prewar level at the same time that linseed was presenting a storage problem in Argentina. As a consequence of severely limited imports, changes in varieties imported and a larger proportion of imports in the form of vegetable oils compared with vegetable oil-bearing materials prewar, European and Japanese oilseed processing plants are now working at between 10 and 50 percent of capacity.

8. World consumption of oils and fats showed an upward trend until the outbreak of World War II, demand in general keeping pace with production. The

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\* United Kingdom, Germany, France, Netherlands, Italy, Denmark, United States and Japan.

increase, however, was almost entirely in the use of oils and fats for food. In 1948, world consumption (edible and inedible) was only 8.5 kgs. per head against 9.5 kgs. in 1938. The outlook for consumption contains certain important and recognizable elements, particularly, increasing trends in populations; increasing trends in consumption in exporting countries; and limitation of European import supplies mitigated by increased colonial exports. If world consumption per head is to recover to the prewar level, by 1958 world production will have to be increased by 4 million tons, or 20 percent over the average level of 1935/39. This is an enormous increase but would have to be exceeded if consumption in Europe were to recover to the prewar level and the chief vegetable oil exporting countries maintained the increases which have already occurred in their domestic consumption.

9. Conclusions -

(a) Although world production of oils and fats may be expected to increase steadily, the recovery in world exports is likely to take 3 to 5 years more.

(b) Expansion of world exports above the prewar level will consequently take even longer, because the greater production is being domestically consumed.

(c) Exports of vegetable oil-bearing materials can be expected to form a decreasing proportion of the total as processing in the producing countries continues to expand.

(d) This is liable to affect adversely the oilseed processing industries in importing countries, particularly Europe, with the Colonial Powers probably least affected.

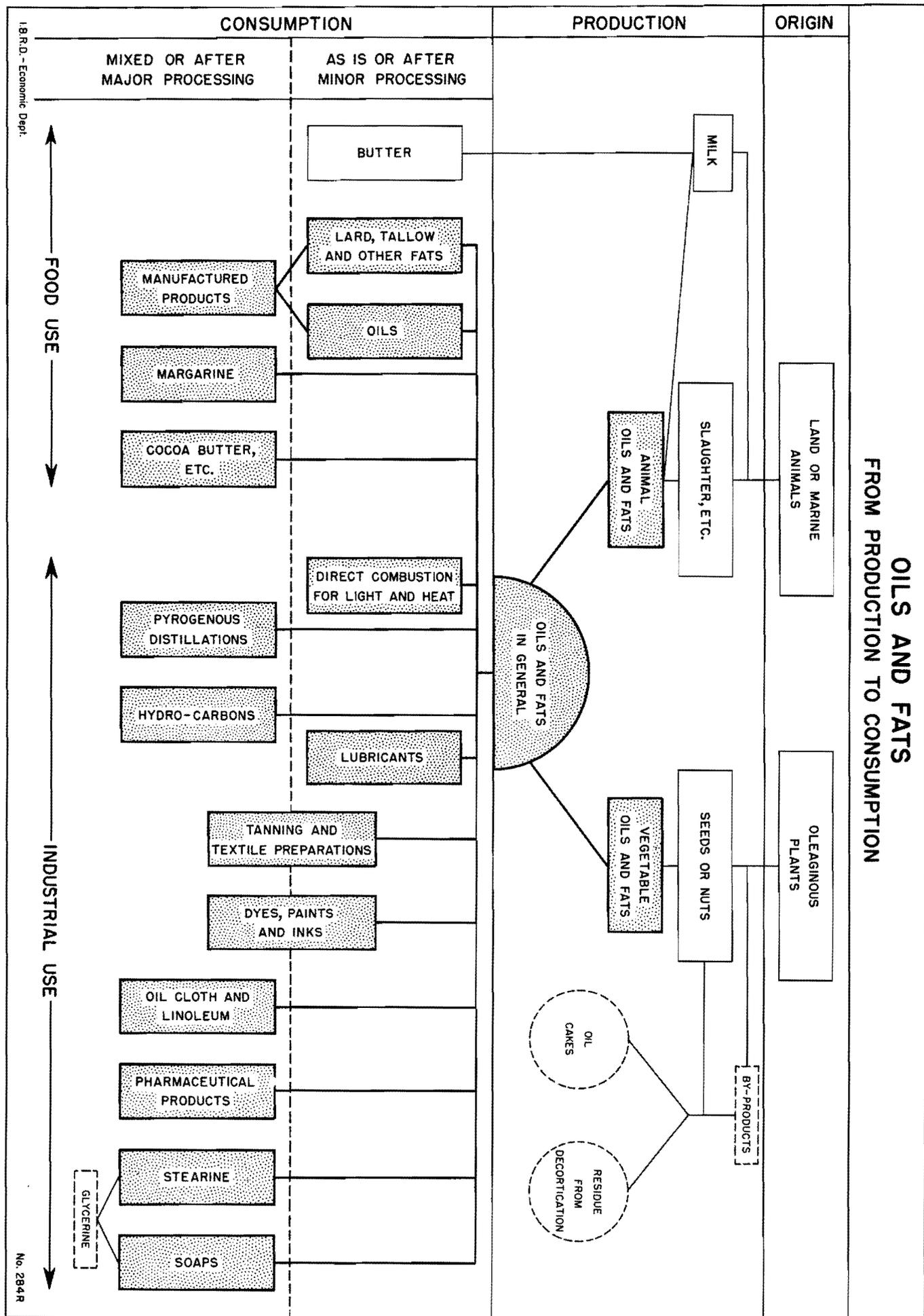
(e) The shortage of import supplies and the lack of foreign exchange have already resulted in a drive by the Colonial Powers towards self-sufficiency in oils and fats, through Colonial development schemes.

(f) Prospects for increased exports in the shorter term lie mainly in the recovery of whale oil, European butter, Manchurian soyabeans, and South East

Asia palm oils.

(g) Development of additional exports over the longer term appear to rest mainly on new palm oil plantations and the large scale mechanized production of groundnuts.

# OILS AND FATS FROM PRODUCTION TO CONSUMPTION



OILS AND FATS

TRENDS IN WORLD PRODUCTION, TRADE, CONSUMPTION AND PRICES

I. GENERAL DEVELOPMENTS IN UTILIZATION

All the oils and fats covered by this study are utilized either for human food or for technical and industrial purposes, but only in very few cases are the individual oils or fats used exclusively for one purpose; butter and lard are used almost exclusively for food whereas tung and castor oils are equally limited to industrial use.

This interchangeability in use between the different oils and fats is a comparatively recent development, resulting from intensive efforts to achieve suitability for food, particularly margarine manufacture. These efforts brought about advances in processing techniques whereby the use of new oils and fats for food, or larger proportions of current varieties, was made possible. Before World War I all extracted oils<sup>1/</sup> were considered suitable only for technical and industrial purposes but by the elimination of free fatty acids and objectionable colors and odors they were made available for food. Similarly, the perfection of the fat hardening process has made possible the wide use of whale oil and certain vegetable oils for food.

In consequence of these developments the degree of suitability of the different oils and fats for direct food consumption or for the manufacture of margarine, compound lard and similar products has become of great importance for their marketability. Former table oils, such as olive oil, now suffer keen competition from extracted oils, such as cottonseed oil. Naturally solid oils, such as coconut and palm oil, which had replaced land animal fats in the manufacture of margarine have had to make room for hardened whale oil and other vegetable oils. As an indirect result of these developments the use of margarine and compound cooking fats has expanded at the expense of butter and lard.

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<sup>1/</sup> e.g. cottonseed, peanut, soyabean, etc.

While technical progress has been made in the use of fats and oils for food equal advances have been made in their technical and industrial uses. Possibilities for their use in this latter field have been widened and substitutability has increased. At the same time, owing to increased demand for oils and fats for food, industry has sought to escape expensive competition with the food manufacturers for their supplies. In consequence, mineral oils have tended to supplant vegetable and animal oils. This is particularly noticeable for lubricating oils and candle making. In 1937 Germany perfected a system of obtaining synthetic fatty acids from coal for the manufacture of soap. Today, detergents, wholly or partly made from petroleum, are finding a ready market at the expense of soap.

Thus, while it is obvious that technical progress has increased the competition between the oils and fats, both as raw materials and as finished products, it has made it increasingly difficult to trace out these competitive relationships. If these relationships were confined to technical suitability in use they would be complicated enough but a number of other factors have to be considered, of which the following are the more important:-

1. Trade policies have been one of the major factors affecting the competitive relationships between fats and oils. The influence of these policies has been most evident in four directions:-

- (a) Where an important national supply has been developed there has been a natural tendency to use the oil produced. (An example is the United Kingdom whaling industry and the high proportion of whale oil used in the manufacture of British margarine.)
- (b) Where preferential tariffs have been established as a result of political ties. (The utilization of colonial products, particularly palm oils and groundnuts, by the colonial powers is the primary example.)
- (c) Where tariff and tax policies have resulted in a switch from one oil to another. An example is the United States where differential processing taxes imposed in 1934 on domestic and foreign oils reduced considerably the volume of coconut oil used in margarine manufacture in favor of cottonseed oil. Certain oils, babassu

and palm kernel, previously used in very small quantities, and consequently exempt from the taxes, became much more important. Further, excise taxes in many States of the USA are imposed on margarine containing imported materials.

- (d) Where private capital invested in oil processing industries was interrelated with capital invested in the production of oil bearing materials this influenced the source of oils used. (The primary example is the Lever group.)

2. In many cases fats and oils are only by-products so that the utilization of the main product determines the availability of the by-products. Examples of these are cottonseed oil, tallow and lard.

3. The production of many vegetable oils is attended by the production of valuable feeding stuffs, such as oilcake and meal. The value of these by-products is often such as to determine the choice of oil-bearing material and thus the oil utilized.

4. There is often a connection between the production of one oil or fat and another which in turn may determine the utilization of finished fats. The Danish situation illustrates this connection. Denmark imports vegetable oil-bearing material; the oil is utilized in the manufacture of margarine and the by-products, oilcake and meal, are used for feeding dairy cattle. Large quantities of butter are made from the milk obtained from the dairy cattle. The resulting skimmed milk, a by-product of butter manufacture, is used for feeding pigs, from which appreciable quantities of lard are obtained. Denmark consumes the margarine domestically and exports the butter and lard.

5. Many of the oils and fats enter into consumption only after a number of them have been worked up together. Owing to their substitutability, the combinations of oils used is very variable and price influence is strong. The relative cheapness of palm and whale oil and the marked expansion in their use is the outstanding example.

II. PREWAR TRENDS

A. Production

Oils and fats are produced throughout every continent and are obtained from fishing in most seas and whaling in the Antarctic Ocean. Without the presentation of voluminous statistics it is impossible to illustrate fully the relative importance of production in all countries, but some idea of the main producing centers can be obtained from the following figures:-

Table 1 - Relative Shares of World Production  
(percent of world totals)

	<u>Vegetable</u>	<u>Average 1935/39</u>	
		<u>Land Animal and Marine</u>	<u>Total</u>
Asia	55	9	35
All Europe (ex. USSR)	8	38	23
USA and Canada	9	33	18
USSR	8	9	8
Africa	12	1	7
Latin America	7	5	6
Oceania	1	5	3
WORLD TOTAL	100	100	100

World production of oils and fats increased materially between the wars, rising from an average of about 16.8 million metric tons in 1924/28 to around 19.8 million tons in 1935/39. The expansion, however, was very different as between the various oils and fats, the increases in the major groups being as follows:-

Table 2 - Estimated World Production

	<u>Average</u> <u>1924/28</u> (million metric tons)	<u>Average</u> <u>1935/39</u>	<u>Percentage</u> <u>Increase</u> %
Vegetable oils	9.5	11.4	+ 20
Land animal fats	6.9	7.6	+ 11
Marine oils	0.4	0.8	+ 97
Total oils and fats	16.8	19.8	+ 18

The increase in vegetable oil production was variable also within itself. Edible vegetable oils, which accounted for about 55 percent of the

total at the beginning and at the end of the period, increased by 20 percent. This expansion was mainly due to advances in processing techniques and increasing demand for margarine. Palm oils increased by around 40 percent but industrial vegetable oils showed only a slight advance, attributable solely to the minor oils in the category. The introduction of the plantation system in the Far East for the production of palm and palm kernel oil was the means by which the rapid expansion of those oils was obtained. The outstanding increases in the vegetable oil group were in coconut (460 thousand tons), groundnut (450 thousand tons), palm and palm kernel (245 thousand tons) and cottonseed (215 thousand tons).

The trends developed by the three animal fats were quite independent of each other. The increase in the production of land animal fats was almost entirely due to butter, which showed an advance of 55 percent (1225 thousand tons). The increase in butter production was brought about by the rapid expansion of dairying all over the world. Lard production increased very slightly but tallow showed a decline of around 28 percent (550 thousand tons). The fact that lard production increased only very slightly was due to a decline in United States production owing to severe droughts in 1934 and 1936 and the replacement of lard by vegetable oils in United States consumption, which more than offset an increase in lard production in Europe. Tallow production was depressed by the increasing supply of whale oil with which it competed.

The increase in marine oils was largely attributable to whale oil, production of which increased about two and a half times; the advance in fish oils was also considerable. The great increase in whale oil production was due to the development of hydro-generation which made this oil suitable for the manufacture of margarine. Until the middle 1930's Norway and the United Kingdom were the principal countries operating whaling fleets. However, after

this date Japan and Germany sent out fleets because they were seeking new oil supplies without the expenditure of foreign exchange.

