MONDAY-NOVEMBER 12

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Some Economic Aspects of the Southern Shrimp Fishery

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THE TITLE OF THIS PAPER appropriately describes the material which has been gathered in its preparation and is about to be presented. This paper covers only some of the economic aspects of the southern shrimp fishery. It sketches in the form of tables and graphs the broad economic boundaries of the concepts of production, distribution and consumption of shrimp in the United States.

Shrimp has rapidly become an item of increasingly great wealth in the fishery industry of the United States, especially during and since World War II. The value of the production of shrimp at the ex-vessel level has increased from an estimated value of \$3,172,000 in 1935 to an estimated value of \$36,000,000 in 1950. This information is shown in Table 1, along with data for other specified years during that period. The average price at the ex-vessel level is given in Table 2, which shows a rise from an estimate of 2.56 cents per pound in 1935 to an estimated 18.46 cents per pound in 1950. This again is a rather large increase, amounting to 721 per cent.

TABLE 1
Ex-Vessel Value of Shrimp Produced in the United States¹
For Specified Years 1935-1950

Year	Dollars	Year	Dollars
1935 ²	3,172,000	1940	5,954,000
1936	3,873,000	1945	21,369,000
1937	5,087,000	1949 ²	33,489,000
1938	4,653,000	1950 ²	36,000,000
1939	4,913,000		

Source: Fish and Wildlife Service.

² Estimated TABLE 2

Average Ex-Vessel Price of Shrimp Produced in the United States For Specified Years 1935-1950

	Cents per		Cents per
Year	lb.	Year	lb.
19352	2.56	1940	3.90
1936	3.19	1945	11.17
1937	3.55	1949²	19.31
1938	3.25	1950²	18.46
1939	3.27		

Source: Fish and Wildlife Service.

² Estimated

I Includes small amount produced in Alaska

¹ Includes some Alaskan production

In studying these data, it should be mentioned that the increase is not due entirely to stronger demand, or attributed to market increases for the identical product. Aside from these influences, which are represented by general inflationary tendencies and other factors which will be discussed later, some of

TABLE 3 AVERAGE WHOLESALE PRICE OF WHITE JUMBO! SHRIMP AT CHICAGO, ILLINOIS, BY MONTHS

Sept. 1938 - Dec. 1950

Sept. 1938 - Dec. 1950					
	1938	1939 (Cents per	1940	1941	1942
			13.5	16.0	21.5
Jan.	• • •	12.3 15.0	14.0	16.0	26.0
Feb.	• • •		18.0	18.0	25.5
Mar.	• • •	13.5	16.5	21.0	23.0
Apr.	• • •	12.5	13.0	19.5	24.5
May	• • •	12.0	14.0	21.5	25.0
June		11.8 12.0	15.5	25.0	26.0
July	• • •		18.5	26.5	30.5
Aug.	:::	13.5	16.0	25.5	30.5
Sept.	14.5	13.0 12.5	14.3	22.0	26.5
Oct.	11.0		13.3	20.5	27.5
Nov.	11.5	11.0	14.0	20.5	29.0
Dec.	10.5	11.0 1944	1945	1946	1947
	1943	(Cents per		15.0	
			n.a.	n.a.	63.5
Jan.	31.5	38.2	n.a.	n.a.	69.5
Feb.	33.0	38.2	n.a.	n.a.	n.a.
Mar.	30.0	39.2	n.a.	n.a.	n.a.
Apr.	45.5	n.a.	n.a.	n.a.	n.a.
May	40.0	38.3 38.5	n.a.	n.a.	n.a.
June	37.0		n.a.	n.a.	n.a.
July	42.5	37.9 37.3	n.a.	n.a.	n.a.
Aug.	47.5		n.a.	n.a.	n.a.
Sept.	51.0	n.a.	n.a.	n.a.	n.a.
Oct.	38.0	n.a.	n.a.	62.5	n.a.
Nov.	38.0	n.a.	n.a.	61.5	n.a.
Dec.	37.8	n.a. 1949	1950	•	
	1948		er pound)		
	(0.0	71.5	73.5		
Jan.	69.0	74.0	74.0		
Feb.	72.5	74.0 74.0	74.0		
Mar.	72.5 72.5	74.0 74.0	75.5		
Apr.	72.5 70.0	74.0 74.0	77.0		
May	70.0	75.0	77.0		
June -	70.0	76.0	76.5		
July	75.0	76.0 76.0	74.5		
Aug.	81.0	74.5	72.5		
Sept.	80.5	71.5	67.5		
Oct.	74.5	70.5	60.5		
Nov.	72.0	71.0	60.5		
Dec.	69.0	/1.0	30.0		

Source: Fish and Wildlife Service.

