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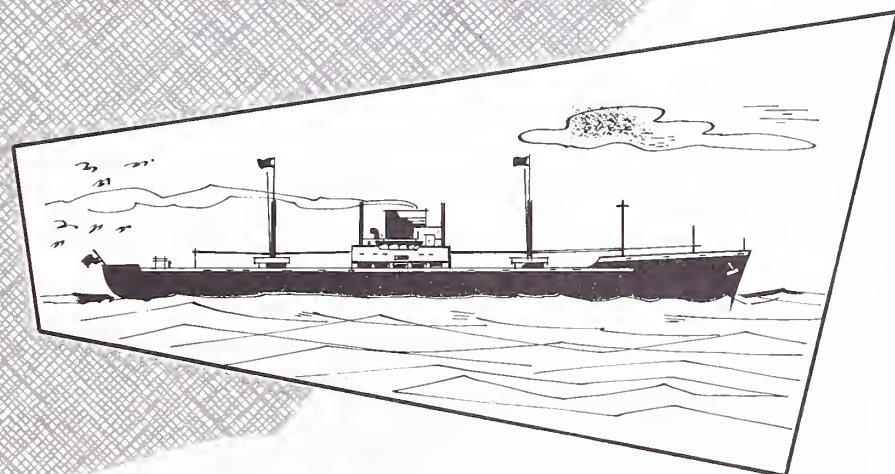
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**Fibers Used
In Textile
Manufactures
Entering
United States
Foreign Trade**

**QUANTITIES OF THREE
MAJOR FIBERS USED**



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Growth Through Agricultural Progress

Issued July 1961

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FIBERS USED IN TEXTILE MANUFACTURES ENTERING UNITED STATES FOREIGN TRADE

Quantities of Three Major Fibers Used

By

Frank Lowenstein and Charles H. Wittmann*

INTRODUCTION

During the past 41 years the pattern of United States foreign trade in manufactures of basic textile fibers--cotton, wool, and manmade--has changed considerably.

The total volume of trade in these manufactures more than doubled in the 1920-60 period. Exports of manufactures of cotton and wool declined; exports of manufactures of manmade fibers increased. Imports for manufactures of all three major fibers began to increase sharply shortly after the end of World War II.

During the 41 years from 1920 through 1960, the fiber equivalent of textile exports was larger than the fiber equivalent of textile imports for every year except 1960, when imports exceeded exports by 58 million pounds. This import excess was chiefly the result of the phenomenal increases in imports of manufactured textile products.

These and other accurate overall measurements of this country's foreign trade in textile manufactures, which are presented in this publication, have been nonexistent until recently. It was necessary first to develop a way of converting official foreign trade statistics into a common measure.

To develop this common measure--pounds of fiber--it was necessary in turn to determine conversion factors for numerous products that are reported in official foreign trade statistics in such diverse quantity units as pounds, square yards, dozens, and value only. The technique for deriving conversion factors was developed after several years of research and is explained in detail in this report.

The economic implications of the changes in the pattern of United States foreign trade in manufactures of basic textile fibers are being studied and will be discussed in a later publication.

*The authors are especially indebted to Mrs. Katheryn S. Lake for detailed statistical computations required to complete this bulletin.

OVERALL ANALYSIS

When measured in equivalent pounds of raw fiber, exports of manufactures of cotton, wool, and manmade fibers were, in the aggregate, greater than imports for every year of the 1920-60 period except 1960.

In terms of 10-year averages, exports were about 3 times larger than imports in the 1920-29 period, almost 2-1/2 times larger during 1930-39 and 1950-59, and 10 times larger in 1940-49. (See table 1 and figure 1.)

The export trade balance, that is the excess of exports over imports, averaged 165 million pounds annually during 1920-29, dropped to 84 million during 1930-39, rose to 392 million during the war decade 1940-49, then dropped to 216 million pounds in 1950-59. In 1960 the balance shifted to an import excess of 58 million pounds.

Although cotton was the dominant fiber used in exported fiber manufactures during the past 41 years, it has declined in importance since the 1930's. Cotton made up 97 percent of total fibers in these manufactures for the decade 1920-29, 96 percent for 1930-39, 81 percent for 1940-49, and only 74 percent for 1950-59. In 1960 cotton accounted for only 65 percent of total fibers in exported textile manufactures.

Wool fiber exports reached 8 percent of the total in 1940-49 which includes the war years, and since then have accounted for less than 2 percent of the total.

Manmade fiber exports on the other hand, rose sharply during and after the war period. They accounted for 11 percent of the total in 1940-49, 24 percent in 1950-59, and 34 percent in 1960.

The period 1920-40 was, of course, greatly affected by the depression of the 1930's; exports of both cotton and wool manufactures declined during this period. During this period, exports of cotton manufactures decreased an average of 4 percent per year, exports of wool manufactures about 6 percent. The 11-percent average rise of exports of manufactures of manmade fibers in this period was insignificant in terms of total quantity because manmade fiber manufactures were very small in early years.

The period 1940-49 was marked by the dislocation in foreign trade caused by the war. Following the early postwar period, exports of cotton and wool manufactures again decreased. During 1949-60 average declines were 4 percent per year for cotton and 6 percent for wool. Exports of manmade fiber manufactures, on the other hand, maintained the high level reached directly after the war. (See table 2.)

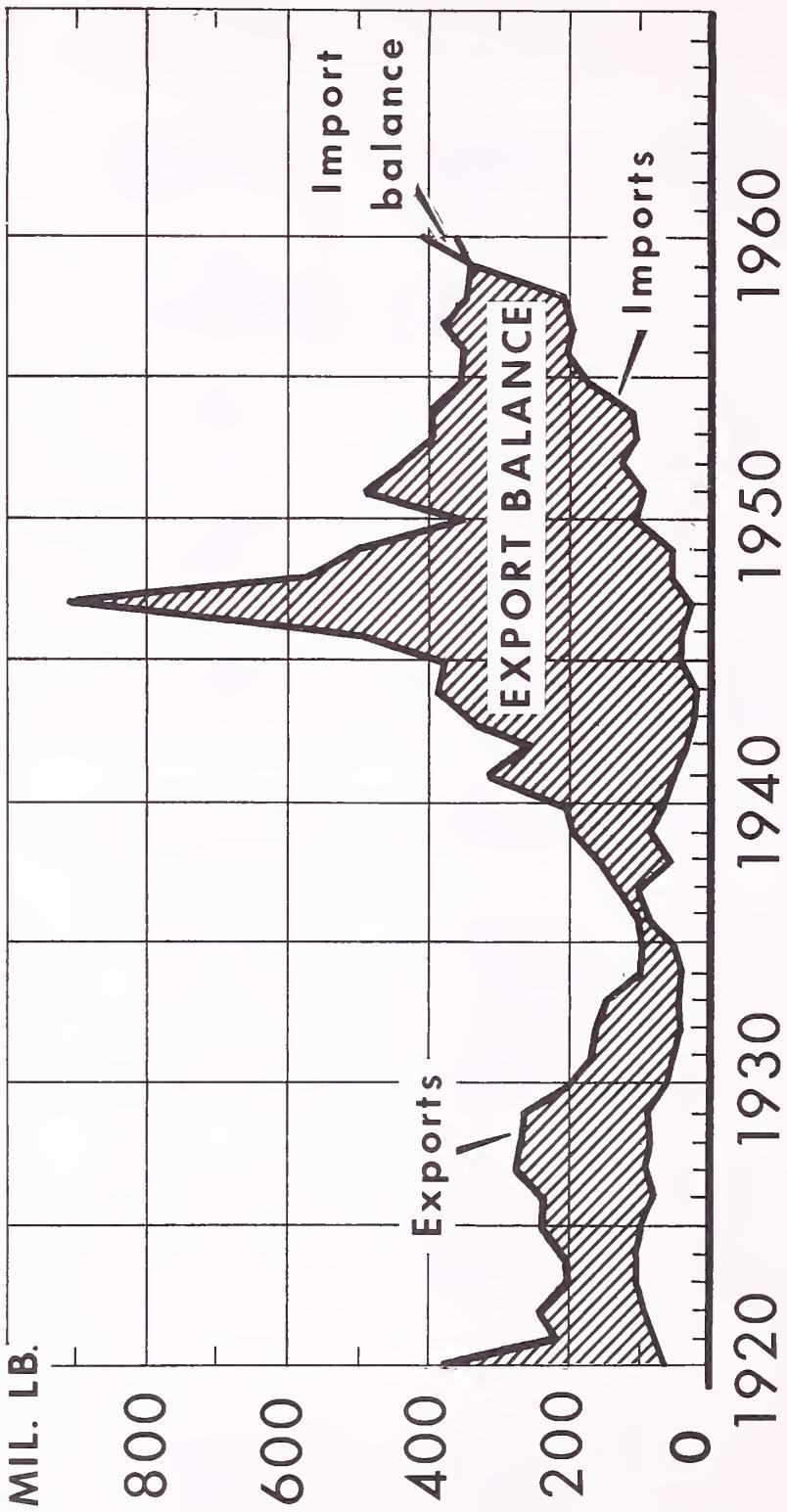
Imports of cotton textile manufactures were relatively stable during 1920-40. Imports of manufactures made of wool, however, declined at an average annual rate of 5 percent. For the 1949-60 period, imports of textile manufactures were marked by sharp upward trends. Cotton, wool, and manmade manufactures increased by average annual rates of 24 percent, 8 percent and 30