B. Exports

A great many countries share in the exports of oils and fats, but there is also a large degree of specialization. The following table indicates the relative importance of the exports of certain oils and fats from the chief exporting areas:-

Table 3 - Exports as Percentage of World Exports  
Average 1935/39

	<u>Vegetable Oils</u>			<u>Butter</u>	<u>Whale Oil d/</u>
	<u>Edible</u>	<u>Palm</u>	<u>Industrial</u>		
Europe	7 a/			50 c/	80 e/
Africa	30	27			
Australia and New Zealand				40	
Netherlands East Indies		32			
India/Pakistan	25 b/		13		
China and Man- churia	30		10		
United States					1
Philippines		20			
Argentina			57		2
Brazil			6		

a/ Mainly the Balkan countries, Spain, Portugal, and Greece.

b/ Mainly groundnuts.

c/ Mainly Denmark and the Netherlands.

d/ Production figures.

e/ Mainly Norway, United Kingdom, and Germany.

The largest producers of oils and fats do not invariably export the largest proportion of their output. The following table indicates the relative importance of exports in relation to production for the chief producing areas:-

Table 4 - Exports as Percentage of Production  
Average 1935/39

	<u>Vegetable Oils</u>	<u>Land Animal &amp; Marine</u>	<u>Total</u>
Africa	75	-	70
Oceania	50	60	67
Latin America	70	18	56
Asia	40	-	36
Europe (excl. USSR)	10	10	10
United States and Canada	8	5	5

Although production of oils and fats expanded by some 18 percent in the decade before the war, world exports did not show as marked an advance. However, exports in 1935/39, on average, accounted for 33 percent of production against 30 percent in 1924/28. The following figures illustrate the trend in exports:-

Table 5 - World Exports

	<u>Average</u> <u>1924/28</u> (million metric tons)	<u>Average</u> <u>1935/39</u>	<u>Percentage</u> <u>Increase</u> %
Vegetable oils	4.07	4.49	+ 10
Land Animal fats	1.12	0.83	- 26(decline)
Marine oils	<u>0.34</u>	<u>0.66</u>	+ <u>95</u>
Total fats & oils	<u>5.53</u>	<u>5.98</u>	+ <u>8</u>

The increase of only 420,000 tons in world exports of vegetable oils, compared with an increase of 1,900,000 tons in production in the same period, reflected the already growing tendency to increase domestic consumption in the chief producing areas. The increase in exports was largely among palm oils, which advanced 29 percent because of the expanding use in margarine and soap. The small increase of 5 percent in exports of edible vegetable oils was due to the offsetting of an expansion of 25 percent in groundnut by a reduction in trade in the other main oils in that category. Exports of industrial vegetable oils declined by 11 percent, mainly owing to a reduction in linseed production.

The decline in world exports of land animal fats and the marked increase in exports of marine oils was largely due to (a) the replacement of

tallow by whale oil, and (b) the increased lard production in Europe which reduced the demand for imports. Increased production of lard in Europe not only led to a decline in world trade in lard during the thirties but resulted in a shift in importance among sources of supply. The United States lost its dominant position and intra-European trade became relatively as important. Butter exports, alone among the land animal fats, increased during the period by 13 percent which, however, was small when measured against the 55 percent increase in world production of butter.

Within world exports of oils and fats the importance of Dominion and Colonial supplies increased rapidly, particularly with the expansion of palm oils and groundnuts. In the years just prior to the outbreak of war exports from these areas accounted for around 50 percent of world exports.

The relative size of the Dominion and Colonial exports of oils and fats, including whale oil, is shown in the following figures:-

Table 6 - Exports from Dominions and Colonies, Average 1934/38  
(thousand metric tons)

British Dominions	725
British Colonies & Man- dates	850
Condominiums	<u>31</u>
Total British	<u>1606</u>
Netherlands East Indies	531
French Colonies & Man- dates	388
Belgian Congo	99
Portuguese Colonies	<u>62</u>
Total Other	<u>1080</u>
GRAND TOTAL	<u>2686</u>
WORLD EXPORTS a/	<u>5457</u>

a/ Average 1935/39.

### C. Imports

Eight countries (as in Table 7 below) have accounted for 75 to 80 percent of world imports of oils and fats in all forms. Together, in 1937, they took 80 percent of the vegetable oils (some one-quarter to one-third in the form of oil); of the eight countries, two (United Kingdom and Germany)

took 76 percent of the world imports of land animal fats, and the same two countries received 54 percent of the marine oils. The following table gives particulars for the chief importing countries:-

Table 7 - World Imports of Oils and Fats  
(thousand metric tons - in terms of oil)

	1937			Total
	Vegetable	Land Animal	Marine	
United Kingdom	709	504	197	1410
Germany	672	143	182	997
France	626	10	7	643
Netherlands	317	28	83	428
Italy	234	10	3	247
Denmark	137	1	40	178
United States	975	14	69	1058
Japan	163	4	-	167
Total 8 Countries	<u>3833</u>	<u>714</u>	<u>581</u>	<u>5128</u>
TOTAL WORLD IMPORTS	<u>4842</u>	<u>850</u>	<u>692</u>	<u>6384</u>

Imports into the United States were mainly in the form of oil, owing to duty free purchases of coconut oil from the Philippines. Imports of oil, as oil, into the United States alone accounted for 54 percent of imports in that form into the eight countries during 1937, so that imports of oil in the form of vegetable oil-bearing materials into the remaining seven countries amounted to 82 percent of their total imports. Imports of vegetable oil-bearing material by these countries were bound up with exports of vegetable oils. The following figures illustrate the trade of the eight countries in vegetable oils:-

Table 8 - Vegetable Oil Trade of Chief Importing Countries  
(thousand metric tons)

	1937		Exports As Oil
	Imports Oil Equivalents	As Oil	
Netherlands	250	67	207
United Kingdom	492	217	104
France	550	76	94
Denmark	130	7	66
Germany	571	101	40
Italy	169	65	24

Table 8 (cont'd.)

	1937		
	<u>Imports</u>	<u>As Oil</u>	<u>Exports</u>
	<u>Oil</u> <u>Equivalents</u>		<u>As Oil</u>
Japan	151	12	27
United States	<u>410</u>	<u>565</u>	<u>12</u>
Total 8 Countries	<u>2723</u>	<u>1110</u>	<u>574</u>

An important consideration influencing imports of oils and fats in the form of vegetable oil-bearing materials, was the need of importing countries for oilcakes. These oilcakes, so important to the dairy industry and on which the Danish and Dutch export trade in butter was so largely based, were obtained to an important extent as a by-product of the seed crushing industries. The following figures of imports illustrate the position:-

Table 9 - Imports of Oilcake into the Chief Importing Countries  
(thousand metric tons)

	1937			
	(1)	(2)	(3)	(4)
	<u>Oilcake</u> <u>as such</u>	<u>Oilcake in</u> <u>Imported Seeds</u> <u>and Nuts</u>	<u>Total</u>	<u>Col. (2) as a</u> <u>Percentage of</u> <u>Col. (3)</u>
United Kingdom	647	1153	1800	64
Germany	109	1099	1208	91
France	91	906	997	90
Netherlands	175	486	661	73
Denmark	606	315	921	34
Italy	-	254	254	100
Japan	541	783	1324	59
United States	<u>161</u>	<u>595</u>	<u>756</u>	<u>79</u>
Total 8 Countries	<u>2330</u>	<u>5591</u>	<u>7921</u>	<u>71</u>

World imports of vegetable oils increased from an average of 3729 thousand metric tons in 1924/28 to 4842 thousand tons in 1937. In the middle twenties, vegetable oil-bearing materials (in terms of oil) accounted for 68 percent of world imports of vegetable oils but for 73 percent of imports into the eight chief importing countries (78 percent, if the United States is excluded). By 1937, vegetable oil-bearing materials (in terms of oil) accounted for 67 percent of world imports of vegetable oils but for 71

percent of imports into the eight chief importing countries (82 percent, if the United States is excluded). Two trends are thus disclosed: (a) a growing diffusion of imports with the creation of new crushing and refining industries, and (b) an increasing tendency for the chief importing countries to obtain more of their supplies in the form of vegetable oil-bearing materials. The following figures illustrate the trends in imports of vegetable oils:-

Table 10A - Imports of Vegetable Oils into the Chief Importing Countries  
(thousand metric tons)

	<u>Average 1924/28</u>			<u>1937</u>		
	<u>Oil Equiv- alents</u>	<u>Oils</u>	<u>Total</u>	<u>Oil Equiv- alents</u>	<u>Oils</u>	<u>Total</u>
Germany	547	78	625	571	101	672
United Kingdom	426	193	619	492	217	709
France	371	62	433	550	76	626
Netherlands	254	104	358	250	67	317
Italy	114	78	192	169	65	234
Denmark	77	19	96	130	7	137
United States	292	274	566	410	565	975
Japan	120	2	122	151	12	163
Total 8 Countries	<u>2201</u>	<u>810</u>	<u>3011</u>	<u>2723</u>	<u>1110</u>	<u>3833</u>
WORLD TOTAL	<u>2517</u>	<u>1212</u>	<u>3729</u>	<u>3243</u>	<u>1599</u>	<u>4842</u>

Only two countries, the United Kingdom and Germany, accounted between them for 61 percent of world imports of land animal fats in the period 1924/28. The United Kingdom alone took 40 percent of the total. The United Kingdom increased its share, by 1937, to 60 percent as German imports declined under a policy of self-sufficiency. The following figures indicate trends in imports of land animal fats:-

Table 10B - Imports of Land Animal Fats into the Chief Importing Countries  
(thousand metric tons)

	<u>Average 1924/28</u>			<u>1937</u>		
	<u>Butter</u>	<u>Lard</u>	<u>Tallow</u>	<u>Butter</u>	<u>Lard</u>	<u>Tallow</u>
United Kingdom	234	120	67	383	75	46
Germany	78	106	55	70	34	39
France	-	21	12	-	-	10
Netherlands	-	-	61	-	2	26
Denmark	-	-	4	-	-	1
Italy	1	3	11	1	1	8
United States	3	-	7	3	-	11
Japan	-	-	14	-	-	4
Total 8 Countries	<u>316</u>	<u>250</u>	<u>231</u>	<u>457</u>	<u>112</u>	<u>145</u>
WORLD TOTAL	<u>362</u>	<u>410</u>	<u>336</u>	<u>493</u>	<u>137</u>	<u>213</u>

Production and trade in marine oils grew rapidly after World War I. The eight major importing countries for oils and fats took around 80 percent of the world's whale oil production in 1937; the United Kingdom and Germany imported approximately 60 percent. The same eight countries took around 70 percent of world imports of fish oils, which were more diffused than those of whale oil. The following figures illustrate the development of imports of marine oils:-

Table 100 - Imports of Marine Oils into the Chief Importing Countries  
(thousand metric tons)

	<u>Average 1924/28</u>			<u>1937</u>		
	<u>Whale Oil</u>	<u>Fish Oil*</u>	<u>Total</u>	<u>Whale Oil</u>	<u>Fish Oil</u>	<u>Total</u>
United Kingdom	55	3	58	174	23	197
Germany	75	--	75	138	44	182
France	2	10	12	1	6	7
Netherlands	42	1	43	83	--	83
Denmark	9	3	12	33	7	40
Italy	--	3	3	--	3	3
United States	22	24	46	25	2	27
Japan	--	--	--	--	--	--
Total 8 Countries	<u>205</u>	<u>44</u>	<u>249</u>	<u>454</u>	<u>85</u>	<u>539</u>
WORLD TOTAL	<u>223</u> a/	<u>75</u>	<u>298</u>	<u>544</u> a/	<u>120</u>	<u>664</u>

The eight great importing countries thus developed their trade in oils and fats on different lines. They fell roughly into the following groups:-

(a) Exporters of Dairy Products (Netherlands and Denmark)

The countries in this group imported oilseeds for the extraction of oilcake for feeding to cattle. The extraction of oil was, perhaps, secondary but brought with it the development of very important margarine industries. The development of techniques in the processing of whale oil led to the increased use of whale oil for margarine and soap manufacture and increased the exportable surplus of vegetable oils after the needs of the domestic manufacturers were satisfied. Further, with the increased production of margarine, either additional quantities of butter were released for export or surplus margarine became available for export.

a/ Production.  
\* Including liver oils.

(b) Colonial and Tariff Preference Countries (USA, UK and France)

The import policies of the countries in this group became most marked at the beginning of the thirties.

The United States was by far the most important importer of vegetable oils as such; they accounted in 1937 for 58 percent of imports of all vegetable oils (including those domestically extracted from imported seed), the proportion having been continuously more than half after 1929. The chief reason for this was the preferential treatment accorded coconut oil from the Philippines. Whale oil was not utilized in the United States to anything like the extent common in European countries and its use was considerably exceeded by other marine oils. The small utilization of whale oil was due to the great domestic output of both vegetable and land animal oils and fats; there were appreciable exports of land animal fats, particularly lard.

The import and export trade of the United Kingdom was extremely complex and covered almost the entire range of oils and fats. There was also a very important trade in oils in the form of soap, paints, linoleum, biscuits, confectionery, etc. On the United Kingdom's return to the Gold Standard in 1925 the export business declined and imports increased; the position was reversed after its abandonment in 1931. Empire preference was established in 1932 and under it imports of butter and oilseeds, particularly the former, expanded. Imports of lard and margarine from non-Commonwealth countries declined considerably. With increasing activity by the United Kingdom in whaling, imports of whale oil expanded rapidly enabling margarine production to increase to the point where imports of margarine ceased.

France, like the United Kingdom, conducted a very varied trade in oils and fats. In 1933 a number of measures were taken to protect imports of oilseeds from the colonies, by import duties and by preference duties, particularly, on butter and marine oils. These measures were supplemented by

an import quota and licencing system. Imports of margarine, butter, lard, and marine oils declined considerably, and France became in 1936 a net exporter of margarine, butter, and lard. Almost all imports of vegetable oils were in the form of oil-bearing material, imports of which increased appreciably after 1933. In consequence, the small exports of vegetable oils tended to increase but exports of oilcake declined because of increasing demands by the expanding dairy industry.

(c) Others

German trade was contracting under the movement toward greater self-sufficiency. However, imports in the thirties still accounted for about half German supplies. The one exception to the declining trend in imports of fats and oils was in the case of whale oil.