¹ In earlier years of this table known as 25-and-under count (headless) and later years 15-20 count (headless). From Jan. 1948 on product is frozen.

the rise probably has been due to a tendency for the fleet to catch an increasing proportion of the larger sizes of shrimp which sell for higher prices. This situation alone would tend to raise the value and price in recent years.

In order to avoid the influence of changing sizes, and to present a series

TABLE 4

AVERAGE WHOLESALE PRICE OF WHITE MEDIUM¹ SHRIMP AT CHICAGO, ILLINOIS, BY MONTHS

Cant 1038 - Dec 1950

		Sept. 1938 -	Dec. 1950		
	1938	1939	1940	1941	1942
	1730	(Cents per			
Taia		n.a.	9.5	13.0	n.a.
Jan.	• • •	n.a.	11.5	15.8	n.a.
Feb.	• • •	n.a.	15.5	19.5	n.a.
Mar.	• • •	10.0	15.5	17.0	22.5
Apr.	• • •	n.a.	n.a.	17.5	· n.a.
May	• • •	n.a.	n.a.	n.a.	n.a.
June July	• • •	n.a.	n.a.	n.a.	n.a.
	• • •	12.0	n.a.	n.a.	n.a.
Aug. Oct.	10.5	11.0	11.5	20.0	23.5
Nov.	10.0	n.a.	n.a.	n.a.	n.a.
Dec.	n.a.	n.a.	11.8	n.a.	n.a.
Sept.	11.5	11.0	14.5	21.0	26.5
Sept.	1943	1944	1945	1946	1947
	1943	(Cents per		12,10	
Ion	31.0	32.0	n.a.	n.a.	60.5
Jan. Feb.	29.5	32.0	n.a.	n.a.	60.0
Mar.	n.a.	33.2	n.a.	n.a.	n.a.
Apr.	45.5	n.a.	n.a.	n.a.	n.a.
May	34.5	32.9	n.a.	n.a.	n.a.
June	35.0	30.0	n.a.	n.a.	n.a.
July	n.a.	n.a.	n.a.	n.a.	n.a.
Aug.	36.0	31.0	n.a.	n.a.	n.a.
Sept.	21.5	n.a.	n.a.	n.a.	n.a.
Oct.	31.8	n.a.	n.a.	n.a.	n.a.
Nov.	31.0	n.a.	n.a.	54.0	n.a.
Dec.	31.0	n.a.	n.a.	54.0	n.a.
	1948	1949	1950		
	(Cents pe				
Jan.		61.5	63.0		
Feb.	64.0	64.0	63.0		
Mar.	64.0	64.0	63.0		
Apr.	64.0	64.0	65.5		
May	60.0	64.0	68.0		
June	59.5	65.0	68.0		
July	64.0	66.0	66.0		
Aug.	67.0	66.0	62.5		
bept.	64.0	65.0	61.0		
Uct.	60.0	61.5	58.5		
INOV.	59.5	58.0	52.5		
Dec.	59.0	60.0	52.0		

Source: Fish and Wildlife Service.

ы.а.—not available 1 Preliminary 26-30 count (headless). From Jan. 1948 on product is frozen.

of data showing prices for approximately the same product throughout time, a series of wholesale prices for shrimp at Chicago, for the period September 1938 to December 1950, has been developed. This is shown in Tables 3 and 4. The former table presents data for white jumbo shrimp, and the latter table for white medium shrimp. The prices in each table cover practically the same size of shrimp all the way through. In earlier years, the product was predominantly fresh shrimp, and in later years predominantly frozen shrimp. There may be some tendency for a rise in prices in recent years attributable to the fact that frozen shrimp usually sells at a slight premium over fresh shrimp. However, this would not be a significant factor in comparing earlier and later years in the table since the premium for frozen shrimp rarely amounts to more than a few cents per pound, and the changes in prices between the earlier and later years in the table are, as depicted, of larger magnitude. The rather large rise in prices is repeated in these tables, white jumbo shrimp increasing from a value of 10.5 cents per pound in December 1938 to 60.5 cents per pound in December 1950, a 576 percent increase. White medium shrimp increased from a value of 10 cents per pound in November of 1938 to 52.5 cents per pound in November 1950, an increase of 525 percent. In preceding months each of these sizes of white shrimp had been selling at even higher levels.