Table 1.--Exports, imports, and trade balance: Fiber equivalent, United States, 10-year averages

1/ Minus sign indicates excess of imports over exports.

U. S. FOREIGN TRADE

*Fiber Equivalent of Fiber Manufacturers **



* COTTON, WOOL, AND MANMADE

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Figure 1

percent, respectively. For the aggregate of all three major fibers the increase during 1940-60 averaged 17 percent annually. As a direct consequence of the recent phenomenal increases in imports of manufactured textile products an import balance of 58 million pounds was reached in 1960.

Table 2.--Rate of change: Average annual percentage, exports and imports, 1920-40 and 1949-60

COTTON

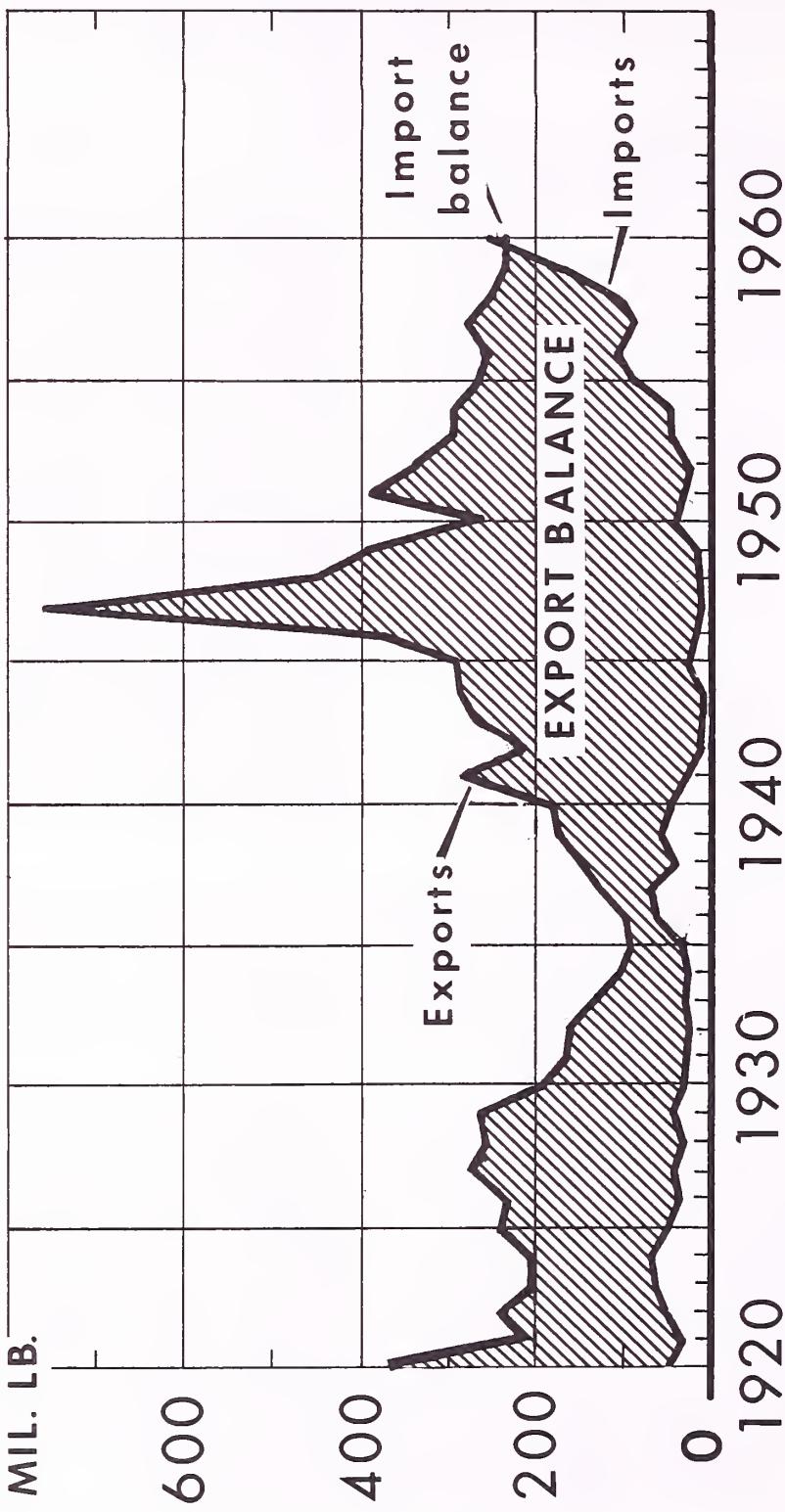
Exports and imports of cotton textiles and textile products varied widely from 1920 through 1960. (See fig. 2.) Exports of cotton textiles during the postwar period were in general slightly above those of the 1920's. The annual average in the 1920's was equivalent to 246 million pounds (511,000 bales), and the 1946-60 annual average was 337 million pounds (703,000 bales). During the 1930's exports of cotton textiles and textile products dropped sharply, probably because of the depression; they then climed until they reached a peak of 758 million pounds (1,580,000 bales) in 1947. Although exports have trended downward since 1947, in 1960 they were still at about the level of the 1920's.

Imports of cotton textiles and textile products were generally at a level of about 43 million pounds (100,000 bales) a year from 1920 through 1940. During World War II imports were very low and remained so through 1949 because of the dislocation of the textile industries abroad. Since then, imports have risen rather steadily; they reached a record high in 1960 of about 256 million pounds (532,000 bales).

The cotton textile trade balance has varied markedly throughout the period under discussion. The peak excess of exports over imports before World War II was 317 million pounds (661,000 bales) in 1920. (See fig. 3.) The peak in the postwar period was in 1947 when exports were large and imports were small. The excess of exports over imports also was large in 1948, which showed some effects of war dislocations abroad. From 1949 to 1960, the rate of decline in exports averaged about 4 percent a year, while imports rose on an average of 24 percent per year. Imports of cotton manufactures exceeded exports in 1960 for the first time during the 41 years covered by this analysis; the excess amounted to 22.4 million pounds (46,700 bales). This was caused primarily by an increase in imports of almost 50 percent over the previous year. In 1949 exports exceeded imports by about 764,000 bales.