Italy, although the second largest producer of olive oil in the world, imported olive oil and other vegetable oils. Imports of land animal and marine animal oils were relatively small. Imports of vegetable oils were mainly in the form of seeds, the bulk being for oil for industrial purposes and resulted in an export surplus of oilcake. Imports fluctuated considerably and were largely determined by the size of the olive harvest.

Japan imported almost all vegetable oils in the form of seed and was developing an export trade in vegetable oils. Japan had a rapidly expanding whaling industry; exports of whale oil, however, were relatively small when compared with Japanese exports of other marine oils.

D. Consumption

World consumption of oils and fats showed an upward trend until the outbreak of World War II, demand in general keeping pace with production. The increase, however, was almost entirely in the use of oils and fats for food and the proportion of food fats to total consumption was constantly rising. This was primarily due to the improvement in production methods for

margarine and compound lard and the consequent expansion in demand for these products. Two factors contributed to make the increase in production of manufactured fats possible:-

(a) Improved oil refining methods (e.g. soyabeans) and the perfecting of the fat hardening process for whale oil and vegetable oils made a larger variety of fats and oils available for food in a form more suitable for general consumption.

(b) Improved techniques also made a higher proportion of oil from oil-bearing material suitable for food. (At the beginning of the century 35 percent of Italian olive oil production could be used only for industrial purposes but now only 5 percent is thus limited in use.)

Although consumption of fats and oils for food generally was increasing and each variety shared in the increase, consumption of the various oils and fats in different consuming centers showed different trends. This was largely due to the fact that improved refining and processing methods made nearly all kinds of oils suitable for food and, consequently, convenience of supply as well as price largely determined the variety used. This is illustrated by the very different proportions of different oils and fats entering into the manufacture of margarine in different countries:-

Table 11 - Fats and Oils Used in the Manufacture of Margarine  
in Certain Countries  
(percentages)

	U.S.		U.K.		Germany a/		Denmark a/	
	1928	1936	1928	1936	1928	1935	1928	1936
<u>I. Vegetable Oils</u>								
Coconut	60	46	21	11	33	25	43	38
Groundnut	2	1	10	3	11	7	6	1
Cottonseed	10	34	1	-	10	9	7	-
Soyabean	-	5	11	7	7	3	7	17
Others	<u>1</u>	<u>6</u>	<u>35</u>	<u>22</u>	<u>11</u>	<u>8</u>	<u>19</u>	<u>17</u>
Sub-Total	73	92	78	43	72	52	82	73
<u>II. Animal Fats and Oils</u>								
Land	27	8	6	2	11	6	7	5
Marine	<u>-</u>	<u>-</u>	<u>16</u>	<u>55</u>	<u>17</u>	<u>41</u>	<u>11</u>	<u>22</u>
Sub-Total	27	8	22	57	28	47	18	27
TOTAL	100	100	100	100	100	100	100	100

a/ 1946 not available.

Source: International Institute of Agriculture and Commonwealth Economic Committee.

The greater part of the consumption of non-food oils and fats is by the soap making industry with considerably smaller amounts by other industries such as paints and varnish, linoleum and oilcloth and steel. Western Europe and North America have been the centers of soap manufacture and with their high levels of industrialization are also the chief consumers of oils and fats for other industrial and technical purposes. World production of soap amounted to around 6 million tons a year prewar and utilized about 3 million tons of oils and fats.

The increasing demand for food fats resulted in industry making intensive efforts to become independent of oils suitable for food. Since the number of non-food oils and their tonnage became progressively less industry sought to use increasing amounts of the less valuable oils and fats. Industry

also turned from vegetable oils to mineral oils and synthetic oils (fatty acids from coal); mineral oils supplanted vegetable oils for lubrication and paraffin took the place of stearin for candle making.

As with food fats, the choice of varieties of the different oils and fats used by industry in different countries varied considerably. The following figures illustrate the differences for certain representative countries in raw materials used for soap manufacture:-

Table 12 - Proportion of Different Oils and Fats Used in the  
Manufacture of Soap in Certain Countries  
(percentages)

	<u>United States</u> <u>1937</u>	<u>United Kingdom</u> <u>1937</u>	<u>Germany</u> <u>1933</u>	<u>Denmark</u> <u>1935</u>
Coconut	14	9	4	13
Palm	8 )	25	14	-
Palm kernel	6 )	13	25	-
Soyabean	-	1 )	7	45
Cottonseed	10	- )	1	-
Other vegetable <u>a/</u>	<u>6</u>	<u>11</u>	<u>11</u>	<u>7</u>
Total vegetable	44	59	62	65
Total Land Animal	39	19	21	28
Total Marine Animal	11	16	6	-
Other materials	<u>6</u>	<u>6</u>	<u>11</u>	<u>7</u>

a/ Includes secondary oils and fats.

Source: International Institute of Agriculture and  
Commonwealth Economic Committee

### III. THE WAR YEARS

Net imports of oils and fats by Europe excluding USSR before the war had been around 3-1/2 million tons or 61 percent of the world export supply. When Germany over-ran most of Continental Europe it cut off part of the world market which imported annually around 2 million tons of oils and fats. The result of this was a temporary abundance to the rest of the world, distribution being, of course, affected by the difficulty of obtaining appropriate shipping.

This position only lasted until Japan came into the war when exports from many Far Eastern countries were cut off. Japan gained control of about 40 percent of the vegetable oil production of the Far East, the chief producing

center. These supplies were greatly in excess of Japan's ability to utilize and production, particularly of palm oil and soya, fell off.

In addition, India and Argentina reduced oilseed acreage in favor of essential food crops. French West Africa virtually ceased exports of ground-nuts and palm oil under the Vichy Regime. The floating factories producing whale oil had either been sunk or turned to other uses.

These events transformed completely the situation for oils and fats and although demand for imports was greatly reduced supplies were even more drastically curtailed. Little could be done to improve the situation and even an increase in the United States of about 1 million tons in production of oils and fats over the prewar level did not correct the situation. The effect was an increase in crushing capacity in the Western Hemisphere with the increased production of edible oils in the United States and the industrial oils in Latin America.

In the five years of the war there was an absolutely greater decline in production than the expansion which took place in the preceding decade. World trade was even more seriously dislocated. While the fall in production amounted to 4.1 million tons, the fall in exports was nearly as large amounting to 3.45 million tons:-

<u>Table 13A - Estimated World Production</u>			
	Average		Percentage
	<u>1935/39</u>	<u>1945</u>	<u>Decline</u>
	(million metric tons)		%
Vegetable oils	11.4	9.2	- 19
Land animal fats	7.6	6.3	- 17
Marine oils	<u>0.8</u>	<u>0.2</u>	- <u>75</u>
Total oils & fats	<u>19.8</u>	<u>15.7</u>	- <u>21</u>

Table 13B - Estimated World Exports

	Average <u>1935/39</u> (million metric tons)	<u>1945</u>	Percentage Decline %
Vegetable oils	4.49	1.59	- 65
Land animal fats	0.83	0.82	- 1
Marine oils	0.66	0.12	- 82
Total fats & oils	<u>5.98</u>	<u>2.53</u>	- <u>58</u>

The decline in production of vegetable oils was mainly attributable to palm oils which were reduced by 65 percent; in trade the drop was slightly higher at 68 percent. Production of the other two groups of vegetable oils underwent only small declines. Edible vegetable oils fell by 8 percent largely due to a greater reduction of 34 percent in cottonseed; output of groundnut oil was virtually unchanged and production of soya actually increased. Industrial vegetable oil production fell by 6 percent almost entirely due to a drop in linseed output after 1943 as the acreage was used for increased food production. Trade in these two groups, however, showed a very different picture. Industrial vegetable oil exports fell by 65 percent owing to reduced production, particularly linseed, and shipping difficulties. The edible vegetable oils fell by 60 percent; the increased production in the United States which largely counter-balanced losses elsewhere was consumed domestically. Thus the fall in trade in vegetable oils was larger in absolute magnitude than it was in production.<sup>1/</sup>

The prewar production trends for land animal fats was reversed during the war. Butter and lard declined by 25 percent and 20 percent respectively owing to reduced output in Europe because of the feed shortage. Butter exports fell by 58 percent while there was a phenomenal increase in lard exports, particularly from the United States to the United Kingdom, under Lend-Lease. World production of tallow actually increased by 7 percent in order to supplement reduced supplies of palm and whale oils, against competition

<sup>1/</sup> The trade in a few minor vegetable oils actually increased: edible, sunflower and sesame; industrial, citicica; and palm, babassu.

of which it had been losing ground before the war; increased domestic use caused exports to fall by 28 percent. However, as may be seen from Tables 13A and 13B, the increased exports of lard almost counter-balanced the declines in other animal fats although production as a whole fell considerably.

With extensive hostilities at sea whaling virtually ceased during the war and was not resumed until 1945/46 when only nine factories were in operation against thirty-five prewar; the small trade movements were mainly from stock. Production of fish oils declined by 49 percent and exports reflected the decreased production; however, these reductions mask increases in Icelandic production and exports of fish oil by 28 percent and 14 percent, respectively.

Normal consumption patterns were disrupted by the war. World consumption of fats and oils (food and non-food) which in 1938 was around 9.5 kgs. per head had fallen to about 7.5 kgs. in 1945. Continental European consumption fell by about 55 percent to 8.6 kgs. in 1945/46, as shown in the following figures:-

Table 14 - Per Capita Consumption  
(kgs.)

	<u>Average</u> <u>1935/38</u>	<u>1945/46</u>
Northern and Western Europe <u>a/</u>	23.6	15.2
Central Europe <u>b/</u>	22.1	6.1
Mediterranean <u>c/</u>	16.4	8.2
Danube Basin <u>d/</u>	<u>8.6</u>	<u>5.7</u>
Total Europe	<u>19.1</u>	<u>8.6</u>

a/ France, Benelux, Switzerland, Finland and Scandinavian countries.

b/ Germany, Austria, Czechoslovakia and Poland.

c/ Greece, Italy, Portugal and Spain.

d/ Hungary, Rumania, Bulgaria and Yugoslavia.

Consumption in the United States, however, showed little change from an average of 30.0 kgs. for 1935/39 to 28.7 kgs. in 1945/46.

#### IV. POSTWAR TRENDS AND FUTURE OUTLOOK

##### A. Production

World production of oils and fats has shown a remarkable recovery since the termination of hostilities. The estimated world production in 1948 is put at little under the prewar level. Recovery, however, has not been uniform among the different oils and fats. The over-all figures in fact conceal the slow recovery of some oils and fats, because of actual expansion above the prewar level in others. The following figures indicate the recovery in production:-

Table 15 - Estimated World Production  
Average 1950  
1935/39 1948 (forecast)  
(million metric tons)

Vegetable Oils	11.4	12.2	12.4
Land animal fats	7.6	6.6	7.0
Marine oils	<u>0.8</u>	<u>0.5</u>	<u>0.6</u>
Total oils and fats	<u>19.8</u>	<u>19.3</u>	<u>20.0</u>

Vegetable oil production is now above the prewar level and continues to increase. It would be considerably above prewar if the output of palm oils had shown the same degree of recovery as the other vegetable oils. Production of edible and industrial vegetable oils are now 17 percent and 7 percent above their prewar levels but palm oils are 18 percent below. Cottonseed oil is the only edible vegetable oil at present produced in smaller quantity than prewar, while tung and perilla are the only industrial vegetable oils which have not fully recovered. Among the palm oils on the other hand, only babassu, a minor oil which was developed during the war, is above prewar.

Among the land animal fats, butter and lard are still 21 percent and 17 percent below prewar but tallow, owing to the continued shortage of palm and whale oils, is 10 percent above.

Although marine oils are recovering rapidly, whale and fish oils are still 32 percent and 34 percent below the average output for 1935/39.

Since the war the International Whaling Agreement limits the Antarctic operations to a specific period (December 15 to April 1, inclusive) and the number of baleen whales to 16,000 blue whale units (oil equivalent 280 - 300 thousand tons). Under the Agreement world production is approximately 70 percent of prewar.

Estimates for production of oils and fats in 1950 put the world total at still only very slightly above the prewar level. Edible and industrial vegetable oils are expected to be 14 percent and 4 percent above prewar, with palm oils only slightly below. Among the edible oils, production of soyabeans is expected to decline and a lower olive crop is anticipated as the 1948 output was a record. All palm oils, with the exception of coconut oil are expected to have passed the prewar level. Among the industrial oils, linseed and castor output are expected to decline; linseed production in 1948 appeared adequate for current demand. Recovery in land and marine animal fats will be slow and it is anticipated that production will still be 8 percent and 24 percent under prewar respectively.

It is still too early to be able to make an estimate of the possible increase after 1950 in production which will result from current rehabilitation and development plans. However, these plans are very wide in scope as the following points illustrate:-

(a) Rehabilitation

1. Palm oils: Netherlands East Indies and Malaya.
2. Soyabeans: Manchuria.
3. Whale oil: Possible lifting of restrictions.
4. Fish oil : Japan.
5. Animal fats: Europe.

(b) Development

1. Palm oils:<sup>1/</sup> Research into methods of cracking babassu kernels (Brazil). Improved methods of oil recovery in Nigeria. New production in Indo-China, Burma, North Borneo, and Africa.
2. Groundnuts:<sup>2/</sup> New production in Africa, Brazil, Burma, Indo-China, Australia, and New Guinea.

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<sup>1/</sup> Palm oil has the highest yield of oil per hectare of any variety and is one of the cheapest, if not the cheapest oil to produce. It has the further attraction of being suitable for many purposes including the manufacture of margarine, shortening and other edible fats as well as soap, candle making and tinsplate.

<sup>2/</sup> Groundnuts have the highest yield of oil per hectare of the annual oil crops and are particularly suitable for all edible purposes and many industrial and technical uses. In addition, groundnuts provide a valuable by-product in the form of oilcake which adds to the profitability of their production.