In addition to the aforementioned price data, some further interesting information is shown in Table 5, which depicts the average wholesale price of brown grooved shrimp at Chicago, by months, during recent years. This information is shown primarily to note the discount in prices paid for brown grooved

shrimp as compared to white shrimp on the same market.

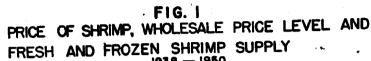
TABLE 5 AVERAGE WHOLESALE PRICE OF GROOVED (BROWN) SHRIMP AT CHICAGO, ILLINOIS, BY MONTHS

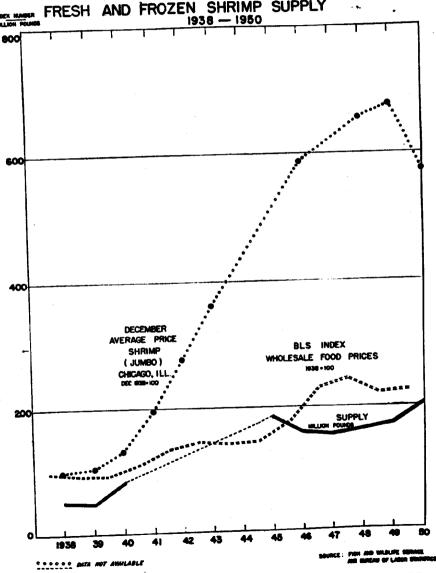
		Jan. 1949 -		1949	1950
	194 9	1950	26	-30 Count	(headless)
15	-20 Count (headless)	20	Cents pe	th
	Cents pe	r lb.		Cents p	59.0
Ton		67.0	Jan.	• • •	
Jan.	• • •	67.0	Feb.	• • •	57.0
Feb.	• • •	68.5	Mar.		60.0
Mar.	22.1	T	April	55.0	61.0
Apr.	69.0	71.5		55.0	63.0
May	69.0	74.0	May	55.5	63.0
June	69.0	74.0	June		64.0
July	69.0	74.0	July	55.5	
	69.0	69.5	Aug.	55.5	58.5
Aug.		65.0	Sep.	57.0	56.0
Sep.	65.0	62.0	Oct.	54.0	51.5
Oct.	. 63.0		Nov.	54.0	46.0
Nov.	63.0	55.5		52.5	49.0
Dec	65.0	57.5	Dec.	22.3	77.0
Source: Fi	sh and Wil	dlife Service.			

That the rise in prices has been rather large, can be readily indicated when the increases in the aforementioned value and price series are compared to other available general data. In Table 6 are shown the Bureau of Labor Statistics wholesale price series for all commodities and for foods for the same period. It will be noted that the increase in the series of index numbers for prices of all commodities amounts to only 205 percent. For the food group the increase amounts to only 226 percent. Both of these series show very much less of an

increase than do shrimp prices.

The situation depicted in these tables and in Figure 1 indicates that the rise in shrimp prices is not solely due to inflationary tendencies. If the 225 percent increase in wholesale food prices (which brings the value of the dollar to about 45 cents when compared to the 1935 dollar) is used as an indication of an average increase due to inflation, there is something still more to explain about





BUREAU OF LABOR STATISTICS INDEX NUMBERS OF WHOLESALE PRICES FOR ALL COMMODITIES AND FOR FOODS, 1938-1950

(Base - 1926 = 100)

Vest	All Commodities	Foods	1950:		
1938 1939 1940	78.6 77.1 78.6	73.6 70.4 71.3	Jan. Feb. Mar.	151.4 152.8 152.7	154.8 156.7 155.5 155.3
1941 1942 1943	87.3 98.8 103.1	82.7 99.6 106.6	Apr. May June	152.8 155.9 157.3 162.9	153.3 159.9 162.1 171.4
1944 1945 1946 1947	104.0 105.8 121.1 152.1	104.9 106.2 130.7 168.7	July Aug. Sep. Oct.	166.4 169.5 169.1	174.6 177.2 172.5
1947 1948 1949	165.0 155.0	179.1 161.4	Nov. Dec. Year	171.7 175.3 161.5	175.2 179.0 166.2

Source: Bureau of Labor Statistics.

shrimp price increases. If this inflationary effect is taken out of the shrimp prices by a process of dividing each shrimp price by the index number for wholesale food prices, there is still a sizeable increase left to explain. A lessening of shrimp supplies cannot be looked to for the whole answer. As shown in Figure 1, supplies of fresh and frozen shrimp have increased in most years during this period.