U. S. FOREIGN TRADE

Cotton Equivalent of Cotton Manufactures



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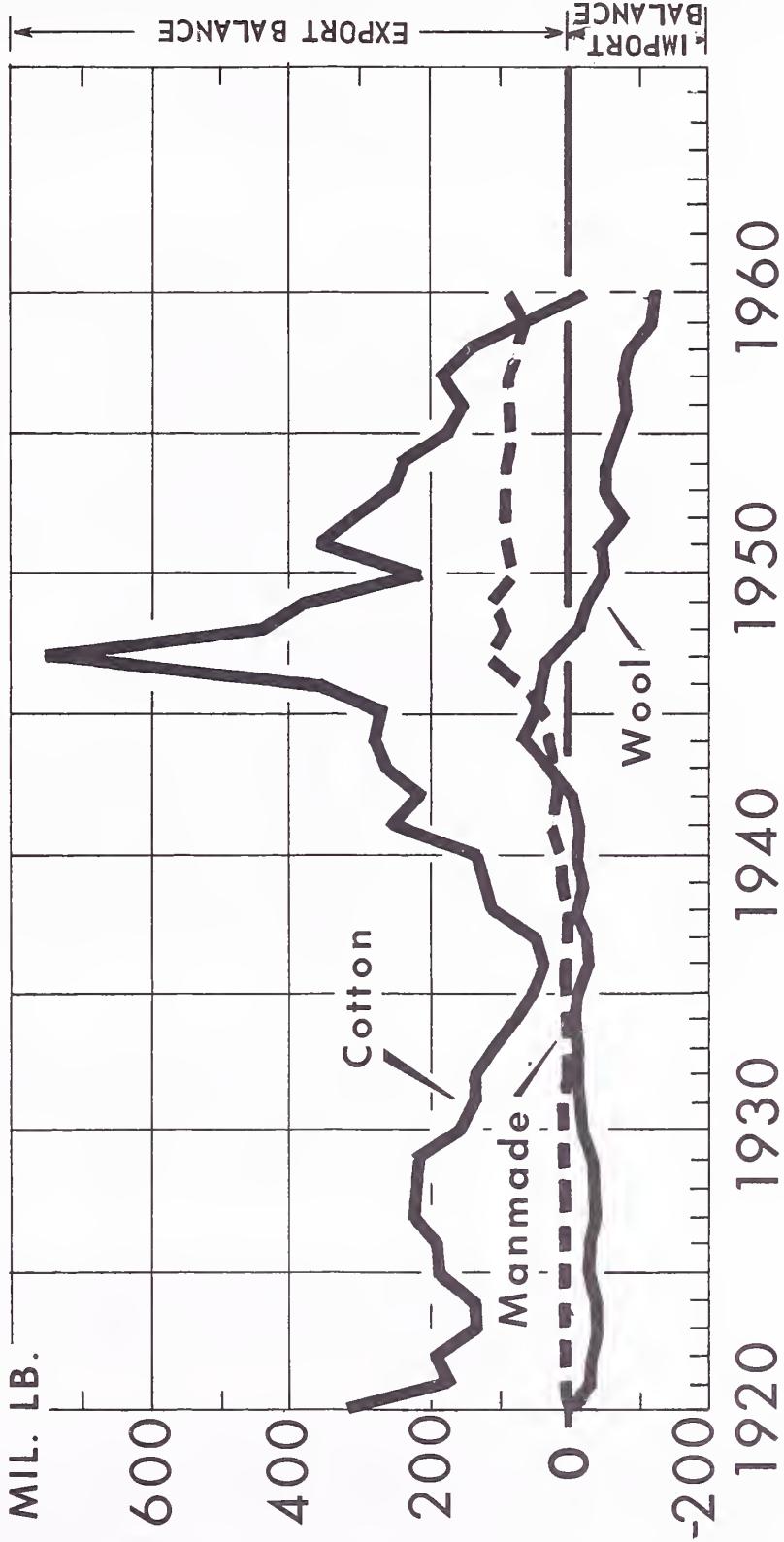
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Figure 2

U. S. FOREIGN TRADE BALANCE

Fiber Equivalent of Fiber Manufacture



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Figure 3

Between 1951 and 1960 exports declined every year except 1957; in 1960 the export figure was the lowest since 1942.

Beginning with 1952 and continuing through 1960, imports were higher in each year, except 1957 when a slight temporary decline occurred. During the next 3 years a persistent upward trend developed.

The estimates shown in tables 5 and 6 do not include cotton batting, sliver, picker lap, and waste. An allowance of 12 percent was made for manufacturing waste in computing the raw cotton used to manufacture textile products.

Shipments reported in quantity units other than pounds (such as number, dozens, square yards), accounted for about 75 percent of the value of exported manufactures before 1958, while 5 to 10 percent were reported in value only. During this same period, import shipments reported in quantity units other than pounds accounted for 15 to 40 percent of the value of all products, as did those reported in value only. However, beginning with 1958, exports reported in pounds accounted for 45 percent of the total value while the corresponding figure for imports was about 40 percent.

MANMADE FIBER

Exports of manufactures of manmade fiber products exceeded imports each year in the 1920-60 period. On the average exports were about twice as large as imports during the decade of 1920-29, about four times larger during 1930-39, about 60 times larger during 1940-49, and about 10 times larger in 1950-60. (See table 1 and fig. 4.) The ratio of exports to imports has declined considerably in recent years, being but 3 to 1 in 1959. This change was caused primarily by the rapid rise in imports since 1954; exports remained relatively stable. However, in 1960, because of a 25 percent rise in exports over 1959, exports were 4 times higher than imports.