# YIELDS OF CERTAIN OILS AND FATS

VEGETABLE    
  MARINE ANIMAL    
  LAND ANIMAL

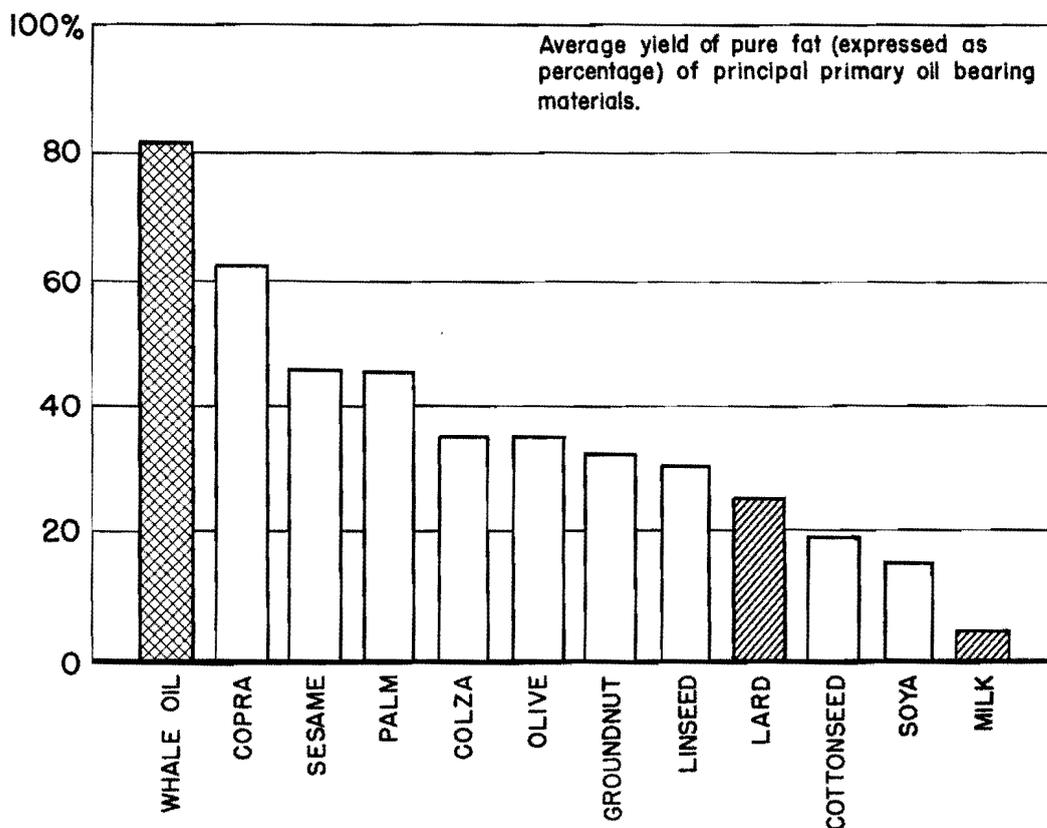
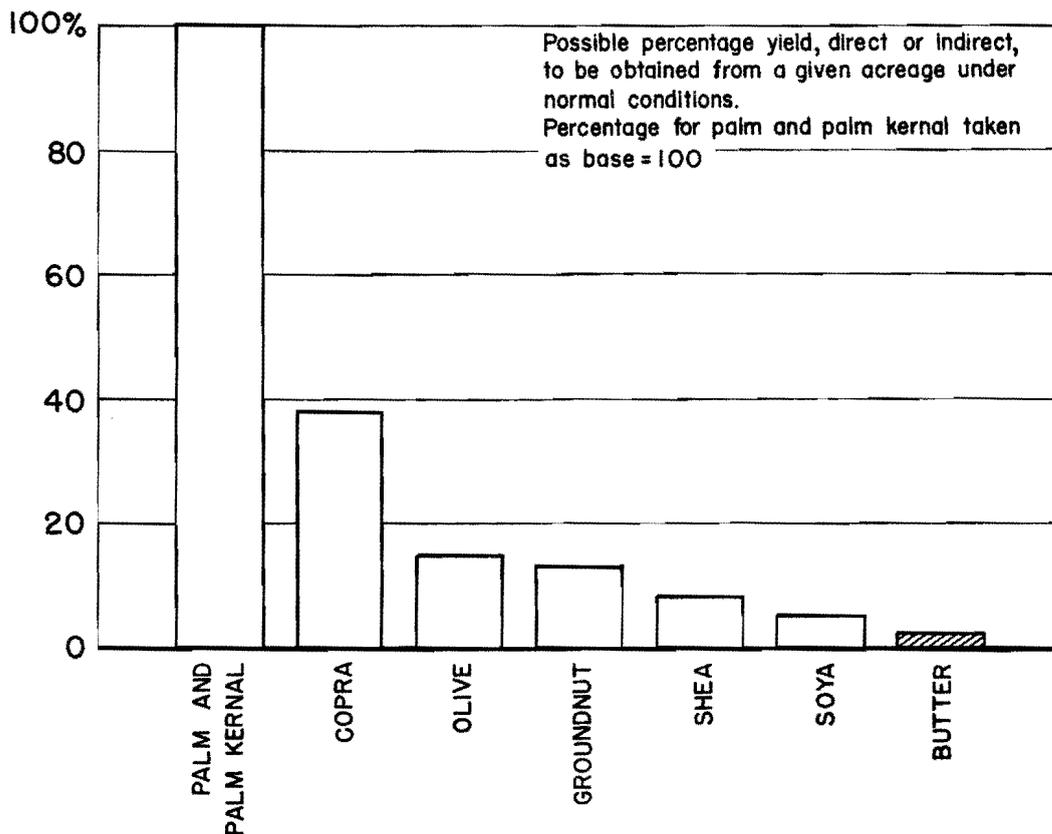


Table 16 - ESTIMATED WORLD PRODUCTION a/  
(thousand metric tons)  
(oil or fat equivalent)

	1924/28 average	1935/39 average	1945	1948	1950
<b>Edible Vegetable Oils -</b>					
Groundnut	1048	1500	1483	1737	1850
Soyabean	1116	1220	1329	1553	1450
Cottonseed	1298	1515	1007	1403	1500
Sunflower	453	572	722	875	900
Sesame	564	618	532	632	650
Olive	752	871	701	1179	850
	<u>5231</u>	<u>6296</u>	<u>5774</u>	<u>7379</u>	<u>7200</u>
<b>Palm Oils -</b>					
Coconut	1002	1461	204	1089	1350
Palm oil	455	617	380	552	625
Palm kernels	265	349	236	327	375
Babassu	16	27	47	44	40
	<u>1738</u>	<u>2454</u>	<u>867</u>	<u>2012</u>	<u>2390</u>
<b>Industrial Oils -</b>					
Linseed	1170	1052	924	1100	1050
Castor	83	183	179	209	180
Rapeseed	1227	1236	1269	1400	1400
Citicica		9	14	18	18
Tung	55	136	82	120	135
Perilla	4	59	45	9	9
	<u>2539</u>	<u>2675</u>	<u>2513</u>	<u>2856</u>	<u>2792</u>
Total Vegetable Oils	9508	11425	9154	12247	12382
<b>Animal Fats -</b>					
Butter	2225	3450	2572	2700	2850
Lard	2630	2700	2177	2250	2400
Tallow	2000	1450	1560	1600	1700
	<u>6855</u>	<u>7600</u>	<u>6309</u>	<u>6550</u>	<u>6950</u>
<b>Marine Oils -</b>					
Whale	224	531	40	360	370
Fish	200	286	145	190	250
	<u>424</u>	<u>817</u>	<u>185</u>	<u>550</u>	<u>620</u>
<b>ESTIMATED WORLD TOTAL</b>	<u>16787</u>	<u>19842</u>	<u>15648</u>	<u>19347</u>	<u>19952</u>

a/ World production figures are estimated for visible fats and oils only. As the data available are very limited, particularly for animal fats, many figures must be considered rough estimates.

Source: U.S. Department of Agriculture, OFAR,  
Vegetable Oils and Oilseeds, CEC, London, 1948.  
Unilever Estimates, January, 1949.

B. Exports

Although total world production of oils and fats has now recovered virtually to the prewar level, world exports have shown nothing like the same strength. The following figures indicate the extent of recovery in world exports:-

Table 17 - Estimated World Exports

	Average <u>1935/39</u>	<u>1948</u>	<u>1950(Forecast)</u>
	(million metric tons)		
Vegetable oils	4.49	2.60	3.22
Land animal fats	0.83	0.62	0.65
Marine oils	<u>0.66</u>	<u>0.37</u>	<u>0.42</u>
Total oils and fats	<u>5.98</u>	<u>3.59</u>	<u>4.29</u>

World exports of edible vegetable oils are estimated for 1948 at 57 percent less than the prewar figure, mainly owing to declines in exports of soyabeans and groundnuts of 85 percent and 45 percent. This position is remarkable in view of the 17 percent increase over prewar in world production of edible vegetable oils and corresponding increases in the production of soya-beans and groundnuts of 28 percent and 16 percent. This anomalous position reflects the virtual absence of trade in Manchurian soyabeans and Indian groundnuts and increased utilization of vegetable oils for domestic consumption in other producing centers. The recovery in trade in palm oils, on the other hand, has nearly kept pace with the recovery in production, world exports in 1948 being 25 percent below the prewar level. For industrial vegetable oils world trade in 1948 was about 54 percent below prewar; this was almost entirely due to a decline in linseed exports, as a result of extremely high prices which were about seven times prewar.

Remarkably, world trade in land animal fats is much nearer the prewar level than either vegetable or marine animal oils in spite of a much slower recovery in world production. This reflects the desire of European exporters to regain their prewar markets. Trade in lard, which had actually

increased during the war, has been reduced with declining shipments from the United States and in 1948 had fallen to under the prewar level. Exports of tallow have shown a marked recovery and are now at the prewar level because of the increase in United States production and the greater availability of whale and palm oils. Trade in butter, however, has not fully recovered because of the inevitably slow rehabilitation of the industry in Continental Europe.

The proportion of the production which is exported by the chief producing centers has altered considerably since prewar. Latin American, Asia and Europe show the most marked declines as the following figures illustrate:-

Table 18 -- Exports as Percentage of Production

	Average <u>1935/39</u>	<u>1948</u>
Africa	70	61
Oceania	67	52
Latin America	56	27
Asia	36	17
Europe	21 <u>a/</u>	12 <u>a/</u>
United States & Canada	5	8

a/ Including whale oil production figures as exports. If whale oil figures are excluded the percentages are 10 and 3 percent respectively.

The proportion of Dominion and Colonial supplies in world exports has increased from just under half the total prewar to slightly more than half in 1948. The following figures give details:-

Table 19 -- Exports from Dominions and Colonies  
(thousand metric tons)

	Average <u>1934/38</u>	Estimated <u>1948</u>
British Commonwealth	1606	1160
Netherlands East Indies	531	280
French Colonies & Mandates	388	240
Belgian Congo	99	135
Portuguese Colonies	62	85
Total	<u>2686</u>	<u>1900</u>
World Exports	5987*	<u>3493</u>

\* Average 1935/39.

Estimates for exports of oils and fats in 1950 put the total still 28 percent below the prewar level. Edible vegetable oils are expected to be 48 percent less than prewar with industrial oils 43 percent less and palm oils 6 percent less. Land animal fats at 22 percent below prewar reflect a further recovery in trade in butter, which will still be 34 percent below the 1935/39 average. Marine oils, as a result of no increase in whale oil production, are expected to be 37 percent less than prewar.

The main increase in exports in the short term is expected to come from recovery in production to the prewar level in those oils and fats which have not yet reached that point; Manchurian soyabean oil is the only probable exception as its recovery is expected to be considerably delayed. Further increases as a result of current development plans are expected to be mainly in groundnut and palm oils.

For the longer term there are many plans for the increase in export supplies. The various development schemes can be appreciated in true perspective, however, when it is considered that the total finally anticipated exports of groundnut oil from both British East and West African schemes only amount to 82 percent of the reduction in exports of groundnut oil from India between 1938 and 1948; no recovery is expected to take place in Indian exports in view of increasing domestic consumption. Further, it should be emphasized that any really significant increase in exports as a result of new production will not be obtained in a short time and is likely to be extended over a period of 10 to 20 years. The following are some of the more important possibilities for increasing world exports:-

(a) Rehabilitation of land animal fats in Europe and easing restrictions on whaling. European exports of butter and lard in 1948 were only 40 percent and 26 percent of prewar. Whaling in 1947/48 was limited to about 70 percent prewar.

(b) Rehabilitation of vegetable and fish oil industries in Asia.

Netherlands East Indies exports of palm oil and copra in 1948 were 21 percent and 47 percent of prewar; North China and Manchuria soyabean were 5 percent; and Japanese fish oil exports were less than 1 percent of prewar.

(c) New production possibilities for very considerable palm oil supplies exist in Indo-China (6 million acres) and other very large suitable areas are known for Burma, British North Borneo and New Guinea. In addition the further expansion of production in the Netherlands Indies and French and Belgian West Africa is planned. Improved methods of oil extraction are contemplated in British West Africa which could increase export availabilities by more than 50 percent. If suitable machinery could be devised for the cracking of babassu kernels on a commercial scale, a considerable increase in oil exports from Brazil would become possible.

(d) New production possibilities of an appreciable increase in groundnut supplies exist in British French and Belgian Africa where plans for considerable increases are being implemented. A very considerable area suitable for groundnuts exists in Brazil, Burma, Indo-China, Northern Australia and New Guinea.