Ordinarily, when supplies go up, prices go down, and conversely, but here, in the case of fresh and frozen shrimp, in most years a condition of rising prices prevails in spite of an increase in supplies. This is particularly true of the years 1940 through 1949. Explanations of this condition are not directly available. However, some deductions may be offered. From the data it is apparent that a relatively greater proportion of consumers' money has become available for use for the purchase of fresh and frozen shrimp, as compared to other foods. The total number of dollars used for such purchases has been relatively greater. When divided by the total pounds of shrimp available, these have resulted in a higher price plane. One situation about which definite information is known which should result in this condition, is that more consumers have become acquainted with fresh and frozen shrimp and are purchasers of that product. The advent of new freezing techniques and increased consumer incomes has probably helped to bring shrimp to places where it formerly was not used.

Several years ago the Fish and Wildlife Service made a survey which clearly indicated that fresh and frozen shrimp were receiving wider distribution. This particular group represents the form in which the predominate part of the total supply supply is marketed. The survey made for the year 1946 duplicated an earlier survey made in 1936 in which sixty odd cities were included, to determine the species of fish and shellfish of principal importance in the retail trade of those cities of the United States. The information was published in Fishery Leaflet 365, entitled, Sales Patterns for Fresh and Frozen Fish and Shellfish, 1936 & 1946, and it definitely showed that shrimp were getting wider distribution in the cities surveyed. The following quote from this publication will illustrate this:

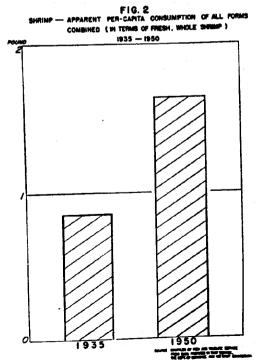
"Shrimp, particularly, was reported many more times in 1946 than in 1936. It also displaced local or regional varieties formerly most favored

during many months of the year in Milwaukee, Wisconsin, and Tucson, Arizona. The cities in which shrimp was marketed [in volume]* in 1946 but not in 1936 are the following:

"Albuquerque, N. Mex. Atlanta, Ga. Boston, Mass. Cincinnati, O. Cleveland, O. Davenport, Ia. El Paso, Tex. Indianapolis, Ind. Lincoln, Neb. Los Angeles, Calif. Manchester, N. H. Milwaukee, Wis.

Minneapolis, Minn. New Haven, Conn. Norfolk, Va. Peoria, Ill. Pittsburg, Pa. Richmond, Va. St. Paul, Minn. Salt Lake City, Ut. Scranton, Pa. Seattle, Wash... Wichita, Kans."

Since data in the aforementioned publication nullify the possibility that the same number of original consumers were eating the increased amounts of shrimp being marketed, this information would indicate that more people have become acquainted with fresh and frozen shrimp, resulting in an increase in the per capita consumption of that product. Such an increase, in turn, would be reflected in an increase in the per capita consumption of all shrimp, all other factors remaining constant. Per capita consumption of all shrimp has increased, as is shown in Tables 7 and 8. The apparent consumption of shrimp in terms of fresh



^{*} Words in brackets added.

SHRIMP—United States Production, Exports, Imports and Apparent Consumption (in Terms of Fresh, Whole Shrimp)

FOR SPECIFIED YEARS 1935-1950

Importe

Year	Production1 1,000 lb.	Domestic Exports 1,000 lb.	jor for Consumption 1,000 lb.	Apparent Consumption 1,000 lb.
1935	² 123,824	319,613	4,549	108,760
1937	143,448	34,044	5,674	115,078
1938	143,101	34,128	6,877	115,850
1939	150,250	35,608	7,560	122,202
1945	191,345	7,519	13,240	197,066
1946	² 175,000	5,112	21,130	191,018
1947	2170,000	10,313	22,477	182,164
1948	² 165,000	6,381	36,579	195,198
19494	² 170,556	13,412	51,077	208,221
1950.	² 186,472	8,642	69,853	247,683

Source: Production, statistics of the Fish and Wildlife service; exports and imports compiled by U. S. Tariff Commission from official statistics of the Department of Commerce; apparent consumption, compiled by Fish and Wildlife Service.