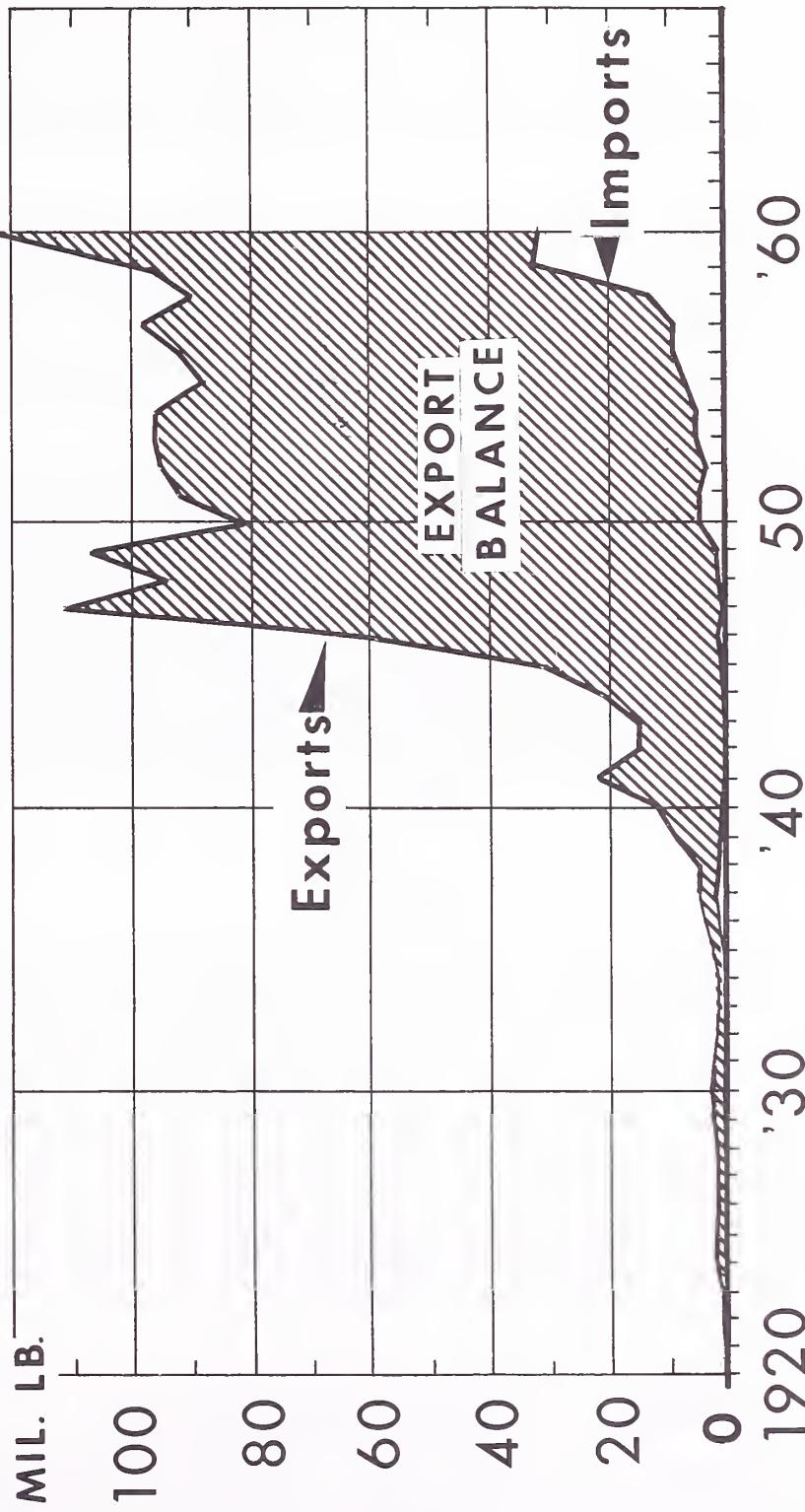
Annual exports of manmade fiber products averaged less than 3 million pounds from 1920 to 1935. A gradual increase to 31 million pounds in 1945 was followed by a sharp rise to about 111.5 million pounds in 1947. In 1950 exports reached a record high of 123 million pounds. Thereafter, they leveled off somewhat but maintained an average of about 92 million pounds for the 10 years 1950-59. (See table 9.)

Except in 1937, imports of manmade fiber manufactures did not exceed 2 million pounds in any year during 1920-49. Between 1950 and 1954 they averaged approximately 4.3 million pounds annually. Thereafter, imports rose sharply, reaching a peak of 33.6 million pounds in 1959. In 1960 they fell off slightly to 31.1 million pounds. (See table 10.)

The broadwoven fabric category has consistently been the largest single group of manmade fiber manufactures exported since 1930. This group accounted for about 60 percent of the total in 1930-35, 75 percent during 1936-45, and about 85 percent annually during 1946-55. During the past 5 years, exports of cloth accounted for about 70 percent of the total. This group together with

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Fiber Equivalent of Manmade Fiber Manufacturers



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Figure 4

such semimanufactures as sliver, tops and roving; thrown and spun yarns; and sewing thread, constitutes approximately 80 percent of total exports. (See table 9.)

Hosiery made of manmade fibers, which was the dominant export commodity until 1928, declined rapidly thereafter to become of relatively minor importance.

Manmade fiber broadwoven fabric imports constitute a much smaller proportion of the total imports than of total exports, averaging about 35 percent of total imports during the past 8 years. Semimanufactures, products processed from raw fiber through the fabric stage, were approximately 45 percent of the total, while fabricated products accounted for the remainder. Finished products, those which have passed through the final stage of manufacture to the form in which they are used by the ultimate consumer, make up a much larger proportion of imports than of exports.

The increase in total manmade fiber imports in 1958 over 1957 was caused primarily by rises of approximately 2-1/2 million pounds in each two categories, woven fabrics and laces and lace articles. The total of 33 million pounds in 1959, the highest on record, was 2-1/2 times larger than the previous year. This rise of 20 million pounds over the previous year was the result mainly of increases of 5.5 million pounds in tire fabric, 6.3 million pounds in woven fabrics, 2.4 million pounds in wearing apparel not knit, and 5 million pounds in laces and lace articles. Within the latter group, ornamented wearing apparel accounted for most of the rise. Total imported manufactures of manmade fibers in 1960 amounted to 31.1 million pounds, a decline of 8 percent from the previous year.

WOOL

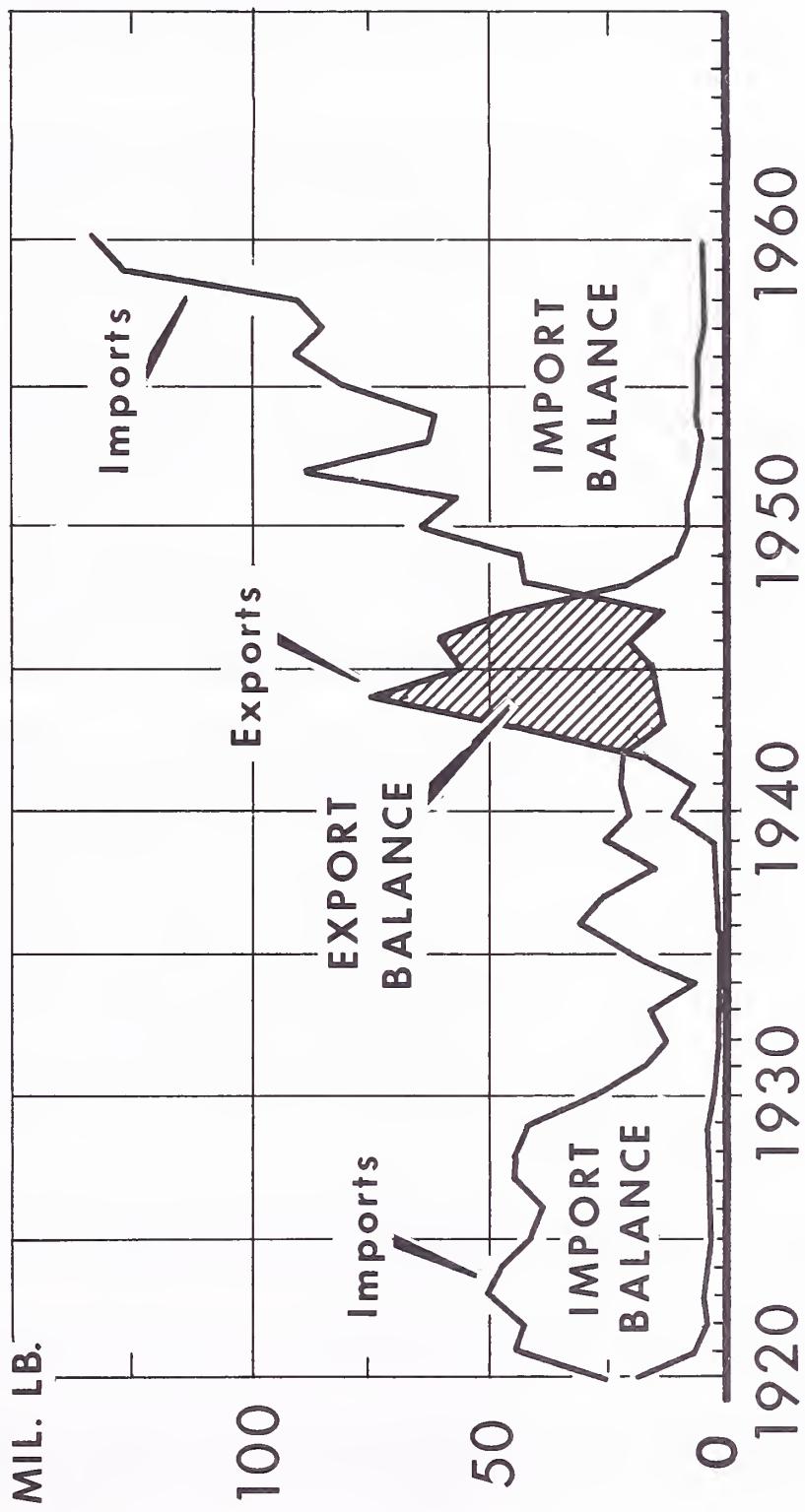
United States imports of wool manufactures for the 10 years ending with 1959 averaged 80 million pounds per year, wool content. The average wool content of exported wool manufactures during the same period was 6 million pounds. The corresponding figures for 1960 were 132 million and 5 million. (See table 1 and fig. 5.) In terms of raw wool content, imports of wool manufactures exceeded exports in every year between 1920 and 1960 with the exception of the 5 years 1943-47, when annual exports averaged about 40 million pounds more than imports, as a result of lend-lease and other government and private aid shipments. The import surplus averaged 36 million pounds per year in 1920-29, 17 million in 1930-39, and 75 million in 1950-59. Tables 7 and 8 summarize the foreign trade of the United States in manufactures of wool in terms of equivalent pounds of fiber.