<sup>1/</sup>  
Table 20 - ESTIMATED WORLD EXPORTS BY COUNTRY  
 (thousand metric tons - oil or fat equivalent)

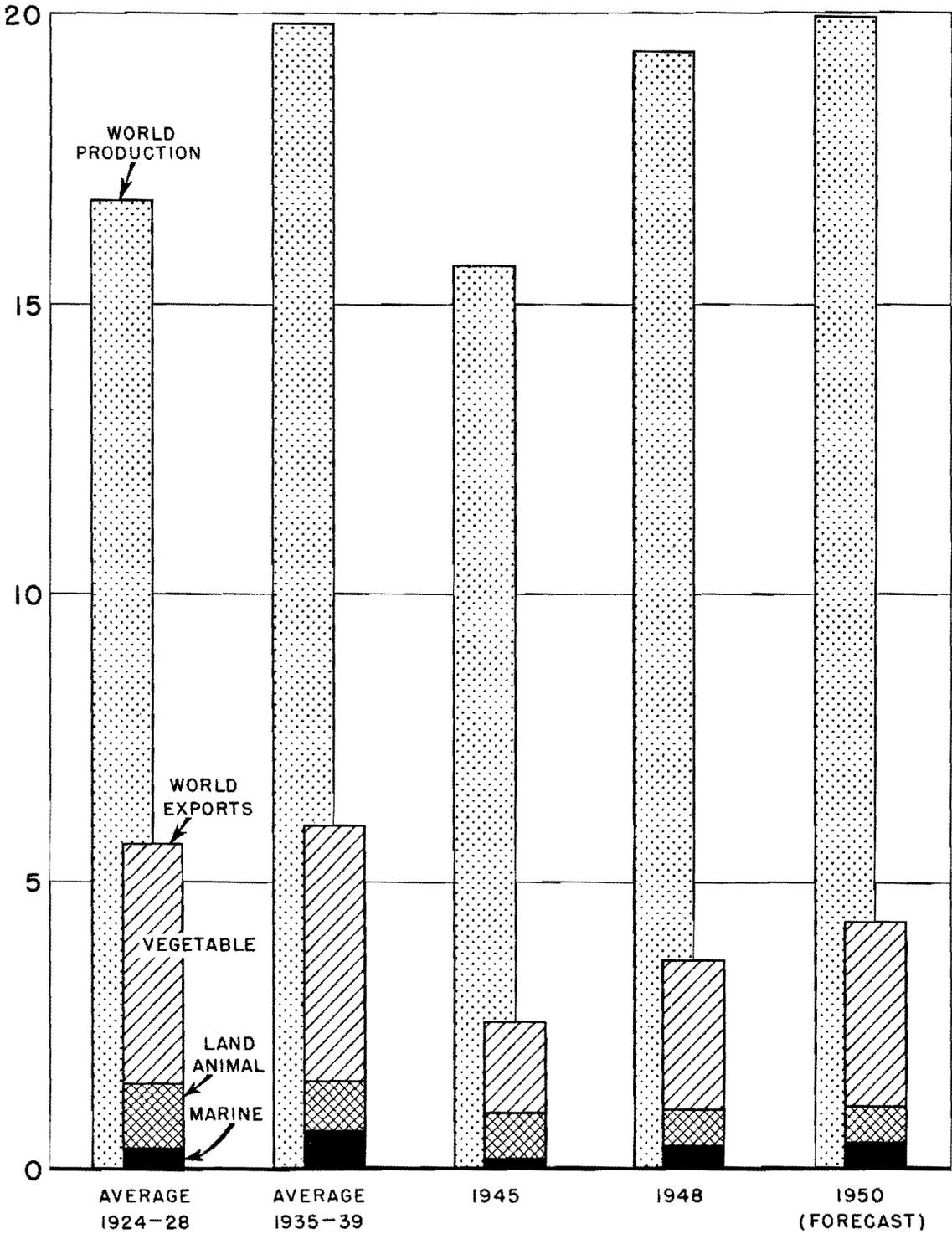
	<u>Average</u> <u>1935/39</u>	<u>1948</u> <u>(preliminary)</u>
Europe (excl. USSR)	940	421
Asia	2600	1133
China and Manchuria	650	88
India/Pakistan	600	123
Malaya	90	80
Netherlands East Indies	640	282
Philippines	390	442
Japan	95	8
Ceylon	100	90
Others	35	20
Africa	1050	950
British West	404	450
Fr. West & Equatorial	285	200
Belgium Congo	115	135
Others	246	165
Oceania	400	300
United States	138	350
South and Central America	750	350
Argentina	580	190
Brazil	120	120
Others	50	40
Others	209	89
TOTAL	5987	3593

<sup>1/</sup> Exports of domestic material. The 1948 figures must be considered as preliminary because data for many of the countries are not available.

Source: Food and Agriculture Organization.  
 Unilever Reports.  
 U.S. Department of Agriculture, OFAR.

# ESTIMATED WORLD PRODUCTION AND EXPORTS OF OILS AND FATS

(MILLIONS OF METRIC TONS)



SOURCE: I. B. R. D., derived from U.S. Dept. of Agriculture and Unilever

I. B. R. D. Economic Dept.

Table 21 - ESTIMATED WORLD EXPORTS  
(thousand metric tons - oil or fat equivalent)

	Average 1924/28 <u>a/</u>	Average 1935/39	1945	1948	1950 <u>b/</u>
<b>Edible Vegetable Oils -</b>					
Groundnut	615	773	329	426	500
Soyabean	464	399	111	59	64
Cottonseed	172	172	75	68	100
Sunflower	25	29	81	56	109
Sesame	49	59	6	18	27
Olive	<u>186</u>	<u>158</u>	<u>36</u>	<u>52</u>	<u>27</u>
	1511	1590	638	679	827
<b>Palm Oils -</b>					
Coconut	1001	1170	178	870	1089
Palm oil	286 <u>c/</u>	494	205	318	454
Palm kernel	253	318	225	295	318
Babassu	<u>13</u>	<u>18</u>	<u>27</u>	<u>20</u>	<u>18</u>
	1553	2000	635	1503	1879
<b>Industrial Oils -</b>					
Linseed	792	648	198	227	318
Castor	80	92	84	93	91
Rapeseed	80	40	18	5	14
Oiticica	-	4	12	9	9
Tung	57	81 <u>d/</u>	2	81	82
Perilla	-	<u>36</u>	<u>0</u>	<u>0</u>	<u>0</u>
	<u>1009</u>	<u>901</u>	<u>314</u>	<u>415</u>	<u>514</u>
Total Vegetable Oils	4073	4491	1587	2597	3220
<b>Animal Fats -</b>					
Butter	367	480 <u>e/</u>	200	290	318
Lard	413	172	494	158	159
Tallow	<u>336</u>	<u>178</u>	<u>127</u>	<u>172</u>	<u>172</u>
	1116	830	821	620	649
<b>Marine Oils -</b>					
Whale	237	530	64	293	308
Fish	<u>100</u>	<u>136</u>	<u>55</u>	<u>83</u>	<u>113</u>
	337	666	119	376	421
<b>ESTIMATED WORLD TOTAL</b>	5526	5987	2527	3593	4290

a/ Estimated from International Institute of Agriculture, Rome.

b/ Estimated from J.C. Faure's report.

c/ Includes some palm kernel oil.

d/ 1933/37 average.

e/ 1934/38 average.

Source: U.S. Department of Agriculture, OFAR.  
Vegetable Oils and Oilseeds, CEC, London, 1948.  
World Trade in Agricultural Products, Rome, 1940.  
Unilever Estimates, January, 1949.

C. Imports

It became obvious in the final stages of the war against Germany that, with the liberation of Europe, there would be a serious shortage of supplies available for import. It was hoped that the quick termination of the war against Japan would relieve the situation by freeing Far Eastern export supplies but damage in that area together with political dissension has delayed their recovery. Further, the war had accelerated the tendency, evident even prewar, for producing countries to consume more of their output and thus, although production has recovered rapidly in many areas, export supplies remain depressed.<sup>1/</sup>

Another factor in the situation is the increase in consumption of liquid milk, as a result of greater consciousness regarding nutritional values due to wartime shortages; this has delayed recovery in the trade in butter. Recovery in supplies of whale oil also is retarded because of an International Agreement to restrict a season's catch in order to prevent extermination of the whales.

Apart from these supply factors limiting imports, two other factors have had considerable effect in limiting trade. On the one hand, Europe, the

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<sup>1/</sup> During the war fats and oils supplies were allocated by the Fats and Oils Committee of the Combined Food Board. The Committee was formed in July 1942 for the purpose of distributing the available export supplies of fats and oils on an equitable basis. As butter is considered a dairy product, it was dealt with by the Dairy Products Committee, which was formed in October 1942 and continued until October 1946.

In July 1946 the Combined Food Board was absorbed by the International Emergency Food Council and the various committees continued to allocate supplies. However, as supplies appeared adequate for effective demand specific commodities within the Committee were de-controlled. Under fats and oils oiticica was removed from allocation in March 1948; castor beans and oil April 1948; and linseed and oil January 1949. All the remaining fats and oils were decontrolled on February 10, 1949.

Source: Food and Agriculture Organization.

chief importing region has been short of the necessary foreign exchange, mainly dollars. Exporters, even of normally non-dollar supplies, have required dollars in order to obtain exchange for their import requirements, supplies for which have only been available from the dollar area. Further, in the ruling sellers market exporters have been demanding high and rising prices, which importers have found increasing difficulty in meeting. As a natural consequence of these two factors stocks have tended to increase in certain producing countries, e.g. linseed in Argentina.

These developments have had two very important results over and above the limitations which they impose on total imports.

Firstly, the European importers have been receiving import supplies of vegetable oil-bearing materials in varieties considerably different from prewar. Imports of linseed, particularly, have fallen (as a result of dollar shortage and high price rather than a lack of supplies). Varieties imported into the United Kingdom and France do not show such marked differences from prewar because of the large colonial supplies; imports of groundnuts into France are reduced because these are now being processed in Africa. Imports into the Netherlands are low predominately of copra from Indonesia. The very small Danish imports are also mainly copra, compared with a large preponderance of soyabeans from Manchuria prewar. Imports into Germany, since the war, have been very small and have consisted mainly of maize germs.

The following figures indicate changes in the varieties of vegetable oil-bearing materials imported into the main European importing countries:

Table 22 - Varieties of Vegetable Oil-bearing Material Imported  
by Certain Countries  
(expressed as percentage of totals)

	<u>Linseed</u>		<u>Groundnut</u>		<u>Soybeans</u>		<u>Copra</u>		<u>Palm Kernels</u>		<u>Other</u>	
	<u>1938</u>	<u>1948</u>	<u>1938</u>	<u>1948</u>	<u>1938</u>	<u>1948</u>	<u>1938</u>	<u>1948</u>	<u>1938</u>	<u>1948</u>	<u>1938</u>	<u>1948</u>
United Kingdom	17	2	20	36	6	1	7	11	8	40	42	10
Germany <u>a/</u>	9	-	17	70	44	-	16	17	12	3	2	10
France	16	10	59	42	1	1	11	19	7	15	6	13
Netherlands	44	13	23	12	16	-	8	70	7	3	2	2
Italy	28	16	27	10	8	-	16	32	-	-	21	42
Denmark	4	-	12	1	52	1	20	63	7	31	5	4

Secondly, a much larger proportion of the imports into European countries has been in the form of vegetable oils, reflecting the growing tendency to process seeds and nuts in the exporting countries. The following figures illustrate the trend:-

Table 23 - Proportion of Imports of Vegetable Oils, as Oil, to Total Imports of Vegetable Oils in all Forms

	<u>1937</u> (percent)	<u>1948</u> (percent)
United Kingdom	15	49
Italy	29	40
Netherlands	21	31
France	12	23
Germany	15	33
Denmark	5	30

As a consequence of severely limited total imports, the change in varieties of raw materials and the larger proportion of imports in the form of oils, the European oilseed processing industries are now working very considerably below capacity as the following figures indicate:-

a/ Bizone only for 1948.

Table 24.

	Estimated Capacity of Vegetable oil Factories		Estimated Capacity Utilized	
	<u>1938</u> (thous. metric tons)	<u>1948</u>	<u>1938</u> (percent)	<u>1948</u>
United Kingdom	n.a.	n.a.	n.a.	50
Germany	2500	2133	71	3 (1947)
France	1600	1600	80	40
Netherlands	1000	1000	75	20
Denmark	400	400	90	20
Belgium <u>a/</u>	1000	1000	30	10
Switzerland	62	65	94	90
Norway	120	130	85	40
Sweden	200	200	95	25 (1947)
Austria	27	74	87	28 (1947)
Rumania	150/200 <u>b/</u>	150/200 <u>b/</u>	n.a.	n.a.
Hungary	100	150 <u>c/</u>	95/100	95/100
Poland	200	100	95/100	95/100
Czechoslovakia	220	220	95/100	40/50

a/ There are a large number of small mills in Belgium which only work for part of the year; this accounts for the relatively low percentage of capacity utilized.

b/ "Kartell" factories; farmers presses capacity 250 thousand tons in 1938, 150,000 tons in 1948. The industry is technically poor and financially unsound.

c/ "Kartell" factories; farmers presses capacity 120 thousand tons in 1938, 100 thousand tons in 1948.

n.a. Not available.

Source: U.S. Department of Agriculture and Papers of International Association of Seed Crushers Congress, 1948.

The prospects for the European oil mills are not very good for the next few years, and if, as seems likely, the trend towards increased processing in exporting countries continues the longer term prospects are little better. Prospects for the Colonial Powers are relatively better in that they should be able to maintain a high proportion of their imports of vegetable oils in the form of oil bearing material, receive in general the varieties their industries are equipped to handle and maintain prices within reasonable limits. The strong position of these countries is evident when consideration is given to the fact that around half of the world exports of oils and fats came from Colonial Empires and British Dominions, prewar.