TABLE 8

SHRIMP—APPARENT PER-CAPITA CONSUMPTION OF ALL FORMS COMBINED (IN TERMS OF FRESH, WHOLE SHRIMP)

16	١,	•	1	Λ	_	^
13	/3	5-	1	y	J	v

Year	Pound	Year	Pound
1935	.855	1946	1.365
1937	.893	1947	1.270
1938	.892	1948	1.336
1939	.934	1949	1.402
1945	1,493	1950	1.638

Source: Compiled by Fish and Wildlife Service from data prepared in that Service, the Department of Commerce and U. S. Farm Commission.

whole shrimp has increased from 108,760,000 pounds in 1935 to 247,683,000 pounds in 1950—more than double. This information converted to a per capita basis shows an increase in per capita consumption from .855 pounds in 1935 to 1.638 pounds in 1950—slightly less than double. Per capita consumption data are shown in Table 8 and graphically in Figure 2. Data for specified intervening years are also shown in the tables. It should be re-emphasized that these data are on a fresh whole shrimp basis and that they would amount roughly to .43 pounds in 1935 and .82 pounds in 1950 on a marketed weight basis.

This increased demand, coupled with successful efforts to market varieties of shrimp other than white shrimp, has been a great incentive to expansion in the

¹Includes a small amount produced in Alaska

²Estimated

³Does not include canned shrimp

⁴Preliminary

TABLE 9
ANNUAL SHRIMP CATCH IN THE UNITED STATES BY STATES FOR SPECIFIED YEARS (IN TERMS OF FRESH, WHOLE SHRIMP)
1931-1950

Total United 1 States	99,432	91,704 122,028 121,562 143,448 143,101 150,250 152,663 191,345 170,556 186,472
		710 122 710 123 7452 121 7174 144 9,951 149 1,180 15 1,122 15 1,000 17 1,000 18
Total Other¹ States	2,981	3,442 2,710 3,452 2,174 2,951 2,180 2,122 2,321 4,000
Total South Atlantic & Gulf States	96.451	98
Texas	13.815	9,244 16,359 9,962 16,905 16,365 11,173 14,779 15,722 33,668
Louisland	9, 10	35,146 38,096 55,572 53,430 68,781 81,379 100,613 98,986 116,904 85,707
1931-1950	000 lb.	17,716 14,010 15,330 17,493 23,558 9,902 5,676 8,566 6,595 (,595
193	Alabama 1,(2,475 3,382 4,557 1,869 3,104 3,643 4,565 4,439 2,664
	Florida	18,853 18,136 16,292 20,725 14,037 10,143 8,782 8,369 13,662 13,662 23,216
	Georgia	,501 3,601 ,801 6,843 ,101 9,715 ,201 9,504 ,723 10,426 ,,089 10,802 1,784 9,336 4,696 16,392 1,845 8,776 1,845 6,929 Fish and Wildlife
	Carolina	W = = = = 0 4 = 4 = 1
;	North Carolina	338 292 2,564 3,815 4,184 4,569 4,811 4,156 10,614 1,392 6,637 Source:
	Year	1931 1932 1934 1936 1937 1939 1940 1945 1945

Includes a small amount produced in Alaska 2Preliminary Estimate fishery. With the advent of the construction of larger and more expensive trawlers, which are able to fish on more distant shrimping grounds and the use of more modern instruments and gear, this expansion has occurred. In addition, distant foreign sources of production have been brought into the market. The size of the expansion can be noted in succeeding tables. Table 9 shows the annual shrimp catch in the United States for specified years 1931-1935. This information is given in terms of fresh whole shrimp. It will be noted that the catch of domestic fishermen has increased from 99,432,000 pounds in 1931 to an estimated 186,472,000 pounds in 1950. This is nearly a doubling of production on the part of the domestic industry. The rapid rise in the importance of certain States as producers in recent years is also shown. In addition to this source, the contribution to domestic supplies by foreign producers should not be overlooked. The greatest volume of importations of shrimp from foreign sources, occurs in the fresh or frozen form. United States imports of that product for the years 1935 through 1950 are shown in Table 10. It will be noted that they have also