TECHNIQUE FOR DERIVING CONVERSION FACTORS

For years, quantitative measures of U. S. foreign trade in textiles and textile products were lacking because foreign trade data could not be summed to obtain overall measurements. Some attempts were made from time to time to

U. S. FOREIGN TRADE

Wool Equivalent of Wool Manufactures



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Figure 5

estimate the quantity of fiber used in manufacturing textiles entering U. S. foreign trade. In 1950, Barkley Meadows, an Agricultural Economist with the U. S. Department of Agriculture, published quantitative estimates. 1/ These estimates were a continuation of an earlier series published by Robert B. Evans and Rose Monachino. 2/

For a few years after publication, the Agricultural Economics Division of the Agricultural Marketing Service brought the Meadows' estimates up-to-date; the estimates were then discontinued because they were found inadequate. The inadequacy arose from the fact that Meadows did not include estimates for commodities that the Bureau of the Census reported in value only. As time progressed, these items increased in importance; hence estimates that excluded them understated the size of our foreign trade in cotton textiles.

The analysis reported in this publication includes estimates for all categories of textile products that are imported or exported as such. It does not include estimates for textiles that are imported and exported as parts of articles primarily made from other raw materials, such as automobiles, automobile tires, and furniture.

Foreign trade statistics for textiles, as published by the Bureau of the Census, report shipments in various units. Among these units are square yards, number, dozens, pounds, and value. Value is reported for all shipments; quantity units are indicated for most but not all of them.

Weight in pounds is by far the most useful measure of quantity for foreign trade data on textiles. Since all commodities can be expressed in terms of weight, this unit affords a common denominator which makes comparisons or analysis of trends in imports and exports of textile manufactures feasible.

The fact that data are reported in quantity units other than pounds makes it necessary for conversion factors to be developed that will relate the given unit to its equivalent weight in pounds. Because Census classifications change frequently in composition, in content, in country of origin or destination, and in reporting unit, the determination of satisfactory conversion factors which take such changes into account becomes a difficult problem. The problem is particularly difficult for those commodity groups which are reported in value only or in quantity units other than pounds when the classifications comprise a heterogeneous combination of products.

In order to develop the best factors possible, all known sources of information which could be useful in reaching this objective were examined. Available material which supplemented the original tabulation of export and import data included the following:

1. Quantity, value, and shipping weight of some 200 individual commodity groups covering United States exports and imports.

1/ "Trends in the Consumption of Fibers in the United States, 1892-1948," U. S. Department of Agriculture Statistical Bulletin No. 89. December 1950.

2/ "Trends in the Consumption of Fibers in the United States, 1892-1939" (ACE-93).

2. Wholesale Price Indexes of the Bureau of Labor Statistics for selected commodity groups from 1920 to date, when available. These indexes were adjusted, in most instances, to account for the time lag between the stage of manufacture represented by a commodity index as compared with the commodity groups with which it was to be associated.
3. Unpublished data relating to quantity, value, price, tare, and shipping weight from trade associations and from other government agencies. This material was acquired by correspondence and personal contacts. Frequently such information closed gaps in knowledge needed to determine conversion factors.
4. Information published by the National Cotton Council, particularly the information in Cotton Counts Its Customers. 3/
5. Compilations and analysis of broadwoven fabric unit weights from annual records of the Industry Division of the Bureau of the Census and from records of the Census of Manufacturers before the existence of annual data.
6. The tabulation and analysis of data from textile trade journals and industry publications.

There are two separate problems involved in deriving conversion factors. The first is obtaining a relationship for converting quantity or value of those commodities not reported in pounds to their actual net weight. The second is determining waste and other allowance factors which will reduce this net weight to equivalent pounds of raw fiber.

Commodity groups for which quantity is reported in units other than pounds include such items as broadwoven fabrics and floor covering measured in square yards; hosiery and gloves in dozen pairs; apparel, household products, and miscellaneous items in number or dozens.

Factors for converting square yards of broadwoven fabrics to pounds were derived from the current industry reports and periodic Census of Manufacturers reports compiled by the Industry Division, Bureau of the Census. These reports indicate production in square yards and pounds. Conversion factors were computed from Census of Manufacturers data in years when current reports were unavailable, and data for intervening years were obtained by interpolation. Information made available by trade associations was helpful in converting apparel, and household and miscellaneous products when measured in quantity units other than pounds.

3/ Published annually by the National Cotton Council of America, Memphis, Tennessee.

A most useful technique for reducing quantity units to weight was provided by utilizing gross shipping weight data. The gross shipping weight is reported for all vessel shipments, both for exports and imports. These data were published in two Census publications -- Foreign Commerce and Navigation of the U. S. for the years 1943 and 1944, and Monthly Summary of Foreign Commerce, issues for 1945, 1946, and January-June 1947. For 1952-53 and for 1958 these data were available from tabulated but unpublished machine listings of the Foreign Trade Division, Bureau of the Census. For each commodity, in addition to net quantity and value, the gross weight was shown. Gross weight was converted to net weight by making an appropriate allowance for tare. Estimates for the latter were derived principally from a study on commodity packaging by the Tariff Commission, ^{4/} supplemented by information supplied by trade associations and Census shipping weight data.

For the four years 1922-25 most Census foreign trade data were reported in pounds. This fact, in combination with the shipping weight analyses described above, made it possible to determine a relationship between weight and other quantity units for the following years: 1922-25, 1943-47, 1952-53, and 1958. Data for intervening years were supplied by interpolation. Acceptance and use of these interpolations depended upon actual industry practice.

Large discrepancies can arise in estimating weight when the quantity unit is square yards even when a Schedule B category is relatively homogeneous. Reported foreign trade statistics do not necessarily follow the usual production pattern in the distribution of various cloth constructions in a group; in some instances the absence of precise information concerning this distribution can seriously affect the estimate. We believe, however, that the estimates for most of this material are reasonably accurate.

On occasion when the relative importance of a commodity group warranted further investigation, the Foreign Trade Division of the Census Bureau provided additional details concerning its content. Such additional information greatly increased the reliability of devised conversion factors.