The possibility of increased European imports in the near future will rest largely on the magnitude of United States import requirements and available exchange. Whether the United States will be on a net import basis in 1949 and in the following years is extremely difficult to assess. Production of fats and oils in the United States is primarily a by-product industry; lard and butter output are dependent on meat and milk; cottonseed oil on the cotton crop; maize oil on the processing of maize; soyabeans and groundnuts are fed to stock and, when crushed, the residues are often more valuable than the oils obtained. There has been a run of good crops for several years and such favorable conditions will not continue indefinitely nor is it likely that the coming crops will equal last year's which was 23 percent over 1947 and 44 percent over the average for the preceding decade. Any appreciable reduction in production is likely, therefore, to make for an increased demand for imports; if consumption is to be maintained at current levels, a decline in domestic production of vegetable oils of 25 percent (from the 1948 to the ten-year average 1937/46 level) would possibly increase import demand as much as 80 percent above the 1948 level, or by nearly 437 thousand metric tons. Since United States exports of animal fats would probably be reduced at the same time

the effect on the availability of import supplies for other countries, particularly Europe, would be severe. United States imports of vegetable oils in all forms have been as follows:-

Table 25 - United States Imports of Vegetable Oils  
(thousand metric tons)

	<u>1938</u>	<u>1947/48</u>
Coconut oil (mainly Philippines)	447	351
Olive oil (mainly Europe)	45	15
Palm oil (mainly Neth.E.Indies)	123	29
Tung oil (China)	49	48
Other vegetable oil (mainly Latin America)	<u>112</u>	<u>92</u>
Total	<u>776</u>	<u>535</u>

Japanese fats and oils extraction and refining plants have a current capacity of 800 thousand tons, or 100 thousand tons less than prewar. They are at present working at under 10 percent of capacity. Existing plants are equipped to handle 288 thousand tons of soyabeans and 243 thousand tons of other vegetable oil-bearing materials. Imports of vegetable oil-bearing material compared to prewar have been as follows:-

Table 26 - Japan: Imports of Vegetable Oil-Bearing Material  
(thousand metric tons)

	<u>1938</u>	<u>1948</u>
Soyabeans	670	52
Other	<u>172</u>	<u>50</u>
Total	<u>842</u>	<u>102</u>

The Japanese Economic Stabilization Board 5-Year Plan envisages imports of fats and oils of 443 thousand tons in 1953, with a production from domestic raw materials of 133 thousand tons. The attainment of this level of imports depends very largely on the availability of Manchurian soyabeans and the easing of demand for copra by other importers. Neither of these events appear likely in sufficient magnitude under present conditions.

Table 27 - World Imports of Oils and Fats  
(thousand metric tons - in terms of oil)

	<u>1937</u>			<u>1948</u>			Total
	Vegetable	Land Animal	Marine	Vegetable	Land Animal	Marine	
United Kingdom	709	504	197	860	304	153	1317
Germany a/	672	143	182	105	29	34	168
France	626	10	7	346	23	15	384
Netherlands	317	28	83	180	6	31	217
Italy	234	10	3	47	20	3	70
Denmark	137	1	40	52	-	13	65
United States	975	14	69	535	1	-	536
Japan	163	4	-	39	-	-	39
Total 8 Countries	<u>3833</u>	<u>714</u>	<u>581</u>	<u>2164</u>	<u>383</u>	<u>249</u>	<u>2796</u>
TOTAL WORLD IMPORTS	<u>4842</u>	<u>850</u>	<u>692</u>	<u>2597</u>	<u>620</u>	<u>376</u>	<u>3593</u>

a/ Bi-zone only for 1948.

Table 28 - Vegetable Oil Trade of Chief Importing Countries  
(thousand metric tons)

	<u>1937</u>			<u>1948</u>		
	Oil Equivalents	Imports As Oil	Exports As Oil	Oil Equivalents	Imports As Oil	Exports As Oil
Netherlands	250	67	207	124	56	29
United Kingdom	492	217	104	437	423	28
France	550	76	94	268	78	3
Denmark	130	7	66	36	16	3
Germany a/	571	101	40	71	34	-
Italy	169	65	24	28	19	17
Japan	151	12	27	33	6	-
United States	<u>410</u>	<u>565</u>	<u>12</u>	<u>402</u>	<u>133</u>	<u>110</u>
Total 8 Countries	<u>2723</u>	<u>1110</u>	<u>574</u>	<u>1399</u>	<u>765</u>	<u>190</u>

a/ Bi-zone only for 1948.

Table 29 - Imports of Oilcake into the Chief Importing Countries  
(thousand metric tons)

	1937				1948			
	(1) Oilcake as such	(2) Oilcake in Imported Seeds & Nuts	(3) Total	(4) Col.(2) as a Percent- age of Col.(3)	(5) Oilcake as such	(6) Oilcake in Imported Seeds & Nuts	(7) Total	(8) Col.(6) as a Percentage of Col.(7)
United Kingdom	647	1153	1800	64	565	589	1154	51
Germany <u>a/</u>	109	1099	1208	91	8	83	91	92
France	91	906	997	90	146	352	498	71
Netherlands	175	486	661	73	197	104	301	34
Denmark	606	315	921	34	290	29	319	9
Italy	-	254	254	100	-	41	41	100
Japan	541	783	1324	59	50	69	119	58
United States	161	595	756	79	41	290	331	88
Total 8 Countries	2330	5591	7921	71	1297	1557	2854	55

a/ Bi-zone only for 1948.

Table 30 - Fats and Oils Used in the Manufacture of Margarine & Soap  
(percentages)

	United Kingdom		United States	
	1936	1946	1936	1946
<u>I. Margarine -</u>				
Cocomut	11	20	46	3
Groundnut	3	30	1	3
Cottonseed	-	-	34	48
Soyabean	7	34	5	43
Other Vegetable	22	-	6	2
Total Vegetable	43	84	92	99
Total Land Animal	2	1	8	1
Total Marine Animal	55	15	-	-
GRAND TOTAL	100	100	100	100
	United Kingdom		United States	
	1937	1946	1937	1946
<u>II. Soap -</u>				
Cocomut	9	-	14	10
Palm	25	28	8	} 1
Palm Kernel	13	26	6	
Soyabean	1	} 1	-	-
Cottonseed	-		10	-
Other Vegetable	11	29	6	21
Total Vegetable	59	84	44	32
Total Land Animal	19	12	39	62
Total Marine Animal	16	2	11	2
Other Materials	6	2	6	4
GRAND TOTAL	100	100	100	100

D. Consumption

The recent large increase in the world's population has meant that, although world production of oils and fats has shown a remarkable recovery, supplies available per head remain much less than a decade ago. If per capita consumption today were to equal prewar, world production would have to be 11 percent above the current level (which is approximately equal to prewar) as the following figures indicate:-

Table 31 -- Estimated Per Capita World Consumption  
(kgs.)

Average 1924/28	9.2
1938	9.5
1945	7.5
1948	8.5
1949	8.4

The tendency of exporting countries to consume more of their produce is particularly marked in Latin America and India/Pakistan as the following figures indicate:-

Table 32 -- Estimated Per Capita Consumption as Food Only<sup>1/</sup>  
(kgs.)

	Average <u>1935/39</u>	<u>1947/48</u>
India/Pakistan	3.3 (1934/38)	3.5
Argentina	9.8	15.7
Brazil	5.1	5.9

These and similar increases have been reflected in the relatively slow recovery of international trade in oils and fats and have prolonged the period of shortages for importing countries, particularly Europe.

Shortages of certain fats and oils have resulted in abnormal substitution and consequent pressure on supplies of some other oils and fats.

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<sup>1/</sup> Source: Food and Agriculture Organization.

With the recently improved supply situation consumption has in some cases reverted to the oils and fats used before the war. The following figures give examples for the United States:-

Table 33 - United States Utilization of Certain Oils & Fats  
(as percentages of total)

	<u>Prewar</u>	<u>1944</u>	<u>1948</u>
Soyabean oil	5	12	14
Coconut oil	7	2	6
Tung oil	1	-	1
Linseed oil	6	7	6
Castor oil	1	2	1

In considering consumption of oils and fats, although this study is confined to visible fats, some mention must be made of consumption of invisible fats. This invisible consumption takes many forms, different in different countries, but is most common in fluid milk consumption at present because of the current low level of total visible and invisible fat consumption in many countries. The following figures illustrate the trend which is most clearly evident for the United States where no fat shortage exists:-

Table 34 - Consumption of Oils and Fats as Food Only<sup>1/</sup>  
(grams per head per day)

	<u>Visible Fats</u>	<u>Prewar*</u>		<u>Visible Fats</u>	<u>1947/48</u>	
		<u>Fluid Milk</u>	<u>Total Fat</u>		<u>Fluid Milk</u>	<u>Total Fat</u>
		(fat content)			(fat content)	
United States	56.0	12.9	126.8	52.6	14.8	134.9
Denmark	72.9	17.8	150.8	51.1	18.8	129.6
United Kingdom	54.3	8.7	122.5	38.9	11.9	97.2
Netherlands	60.2	11.9	114.7	46.8	13.9	86.4

Thus, the outlook for consumption of oils and fats contains certain recognizable elements of which the following are the most important:-

<sup>1/</sup> Source: Food and Agriculture Organization.  
\* Average of 5 years between 1934 and 1939.

- (a) The increasing world population.
- (b) The increasing consumption in exporting countries and the consequent difficulties for Europe in obtaining import supplies.
- (c) The increasing production in and exports from colonial areas,
- (d) The increasing consumption of invisible fats,<sup>1/</sup> particularly in fluid milk.

A very material increase in world production of oils and fats over the prewar level will be necessary if the current low level of per capita consumption is to be maintained and substantially more if per capita consumption is even to return to the prewar level. The following figures illustrate the position, assuming a world population increase of less than 1 percent per annum:-

	<u>World Production</u> (million metric tons)		
	<u>At 1948 rate of consumption (8.5 kgs.)</u>	<u>At prewar rate of consumption (9.5 kgs.)</u>	<u>At improved diet rate,<sup>2/</sup> (11.5 kgs.)</u>
Average 1935/39	-	19.8	-
Estimated 1948	19.3	-	-
Required 1958	21.3	23.8	28.8

Consumption in exporting countries may be expected to increase and national plans indicate that this will be a matter of policy in an attempt to improve diets. When it is considered that per capita consumption (edible and inedible) in India/Pakistan and China prewar was 5.5 kgs., and 5.0 kgs., respectively, compared with between 24 and 30 kgs., in Western Europe and North America, the possibility of a significant increase can be seen. Consumption in Latin America is already increasing but is still a long way from the prewar European and North American level.

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<sup>1/</sup> Fats consumed in fluid milk, meat, fish, chocolate, edible nuts etc.  
<sup>2/</sup> Only equivalent to 38 percent of the US rate and 60 percent of the Continental European rate, prewar.

If the Far East and Latin America are to raise consumption even to the level of the current world average of 8.5 kgs., the pressure on European supplies will be great. An increase to this level in India/Pakistan and China alone would mean an increase of 14.5 percent in world production over prewar, or 2.8 million tons, and would be equivalent to 45 percent of the total volume of world imports prewar, of which Europe took over 60 percent.

As a natural consequence of foreseeing the general trends in oils and fats all Colonial Powers are engaged in expanding production in their overseas territories. An added inducement towards this is the fact that increased consumption in exporting countries brings with it increased processing and consequently affects supplies of vegetable oil-bearing material available to the importing countries.

The postwar trend of increased consumption of invisible fats, particularly milk, is expected to continue. Theoretically the heavier consumption of milk is a change in eating habits which should decrease the demand for visible fats. This, however, is unlikely to be the case in view of the low level of consumption in many areas and the increasing importance ascribed to fats in the diet by nutritionists.

Table 35 - European (excluding USSR) Balance Sheet - Fats and Oils  
(thousand metric tons - fat or oil equivalent)

	Production		Gross Im-ports		Gross Ex-ports		Net Trade		Utilization <sup>b/</sup>	
	1936/38 <sup>a/</sup>	1948	1937	1948	1937	1948	1937	1948	1937	1948
<u>North and Western</u>										
United Kingdom	160	75	1410	1317	146	35	+1264	+1282	1424	1357
France	355	295	643	384	111	c/	+ 532	+ 384	887	679
Belgium/Luxembourg	95	75	180	193	43	10	+ 137	+ 183	232	258
Switzerland	35	25	53	76	2	-	+ 51	+ 76	86	101
Netherlands <sup>d/</sup>	135	95	428	217	330	53	+ 98	+ 164	233	259
Denmark	185	135	178	65	229	96	- 51	- 31	134	104
Norway	45	42	279	200	222	137	+ 57	+ 63	102	105
Sweden	90	125	115	56	40	11	+ 75	+ 45	165	170
Finland <sup>e/ f/</sup>	55	35	27	24	14	-	+ 13	+ 24	68	59
Eire <sup>e/ f/</sup>	61	43	12	11	21	-	- 9	+ 11	52	54
<u>Central and Eastern</u>										
Germany <sup>e/</sup>	918	405	997	168	52	-	+ 945	+ 168	1863	573
Austria	60	40	55	57	6	-	+ 49	+ 57	109	97
Czechoslovakia <sup>h/</sup>	145	90	141	48	2	-	+ 139	+ 48	284	138
Poland <sup>e/ f/ h/</sup>	280	125	50	42	13	-	+ 37	+ 42	317	167
<u>Southern</u>										
Italy	450	450	247	70	26	18	+ 221	+ 52	671	502
Spain <sup>i/ f/ h/</sup>	480	530	52	9	44	14	+ 8	- 5	488	525
Portugal <sup>i/ h/</sup>	85	95	37	36	6	4	+ 31	+ 32	116	127
<u>Balkan Countries</u>										
Rumania <sup>e/ h/</sup>			3		21		- 18			
Yugoslavia <sup>e/ h/</sup>	430	370	12		8		+ 4		395	370
Bulgaria <sup>e/ h/</sup>			3		13		- 10			
Hungary <sup>e/ h/</sup>			6		17		- 11			
Greece <sup>i/ h/</sup>	125	110	4		15	10	- 11	- 10	114	100
TOTAL	4189 <sup>i/</sup>	3160 <sup>i/</sup>	4932	2973	1381	388	+3551	+2585	7740	5745

a/ Production from indigenous material.

b/ Excluding stock carry-over, if any.

c/ Data not available.

d/ 1936/38 average used for imports of oilseeds for prewar.

e/ Specific year not given for prewar exports. Exports since the war have been nil or negligible.

f/ Prewar imports 1936/38 average.

g/ Prewar trade figures cover the whole of Germany; 1948 figures relate to the Bi-zone only.

h/ 1948 import figures are FAO estimates.

i/ Prewar trade 1935/39 average.

j/ Totals exclude whale oil production for the following countries:-

	<u>Thousand Metric Tons</u>	
	<u>Prewar</u>	<u>1948</u>
Denmark	5	-
Netherlands	-	13
Norway	200	168
United Kingdom	<u>220</u>	<u>110</u>
	<u>425</u>	<u>291</u>

NOTE: import surplus /  
export surplus -

Source: Food and Agriculture Organization  
US Department of Agriculture, OFAR  
IBRD material.