TABLE 10
UNITED STATES IMPORTS OF FRESH OR FROZEN
SHRIMP (in terms of headless weight)

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ı	ч.	• • •	- 1	7	.)	u	

Year	Total U.S. Shrimp Imports Pounds	Shrimp imports from Mexico Pounds	Percentage of Mexican Imports to Total U.S. Imports Percent
1935	1,863,949	1,574,077	84.4
1936	808,902	552,942	68.4
1937	2,400,075	2.058,741	85.8
1938	3,459,558	3,242,809	93.7
1939	3,984,142	3,797,231	95.3
1940	5,024,325	4,912,552	97.8
1941	3,161,832	3,115,933	98.5
1942	4,436,290	4,419,306	99.6
1943	5,749,321	5,746,545	99.95
1944	6,083,679	6,081,509	99.96
1945	7,875,789	7,873,888	99.98
1946	12,243,975	12,056,001	98.5
1947	13,274,965	13,228,505	99.7
1948	21,563,023	21,477,390	99.6
1949	29,673,205	29,382,193	99.0
1950	40,198,063	39,652,640	98.6
Source:	Census Bureau	,	

increased greatly from 1,863,949 pounds in 1935 to 40,198,063 pounds in 1950. This is in terms of headless weight. Mexico has been the greatest source of supply, contributing in the most recent full year, 1950, 39,652,640 pounds or roughly 98.6 percent of all imports in this category.

From 1940 to 1949 this expansion has occurred without any hindrance. Even with increased supplies, prices held firm or rose, resulting in a healthy condition for the expansion of the industry. However, it should be noted from Figure 1 that in the most recent years there is a tendency for a return to normal supply-price reactions. There was a considerable expansion in the industry in 1950, with a resultant drop in prices. With this situation in mind, and comparing it to conditions before 1940, it appears that the fresh and frozen shrimp market will

be more changeable and subject to more direct price reactions when supply changes, and that expansion will not come as easy as during the war and im-

mediate postwar years.

In connection with the marketing of frozen shrimp, it is appropriate to mention that at the present time in the Economics and Cooperative Marketing Section, Branch of Commercial Fisheries of the Fish and Wildlife Service, there is being conducted a consumer preference survey for all frozen fishery products. In this survey, information will be obtained which may be of particular interest to members of the shrimp industry. Some of the items on which information will be obtained are as follows: preference for size of package; preference for shape of package; preference for information, such as nutritional value, recipes, weight, etc. shown on packages; preferences for prepared fish, such as breaded items, prepared fish dinners, etc.; availability of frozen fish and shellfish at store where most of the consumer's shopping is done.

It was previously stated that the material presented would merely sketch broad economic boundaries of production, distribution and consumption. There is much more work to be done of a specific nature to throw further light on the economics of shrimp production and distribution. Some of the more important types of analyses which will receive the consideration of the Economics and Cooperative Marketing Section in the future are as follows: information on per capita consumption of shrimp by various types of processed product; effect of consumer incomes on demand for shrimp; effect of supplies on prices of (a) canned shrimp, (b) frozen shrimp, (c) fresh shrimp, both nationally and in various markets; analysis of effect of advertising programs on consumption, etc.; general survey of present economic status of shrimp industry.

Trade Relations of Norway with the Gulf and Caribbean Area

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THE SOUTHERNMOST POINT IN NORWAY is located at about the same latitude as the southern tip of Greenland, or the middle of the Hudson Bay. The northernmost point, Northcape, lies slightly farther to the north than Point Barrow. Notwithstanding her arctic location, Norway has ice-free harbors all along the coast, making it possible to maintain a population of some three million two hundred thousand. That it is at all possible to live in Norway is, of course, due to the influence of the Gulf Stream, whose warm waters cross the Atlantic to sweep along the Norwegian coast, resulting in a temperate climate. The Gulf Stream is indeed the Caribbean's gift to Norway.

Although people can make their living in Norway's ice-free ports and in the mountainous hinterland, stretching to the borders of Sweden, Finland, and the Soviet Union, the natural conditions of life are meager, indeed, most of the country consisting of barren mountains or covered with vast forests. Only 3 per cent of the total area is cultivated, and opportunity for growing grain, vegetables, and other agricultural products is very limited. To maintain its relatively high standard of living, Norway must import many essential commodities. In 1938, Norway's imports per capita were surpassed only by New Zealand. Averaging about 225 Norwegian kroner per