Computational methods for estimating weight do not take the place of reporting in pounds. Even though estimates are the best possible, limitations exist which affect their reliability. A principal cause of errors in estimation is the lack of knowledge concerning the distribution of individual commodities in Census categories which contain several products. For example, Census export group Schedule B commodity number 312000 is described as Clothing of Cotton Woven Fabrics, Men's and Boys' N.E.C. This category includes bathing suits, bathrobes, collars, parkas, shirt cuffs, swim trunks, topcoats, and vests. The quantity unit, dozens, gives no indication of the number of individual items in the group.

It is obvious that a conversion factor in terms of weight per dozen for such a heterogeneous category would be unreliable because the mix of the items

^{4/} Commodity Packaging data, Textile Materials and Manufactures, U. S. Tariff Commission. December 1937.

included in the category changed from year to year. Thus, the weight per unit changed from year to year. Therefore, a method of using value to derive weight in pounds for such categories was developed, as explained below. The same problem was encountered in the determination of conversion factors for those commodity groups that were reported in value only.

Value in itself has many limitations as an indicator of physical volume. Value over a period of time, is subject to inflation or deflation, and the quantity represented by a given number of dollars will vary accordingly. In many instances, not only do prices vary, but changes occur in the quality and in the quantity unit of the individual items themselves, as a result of shifts in country of origin or destination.

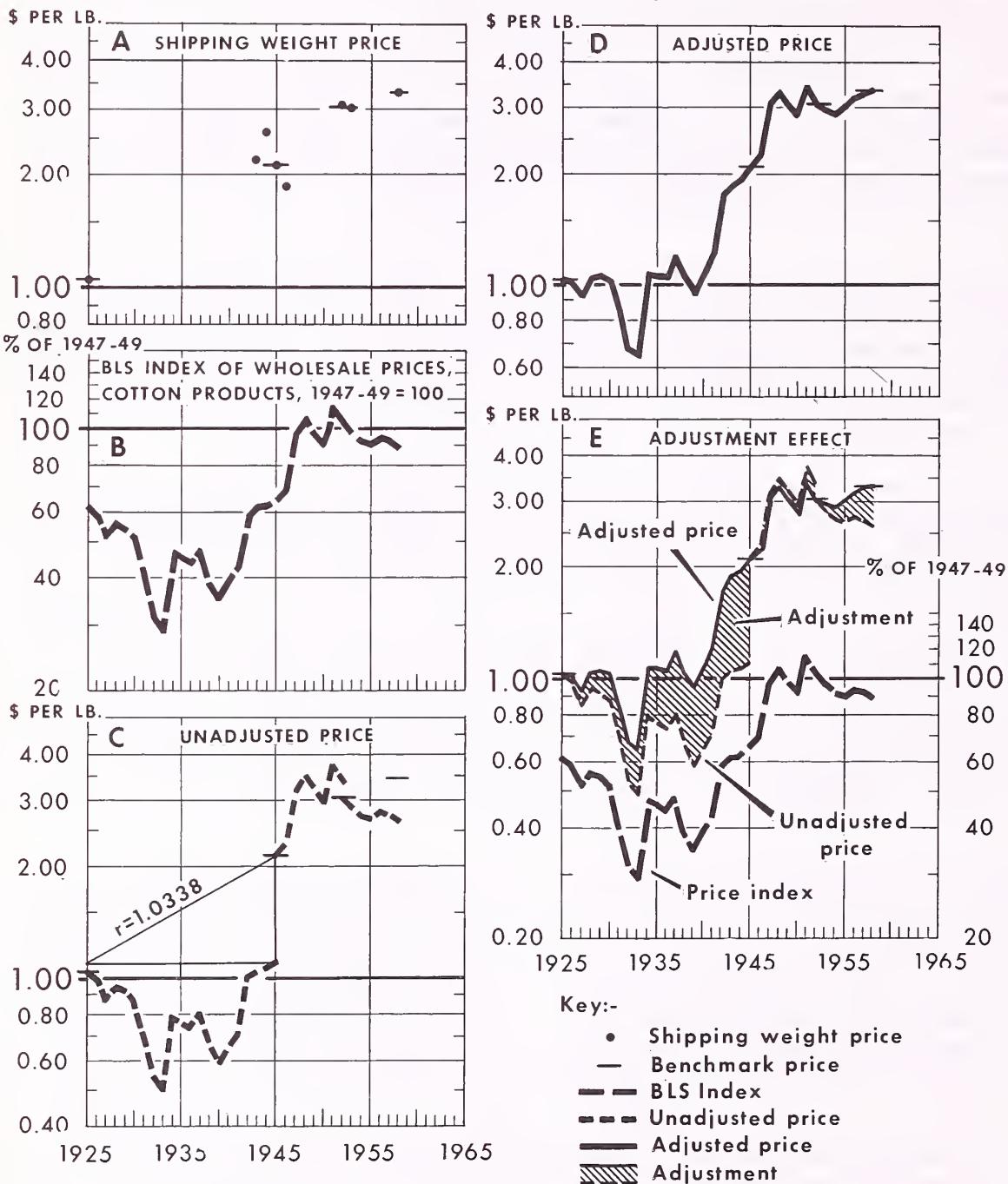
Frequently certain countries may export or import merchandise representing a quality falling within a designated price range. As a result, the value per pound will fluctuate considerably when the foreign trade with such countries diminishes or expands. While the published Census data do give detailed information regarding the country of destination or origin, there is no indication of the quantity or quality of each of the individual commodities included in the Census classification.

In searching for a method of converting value for such groups to weight a method was developed which was satisfactory for the purposes of this report. Prices per pound for a number of years were determined. These prices were used as benchmarks to determine prices for intervening years.

For each of the four periods for which prices per pound were available, a single "benchmark price" was selected for each Schedule B category and centered on a particular year. This price was determined generally by taking an average or by selecting a single price, whichever appeared most representative of the level of prices for that particular commodity. The determining factor in this selection was effectiveness of the price as a base for computing adjacent prices. Frequently, some experimenting was required before arriving at a satisfactory benchmark price. (See fig. 6A.)

The next step was to find a price index whose general movements over time could be expected to reflect those of the commodity group under consideration. BLS wholesale price indexes proved the most acceptable for this purpose. Generally, no price index existed which was exactly comparable in content with Census foreign trade groupings. In fact, all BLS apparel indexes comprise commodities manufactured from various fibers. Since the price movements of the basic fibers--cotton, wool, and manmade--are dissimilar, these indexes could not be used to represent the price movements of manufactures of a single fiber. For this reason, an index including only manufactures of the required single fiber was selected. If the commodities included in such an index were less advanced in manufacture than the commodity group whose movement it was to represent, an allowance for time lag was made. By way of illustration, there is no wholesale price index that is comparable in content to the Census export classification for clothing of cotton woven fabric, men's and boys'. The BLS series that comes nearest to it is the index for Cotton Products (1947-49=100), which includes yarns, broadwoven fabrics, narrow fabrics, thread and housefurnishings.

PRICE TECHNIQUE FOR DETERMINING CONVERSION FACTORS* 1925-58



* THIS EXAMPLE IS FOR WEARING APPAREL OF COTTON WOVEN FABRIC, N.E.C.

Before 1926 the index "Cotton Goods" (1926=100) was used; this covered the years 1913-51. These indexes are quite similar in their movements and for overlapping years the year-to-year changes are practically identical. (See table 3.) These indexes were adjusted to account for the time lag between the stage of manufacture of the commodities included as compared to those composing the apparel series. An adjusted index allowing for 6 month's lag proved satisfactory. (See fig. 6B.)