#### V. PRICES

Prices for oilseeds and nuts generally occupied a position between their derivatives, oil and cake, but in periods of falling prices, seeds and nuts fell more rapidly. The fact that oil and cake supplies, being factory products, are better regulated than seeds and nuts, which are farm products, accounts for this situation.

Technical progress, increasing the range of oils utilized, prevented any marked competition between the edible fat industry and the soap making industry for any particular oil or fat; this was aided by the development of synthetic fatty acids.

Although the possibilities for substitution in the use of oils and fats has been noted, drying oils (e.g. linseed, tung, etc.) cannot be replaced by non-drying oils and consequently they are subject to influences of which the other oils only feel the secondary effects. In 1927, when transport in China was disrupted, prices of tung oil showed an independent trend. In 1929, when the Argentine harvest was poor, linseed prices rose sharply. The position of soya-bean oil, which is a semi-drying oil, is peculiar as it may influence prices of both drying oils and non-drying oils or be influenced by either of these groups.

Special mention must be made of castor oil for which demand was increasing very rapidly before the war owing to its peculiar qualities for the lubrication of aircraft motors. While prices for nearly all oils declined after the beginning of 1937, castor oil prices were well maintained.

In the years between the wars, price movements for the same oils and fats on different markets became, up to a point, largely independent of each other owing to the rise of protectionist policies. Further, in many markets prices became controlled to a marked extent by government measures. The different movements of linseed oil prices on the United Kingdom and United States markets illustrate their independence even though both countries were large consumers of linseed oil:-

Table 36 - Linseed Oil Price Movements  
(1932 = 100)

	<u>United Kingdom</u>	<u>United States</u>
1932	100	100
1933	119	144
1934	128	149
1935	146	149
1936	168	155
1937	186	171
1938	155	143

Since the United Kingdom was the main importer of oils and fats, prices in that market probably reflected most important price changes and, consequently, they are normally used to indicate world price trends.

Price trends for the different oils and fats on the United Kingdom market were more or less similar. In general, after World War I supplies were scarce and prices were high having climbed by 1920 to over twice the prewar level as illustrated by the following copra prices:-

Table 37A- Straits Copra  
c.i.f. London Market  
(per long ton)

	£	s	d
1911	24	19	-
1914	25	-	-
1918	45	10	-
1920	56	8	-

Under these circumstances there developed a great drive towards increased production of all oils and fats; increased acreages were sown, the plantation system for palm oil was introduced into Asia and the whale oil industry was developed. As production continued to increase prices began to decline from the high level of 1920 and continued their downward trend until 1934. The decline in prices until 1929 was largely due to this marked increase in supplies and, although not all the oils and fats increased in supply to the same extent, the factor of substitutability helped to depress prices generally. For instance, the relatively low and rapidly falling prices for whale oil, which resulted from the expansion and increase in efficiency among whaling fleets, kept depressing the price of substitute oils for margarine and soap manufacture, especially coconut and palm oil. The extent of the decline is well illustrated by copra prices as follows:-

Table 37B- Straits Copra  
c.i.f. London Market  
(per long ton)

	£	s	d
1920	56	8	-
1926	28	12	6
1929	23	1	3

Before this fall in oils and fats prices had worked itself out through an adjustment of supply and demand the onset of the severe depression of the early thirties accelerated the downward trend. Among the first prices to fall off were cereals, oilseeds and copra. It was inevitable that oilseed

and copra prices should decline in sympathy with cereals because oilcake, a by-product of oil extraction, entered into direct competition with cereals for stock feed.

The fall in prices brought about an even more marked competition between oils and fats. With the slackening of industrial demand, linseed oil prices fell so sharply that this oil was used temporarily in the manufacture of soap where it competed with whale and coconut oil and helped to depress prices still further. This competition between a drying oil and non-drying oils was extremely abnormal.

Another feature of this period was that the decline in purchasing power during the depression brought changes in demand, consumers turning to the cheaper manufactured products. Consequently, there was a still more marked decline in butter prices than in prices of oils, although at first the fall in butter prices was cushioned by the even sharper decline in feed prices. In the United Kingdom, however, as a result of falling butter prices, the consumption of butter increased considerably while that of margarine declined thus restricting still further the demand for oils and fats entering into margarine production,

The middle of 1934 witnessed an up turn in oils and fats prices generally, which was continued until the beginning of 1937. This sharp rise in oils and fats prices occurred nearly two years before recovery in agricultural export prices generally and was largely a reflection of a world fat shortage caused by droughts in 1934 and 1936 in the United States. When normal supply conditions were re-established after 1937 fats and oils prices declined sharply so that in the early part of 1939 they were not very much above the 1934 level. The continuous rise in butter prices from 1934 was an anomaly not only if compared to agricultural prices generally but also if compared with other animal products and with other oils and fats. The rise to

1937 in butter prices can be explained by the factors which affected the other oils and fats but after that year the continuation of the rise was opposed to the trend of oil prices and does not reflect world conditions.

The following table gives particulars of changes in oils and fats prices on the United Kingdom market between the wars:-

Table 38 - Average c.i.f. Prices - London Market  
(per long ton)

	Groundnut Oil Crude (spot)			Soyabean Oil			Coconut Oil White, Ceylon			Palm Oil Softs		
	£	s	d	£	s	d	£	s	d	£	s	d
1920		a/		81	3	10	95	2	1	66	15	0
1929	35	8	9	30	2	1	34	7	6	33	12	6
1934	18	11	8	13	18	1	13	10	0	12	12	6
1937	29	17	4	24	8	4	25	8	6	22	2	6
1938	21	15	4	17	9	7	16	9	4	14	5	0

	Linseed Oil (London)			Tallow South American			Whale Oil No. 1		
	£	s	d	£	s	d	£	s	d
1920			10 <sup>b/</sup>	83	12	11	65	0	0
1929		33	6	40	0	0	26	10	0
1934		19	12	19	5	0	10	5	0
1937		28	13	25	17	1	21	0	0
1938		23	16	20	12	1	13	12	6

a/ Not available.

b/ Spot price.

Prices increased steadily during the war. Since the war the short supply position of fats and oils has been more acute and of longer duration than for most other commodities. The relative position of world export supplies of a number of important agricultural commodities shows clearly the slow recovery for oils and fats, as follows:-

World Exports  
1948 as % of prewar

Wheat	169
Sugar	86
Oils and Fats	60
Cotton	86
Rubber(natural)	154

In consequence of this slow recovery, oils and fats prices advanced rapidly in the postwar period until the turn of 1946/47 when they weakened, moving downward slightly until the end of 1948. A sharp decline has occurred during the first half of 1949 and appears likely to continue.

Any valid detailed analysis of the postwar trends in oils and fats prices is at present impossible because of the lack of quotations and the artificiality of those that are made. The Colonial Powers all have special price arrangements with their overseas territories, which are not generally publicized and where they are, their significance is obscured by subsidies and other financial arrangements. Further, Government purchase on bulk and long term contracts and under trade agreements, the terms and conditions of which are not disclosed, also obscure trends. Again barter agreements and special exchange rates do nothing to relieve the obscurity.

However, certain broad aspects of price movements have become evident. The prewar situation where prices for the same oil on different markets showed independence of movement has returned and has even been aggravated. One large group, the dollar area, has emerged from shortage to possible surplus. Thus although prices appear to have declined generally, prices in the USA have fallen much more sharply than elsewhere. The following indices (1929 = 100) for linseed oil and copra illustrate the movements:--

	<u>Linseed Oil</u>		<u>Copra</u>	
	<u>UK Market</u> (Plate)	<u>US Market</u> (Domestic)	<u>UK Market</u> (Straits)	<u>US Market</u> (Philippines)
1929	100	100	100	100
1939	83	75	51	43
1947	546	280	n.a. <sup>1/</sup>	230
1949(April)	507	235	308	198

Another feature of the current price situation is the different levels of prices for different fats and oils in the same market. The United States markets illustrates this feature, reflecting international trade controls

<sup>1/</sup> Not available.

and restrictions, exchange difficulties and domestic policy, as follows:-

Table 32 - Representative Wholesale Prices: United States

	Average		1947		1948		April	
	1935/39						1949	
	¢ per lb.	¢ per lb.	Index**	¢ per lb.	Index**	¢ per lb.	Index**	¢ per lb.
Butter	30.2	71.3	236	75.8	250	59.9	198	
Lard	10.2	23.9	234	21.3	208	12.2	120	
Tallow	6.6	19.2	291	16.0	243	5.2	79	
Coconut Oil*	7.3	20.7	284	26.3	360	17.2	236	
Groundnut Oil	8.0	26.3	329	25.8	323	12.2	153	
Cottonseed Oil	7.6	25.9	341	25.3	333	11.0	145	
Soyabean Oil	6.8	23.3	343	22.3	328	10.5	154	
Linseed Oil	9.2	32.8	357	27.8	302	27.0	294	

It would be foolhardy to attempt to assess the course of oils and fats prices in the absence even of sufficient information regarding the post-war years. However, on the supply side alone shortages in terms of prewar per capita consumption, particularly in Europe, may be expected to persist for a number of years. Against this the United States, Canada and the Philippines appear to be approaching a period of surplus. Thus, with exchange difficulties effective demand for the world's exportable supplies may not be up to the prewar level for some time.

Thus, while it is undoubtedly dangerous to attempt to forecast oils and fats prices it is reasonably safe to assume that they will continue to fall from present levels. New production of groundnuts is not likely to result in material quantities entering world trade before 5 years or more have passed and new production of palm oil may take 15 to 20 years before it will have really significant effect. Under these circumstances the key to future supplies and prices during the next few years lies mainly in the rate and extent of recovery in Asiatic exports.

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\* From imported Copra.  
 \*\* Average 1935/39 = 100.

The effect of the recent fall in prices and of any further decline on supply is also extremely difficult to assess. Past experience indicates that there is no certainty regarding the reaction of supply to price and that the effects of a price fall are different for the different oils and fats. For instance, falling prices resulted in laying up of whaling fleets in 1931; world butter exports tended to increase throughout the depression; world exports of palm oil and palm kernel oil also tended to increase at that time but coconut oil and linseed oil trade declined.

Taking what is known and hazarding a guess regarding the unknown, one might very tentatively suggest that oils and fats prices over the next few years will tend to stabilize appreciably above the prewar level and will be relatively favorable to producers in comparison with most other agricultural commodities. The current level (prices which have since fallen further) in relation to prewar (about 1935/39) for a number of commodities is as follows, illustrating the comparative abundance of fats and oils in the United States market:-

Table 40 - Price Ratios  
(in terms of currency quoted)

<u>Commodity</u>	<u>Date</u>	<u>Representative Price</u>	<u>Percent of Prewar</u>
Sisal	April, 1949	No. 1 (free) c.i.f. Antwerp £96 per ton	573 <u>a/</u>
Jute	April, 1949	First Marks, c.i.f. London £99.15 per ton	550
Wool (ap- parel)	March, 1949	Dominions wool, average clean delivered cost out of London Sales 64's = 101d. lb. 48's = 33½d. lb.	394 <u>b/</u> 252 <u>b/</u>
Cotton <u>d/</u>	April 1-14, 1949	New York spot, middling 15/16" 33.7 c. per lb.	315
Coffee	May 6, 1949	New York spot, Brazilian Santos, No. 2 28.25c. lb.	(310)
Sugar	April, 1949	Raws, f.o.b. Cuba \$4.10 per 100 lb.	282
Wheat	April 1-14, 1949	Chicago May futures \$2.17 per bush. (rising)	226
Cocoa	May 6, 1949	Accra, c.i.f. New York 18.75c. per lb. (nominal)	(270)
Fats & Oils	January, 1949	US Dept. of Labor index (1926 = 100) 146.1	245 <u>c/</u>
Tea	Feb. 22/23, 1949	Calcutta auction average, with export rights (1/10½ lb.)	(190)
Rubber	April 1-14, 1949	London R.S.S. spot 11-1/16d. per lb.	134

a/ Percent of early 1939.

b/ Percent of average 1934/38 for London sales.

c/ Average 1936/39.

d/ On basis used November 1948 and before, including non-commercial crop.

Source: London and Cambridge Economic Service Bulletin.

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(in terms of currency quoted)

<u>Commodity</u>	<u>Date</u>	<u>Representative Price</u>	<u>Percent of Prewar</u>
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a/ Percent of early 1939.

b/ Percent of average 1934/38 for London sales.