Relative year-to-year changes in this adjusted index were applied to the benchmark prices to obtain successive apparel prices. (See fig. 6C.) Because the long-term trend in the index, as compared with the trend of the apparel prices, varied considerably, the computed terminal year price does not always coincide with the corresponding benchmark price. This discrepancy was to be expected for a number of reasons. The apparel price reflects the impact of additional value added by manufacture. Furthermore, the composition of the apparel group as reported by Census varies from year to year. The benchmark prices reflect these changes since they are derived directly from actual shipments data. It becomes necessary, therefore, to adjust the newly computed price for the difference in trends, as indicated by the discrepancy between the actual and the benchmark prices.

This adjustment could be accomplished by converting the difference to a yearly basis and distributing it cumulatively over the period. Since prices fluctuate greatly, a more consistent measure would be a relative one, that is, a correction that would reflect an average annual percentage change. Such a factor is obtained by taking an annual average of the difference between the logarithms for the estimated and actual prices. This corresponds to adjusting each annual price by a constant percentage. Thus, the price level for the period under consideration was lowered or raised, as required. In this way a consistent price-per-pound series was obtained. (See fig. 6D.) These various operations are summarized and illustrated in table 3 and figure 6E.

By taking the reciprocal of each of these prices, the prices were converted to units of pounds per dollar. Thus, all conversion factors are expressed in terms of pounds per unit.

The procedure described above concerns the methods devised for converting foreign trade data for textile manufactures into terms of weight. These tentative factors were then modified for gains and losses in manufacturing so that they would convert published data into terms of equivalent pounds of raw fiber. Various elements which increase or decrease raw fiber content were taken into account. Such factors included slasher size in gray broadwoven fabrics, shrinkage in finishing the latter, cutting loss in manufacturing apparel from woven cloth, coatings, rubberizing, fiber mixtures, and non-spinnable manufacturing waste. While precise information regarding the amount of these allowances does not exist, reasonably accurate measures were obtained by pooling quantitative and qualitative information received from various sources. 5/

5/ Sources were: Trade associations, governmental agencies (National Bureau of Standards, and the Southern Utilization Research and Development Division, Agricultural Research Service, USDA), and textile mills.

The object of adjusting the actual or estimated weight of textile manufactures is to determine the pounds of fiber consumed by mills. In some instances, the adjustment factors tend to increase the initial weight while in others they tend to decrease it. For example, such a component as slasher size in gray fabrics, coatings, and rubberized represent weight not included in the original fiber consumed by mills. These elements must, therefore, be eliminated. In eliminating them, however, care must be taken that all pertinent factors are taken into account. For example, gray fabrics contain a certain percentage of slasher size. If they are reported in pounds, an allowance for this nonfiber content can be made directly. Should they be reported in square yards, on the other hand, the matter of size content will depend on how these areas data are converted to weight. If the conversion is made on the basis of relationships derived by using mill reports as published by the Industry Division of the Census Bureau, the computed product weight will include slasher size, since these industry statistics refer to gray goods. No allowance for size would be required if a factor representing finished fabrics had been used directly.

Cutting losses and manufacturing waste, on the other hand, must be compensated for since they represent original fiber content lost during the course of manufacturing. Table 4 illustrates computational methods. The conversion factor indicated in the last column of this table converts directly to equivalent pounds of raw fiber if the factor applies to units of quantity. In instances where price must be used, a conversion factor is first applied to the yearly pounds per dollar figure. This then will convert value directly to equivalent pounds of raw fiber.

In the process of converting raw fiber to usable textile products, a portion of the original fiber weight is waste. The amount of this waste varies according to fiber and manufacturing process. Some of this waste can be reused and is known as "spinnable waste." The waste factors used herein allow for the waste which is not reused in spinnable form, known as "nonspinnable waste."

For cotton, it is thought that all of the spinnable waste produced in the manufacture of textiles entering U. S. foreign trade is not used in other spun products entering that trade. Nonspinnable waste for cotton is actually about 9 percent. Since all of the spinnable waste is not used in textiles entering U. S. foreign trade, an allowance of 12 percent for nonspinnable waste was used for the purposes of this report.

For manmade fiber products the nonspinnable waste allowance was 4 percent for staple fiber. For filament yarn products a manufacturing waste of 1-1/2 percent was allowed.

For wool, no allowance was made for nonspinnable waste. Although there may be some waste, there are other materials used in wool fabric manufacture for which quantity estimates could not be developed. These materials include

reprocessed and reused wool 6/ and other fibers 7/ used in combination with wool.

In the future, conversion factors will be revised periodically, probably every 4 or 5 years, to take account of Census commodity classification changes. New or reinstated commodity classification are frequently required by shifts in the importance of products entering foreign trade, or in order to conform to tariff provisions or trade agreements. Such changes require corresponding modification of existing conversion factors. The resulting changes in raw fiber equivalents will appear as revisions in these data as they are published regularly on a monthly basis in current issues of The Cotton Situation and The Wool Situation, which are published periodically by the U. S. Department of Agriculture.

Conversion factors derived for the various products have not been published because of their limited application. They were developed to fit the particular composition of the categories as published in the foreign trade statistics of the Census Bureau. They were modified or adjusted from year to year to meet the needs arising from changes in content, in combination, or reclassification of reported categories. Conversion factors are available upon request.

6/ Wool which has already been used in fabric manufacture and is being reused.

7/ Covered by Census description: "wholly or in chief weight wool and/or wool-like specialty hair."

Table 3.--Derivation of conversion factors: Exports of cotton manufactures 1/

Year	BLS wholesale price index		Number of years from origin	Price trend adjustment		Adjusted price per dollar 2/	Allowance adjustment factors 3/	Pounds per dollar adjusted	Value of raw fiber
	6-months' lag	Year to year change		Benchmark price	n(log r)				
1920	193.6	0.67	1.90	1.27	1.90	1.90	0.5263	1.1715	0.6165
1921	129.3	0.95	0.99	1.22	1.27	1.27	.7874	1.1715	.9224
1922	100.9	1.12	1.00	1.03	1.03	1.03	1.1715	1.1715	1.1715
1923	113.0	1.12	1.00	1.03	1.03	1.03	1.1715	1.1715	1.1715
1924	116.1	1.03	1.00	1.03	1.03	1.03	1.1715	1.1715	1.1715
1925	112.0	0.96	1.00	1.03	1.03	1.03	1.1715	1.1715	1.1715
1926	106.4	0.81	0.98	1.06	1.06	1.06	1.1715	1.1715	1.1715
1927	94.0	0.88	0.86	1.08	1.08	1.08	1.1715	1.1715	1.1715
1928	101.5	0.52	0.93	1.08	1.08	1.08	1.1715	1.1715	1.1715
1929	99.9	0.98	0.91	1.08	1.08	1.08	1.1715	1.1715	1.1715
1930	94.2	51.2	0.94	0.94	0.86	0.86	1.1715	1.1715	1.1715
1931	40.9	0.80	0.80	0.80	0.86	0.86	1.1715	1.1715	1.1715
1932	31.4	0.77	0.77	0.77	0.77	0.77	1.1715	1.1715	1.1715
1933	29.3	0.93	0.89	0.89	0.89	0.89	1.1715	1.1715	1.1715
1934	47.6	1.62	1.62	1.62	1.62	1.62	1.1715	1.1715	1.1715
1935	45.8	0.96	0.76	0.76	0.76	0.76	1.1715	1.1715	1.1715
1936	43.8	0.96	0.73	0.73	0.73	0.73	1.1715	1.1715	1.1715
1937	47.6	1.09	0.80	0.80	0.80	0.80	1.1715	1.1715	1.1715
1938	38.8	0.82	0.66	0.66	0.66	0.66	1.1715	1.1715	1.1715
1939	34.9	0.90	0.59	0.59	0.59	0.59	1.1715	1.1715	1.1715
1940	38.7	1.11	0.65	1.15	216,690	1.6470	1.07	0.9346	1.0949
1941	42.3	1.09	0.71	1.16	231,136	1.7027	1.21	0.8244	0.9681
1942	58.6	1.39	0.99	1.17	245,582	1.7603	1.74	0.5747	0.7333
1943	61.2	1.04	2.22	1.03	18	260,028	1.8198	0.87	0.5348
1944	61.6	1.01	2.58	1.04	19	274,474	1.8814	1.96	0.5028
1945	64.5	1.05	2.12	1.09	20	288,920	1.9450	1.0000	0.4717
1946	69.6	1.03	1.86	1.86	0	9,993,608-10	0.9854	2.26	0.4425
1947	96.6	1.39	3.18	2	2	9,987,216-10	0.9710	3.09	0.3326
1948	106.3	1.10	3.50	3	3	9,980,824-10	0.9568	3.35	0.2995
1949	97.6	0.92	3.22	4	4	9,974,432-10	0.9428	3.04	0.3889
1950	90.6	0.93	2.97	5	9,968,040-10	0.9291	2.78	0.3597	0.4214
1951	113.1	1.25	3.74	6	9,961,648-10	0.9155	3.42	0.2924	0.3426
1952	101.9	0.90	3.09	3.37	0 7	9,955,256-10	1.0000	0.9021	0.3829
1953	96.1	0.94	3.00	2.86	1	0.017,301	1.0406	2.98	0.3556
1954	90.8	0.94	2.69	2	0.016,602	0.0829	2.91	0.3456	0.4026
1955	90.0	0.99	2.66	3	0.011,903	0.1269	3.00	0.3333	0.3905
1956	93.0	1.03	2.74	4	0.019,204	1.1727	3.21	0.3115	0.3649
1957	91.8	0.99	2.71	5	0.016,505	1.2204	3.31	0.3021	0.3539
1958	89.5	0.97	3.34	2.63	6	0.103,806	1.2700	3.34	0.2994