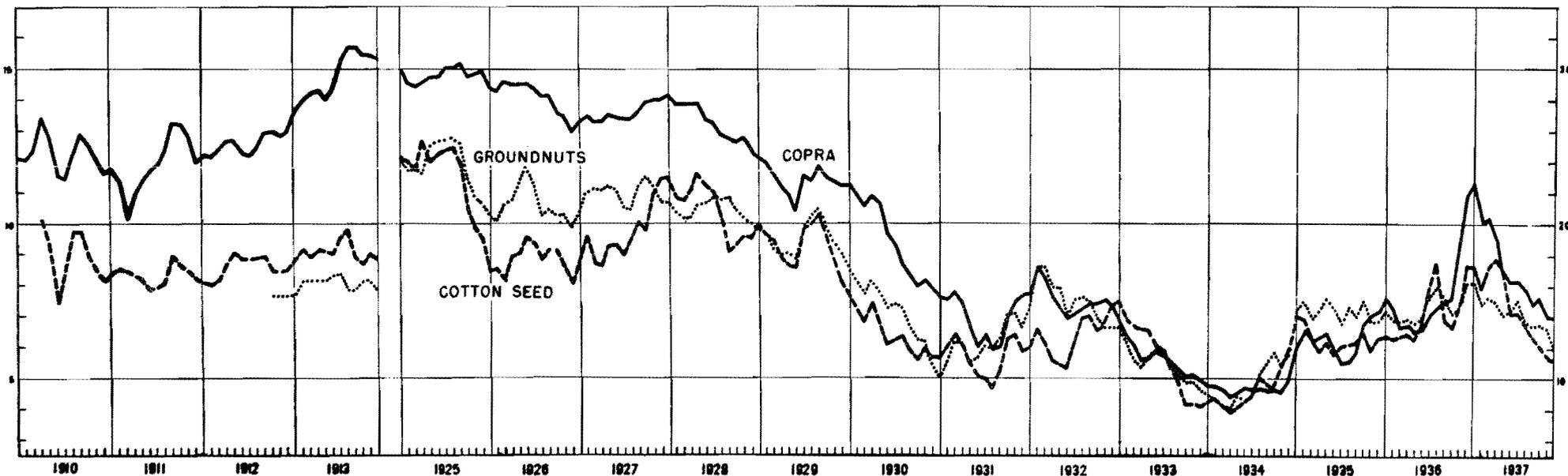
c/ Average 1936/39.

d/ On basis used November 1948 and before, including non-commercial crop.

Source: London and Cambridge Economic Service Bulletin.

**MOVEMENTS OF PRICES OF CERTAIN VEGETABLE  
OLEAGINOUS PRODUCTS IN LONDON  
(THE PRICES ARE EXPRESSED IN POUNDS STERLING PER LONG TON)**

**CHART 4**

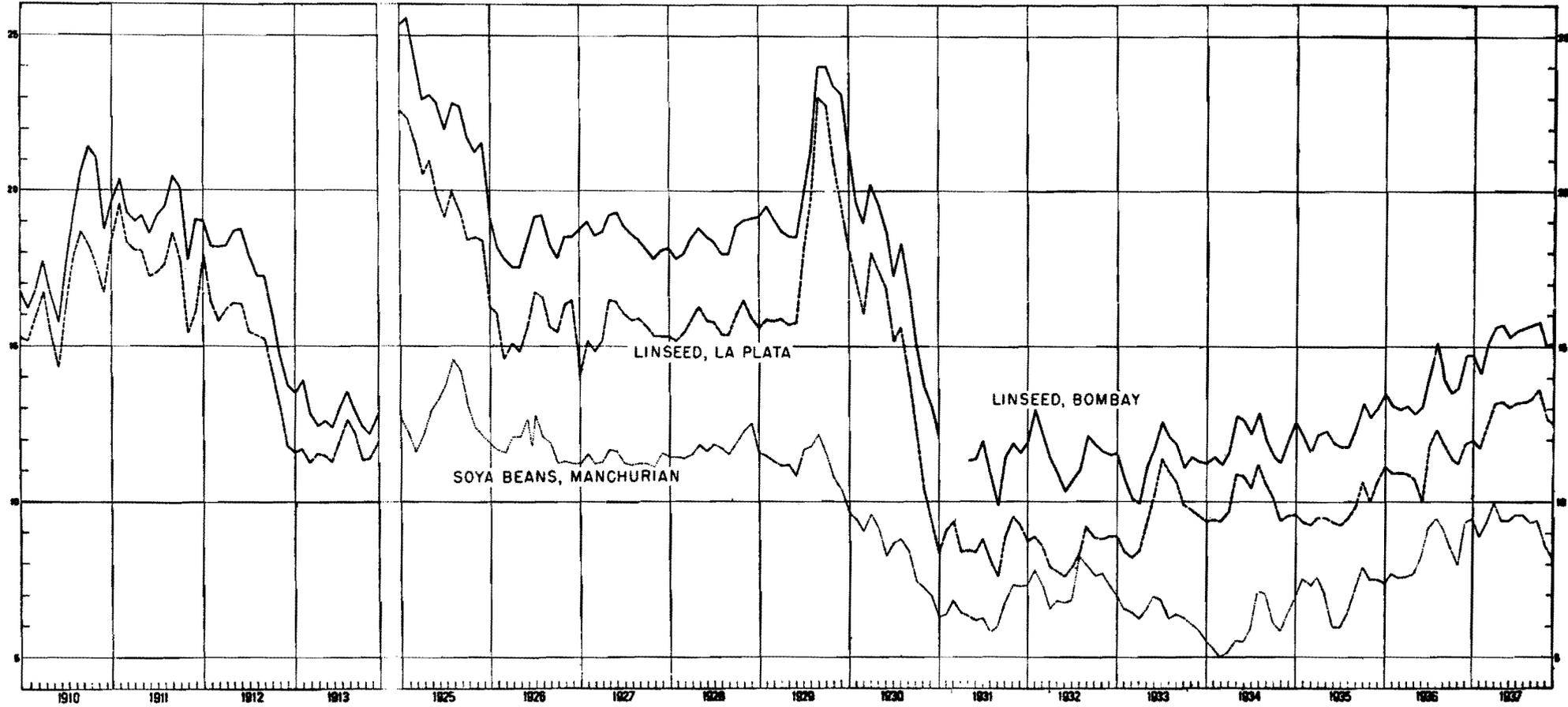


**SOURCE: INTERNATIONAL INSTITUTE OF AGRICULTURE**

# MOVEMENTS OF PRICES OF LINSEED AND SOYA BEANS, LONDON

(THE PRICES ARE EXPRESSED IN POUNDS STERLING PER LONG TON)

CHART 5

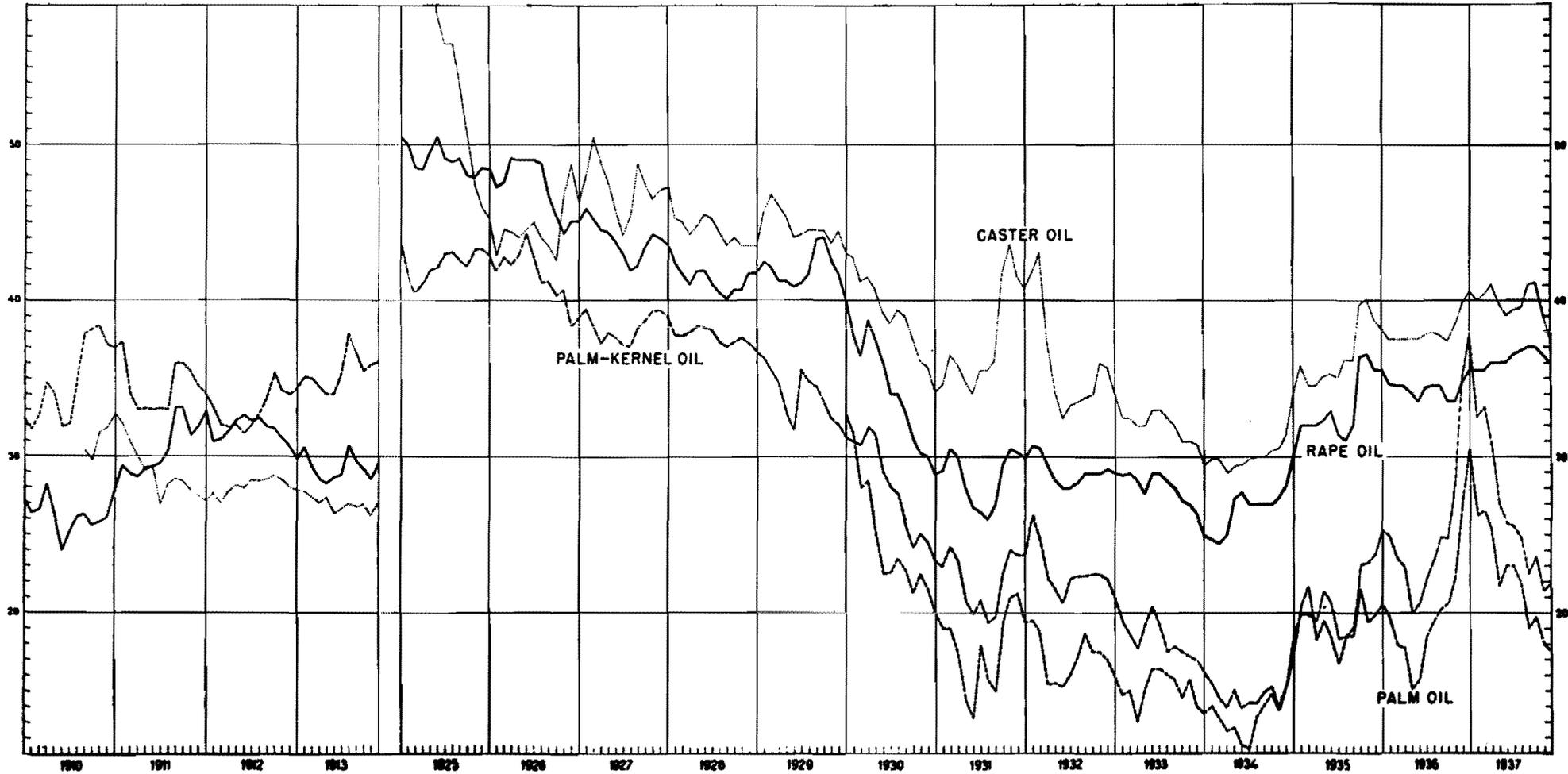


SOURCE: INTERNATIONAL INSTITUTE OF AGRICULTURE

**MOVEMENTS OF PRICES OF CERTAIN VEGETABLE OILS  
INTENDED FOR VARIOUS USES IN THE UNITED KINGDOM**

(THE PRICES ARE EXPRESSED IN SHILLINGS PER CWT. OR POUNDS STERLING PER LONG TON)

**CHART 6**

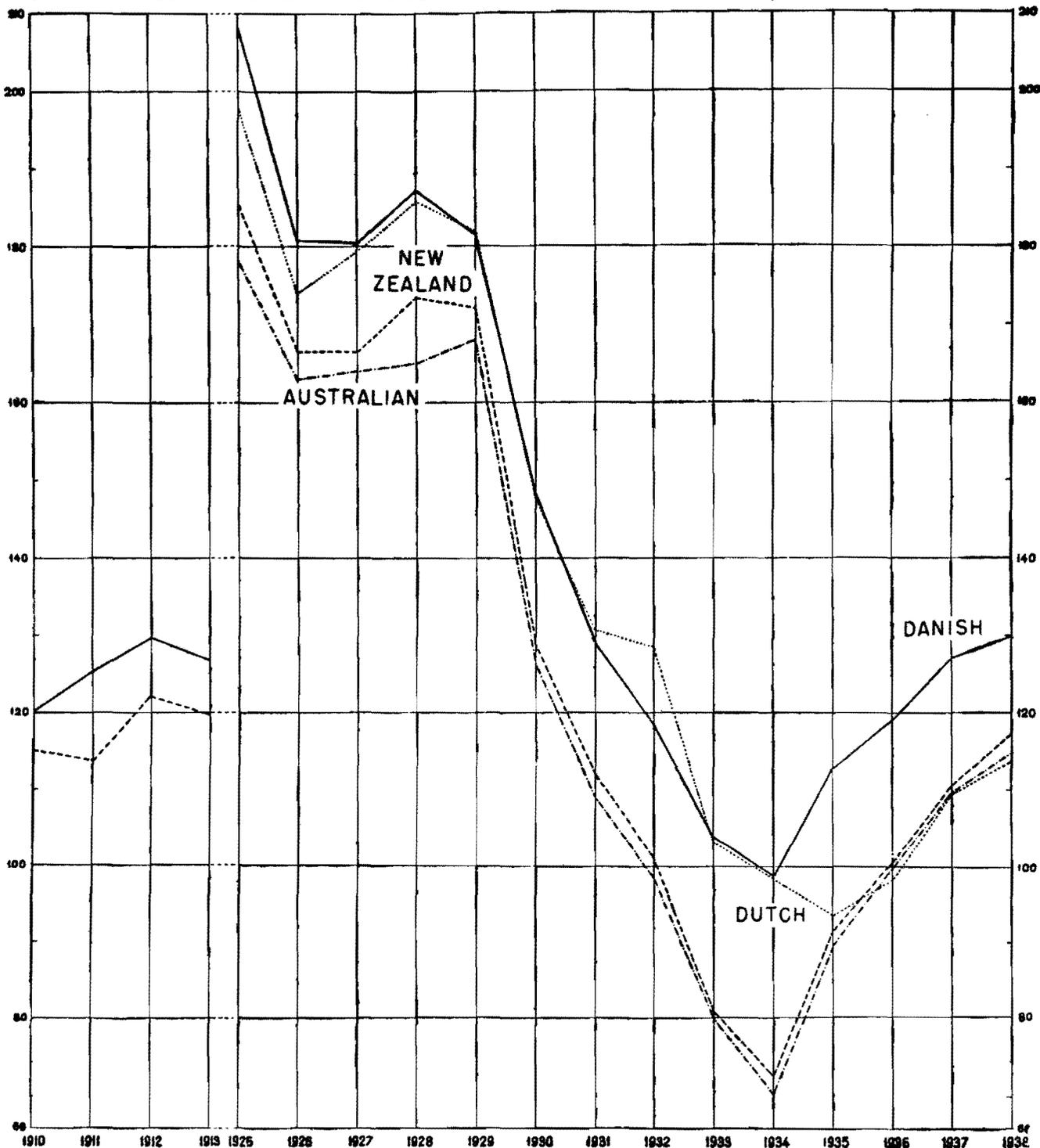


SOURCE: INTERNATIONAL INSTITUTE OF AGRICULTURE

# MOVEMENTS OF PRICES OF DIFFERENT BUTTER QUALITIES IN LONDON

(THE PRICES ARE EXPRESSED IN SHILLINGS PER CWT)

CHART 7



SOURCE: INTERNATIONAL INSTITUTE OF AGRICULTURE