1/ Technique for deriving conversion factors when value only is reported: Wearing apparel of woven fabric, n.e.c., Schedule B numbers 312000 and 312900 combined.

2/ Adjusted for trend.

3/ Allowance for loss or gain in weight in processing.

4/ Price not required since quantity is reported in pounds.

5/ Selected benchmark price.

Table 4.--Manufactured textile foreign trade commodities
equivalent pounds of raw fiber per unit

Period Schedule number	Commodity description	Unit	Pounds	Adjustments for manufacturing losses and gains		Conversion factor :pounds per unit
				net	Cut- ting: loss: 1/	
Wearing apparel of woven cotton fabric, n.e.c.:						
1920-21	Total	Dol. (Price)	.97	---	---	---
1922-25	3119 Men's and boy's	1n.	1.00	.97	---	---
1922-25	3129 Women's and children's	1b.	1.00	.97	---	---
1926-57	312000 Men's and boy's	Dol. (Price)	.97	---	---	---
1926-57	312900 Women's and children's	Dol. (Price)	.97	---	---	---
1958-60	31200 Men's and boy's	1b.	1.00	.97	---	---
1958-60	31290 Women's and children's	1b.	1.00	.97	---	---

1/ Raw fiber gain.

2/ Raw fiber loss.

3/ Applies to reciprocal of annual price.

Table 5.—Raw cotton equivalent of United States exports of domestic cotton manufactures, 1920-60

1/ Includes fabrics and tire cord for export to the Philippines to be embroidered and otherwise manufactured and returned to the United States. 2/ Includes tapestry and upholstery fabrics, table damask, pile fabrics and remnants. 3/ Includes curtains and draperies, house furnishings not elsewhere specified. 4/ Includes gloves and mitts of woven fabric. 5/ Includes underwear and outerwear of woven fabric, handkerchiefs, and wearing apparel containing mixed fibers (cottons, brasiers, and girdles, garters, armbands and suspenders, neckties and cravats). 6/ Includes canvas articles and manufactures, tent fabric in the piece, burlap and narrow fabrics, elastic webbings, waterproof garments, and lace and lace articles. 7/ Includes rubberized fabrics, bags, and industrial belts and belting. 8/ 480 pound net weight bale.

Table 6.—Raw cotton equivalent of United States imports for consumption of cotton manufactures, 1920-60

Year	Yarn, thread, and cloth			Primarily manufactured products												Total						
	Total			Fabrics			Pile			Bed-clothes			Clothing			House-fabrics and clothing						
	Sewing thread	Prism-crochet	Other cotton	Weight	Bales	Weight	Bales	Weight	Bales	Weight	Bales	Weight	Bales	Other apparel	House-fabrics and clothing	Weight	Bales					
	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds				
1920	11,354	981	20,200	1,780	34,315	71.5	581	1,460	418	1,124	1,151	2,622	1,293	566	66	9,601	20.0	43,906				
1921	3,861	776	18,458	1,910	25,005	52.1	217	992	338	2,256	1,676	3,488	1,533	273	34	10,849	22.6	35,894				
1922	6,151	970	25,814	1,415	31,350	71.6	159	391	652	3,138	1,003	3,522	1,261	11,169	23.3	65,519	78.5	94.8				
1923	5,752	625	36,612	869	10,058	96.5	326	2,458	1,832	1,646	5,135	658	41	15,101	31.5	61,159	127.4					
1924	4,482	509	39,281	1,480	45,752	95.3	619	1,34	3,453	2,382	1,829	5,298	494	162	17,059	35.2	68,811	130.9				
1925	4,180	436	28,390	2,315	31,321	65.3	610	415	3,262	2,777	1,711	4,010	2,857	468	599	16,719	34.8	40,040	100.1			
1926	4,083	454	522	13,130	4,56	21,460	1,225	3,125	3,831	2,105	3,831	3,982	618	1,233	1,233	36.9	35,183	81.6				
1927	3,692	493	2,965	1,931	8,30	19,219	40.0	1,656	302	1,907	3,056	1,620	4,144	3,825	1,233	18,688	38.9	40,462	64.3			
1928	3,014	424	12,091	3,520	19,049	39.7	1,415	431	2,971	3,136	2,291	3,674	5,360	1,233	1,233	18,748	39.5	36,167	79.7			
1929	2,002	370	9,059	2,843	1,274	29.7	1,102	312	3,005	2,503	1,615	2,566	3,477	876	841	16,317	34.0	30,951	63.7			
1930	1,615	323	8,018	1,927	11,883	24.8	1,200	287	1,901	2,988	1,260	3,358	2,275	741	1,365	15,786	32.9	27,669	77.6			
1931	1,473	305	6,233	1,195	9,206	19.2	1,523	633	2,041	2,655	1,117	2,790	564	1,822	1,822	15,889	32.3	26,695	51.4			
1932	1,815	277	7,472	1,750	11,314	23.6	406	535	1,573	3,121	1,482	3,108	866	2,795	17,488	36.4	28,802	60.0				
1933	1,981	272	7,523	991	10,767	22.4	233	397	1,824	2,788	1,101	2,130	2,606	876	2,777	16,732	30.7	25,459	53.1			
1934	2,144	234	12,747	1,142	16,567	34.5	291	566	2,525	3,559	2,187	3,201	966	3,688	20,502	48.7	21,059	77.2				
1935	2,146	250	22,649	1,702	28,017	58.4	2,703	1,004	3,242	4,882	1,905	5,259	6,138	1,800	9,174	68.4	20,834	126.7				
1936	2,295	270	32,134	2,404	37,103	77.3	2,364	2,177	5,991	4,163	1,730	2,660	7,524	1,635	11,263	39,447	82.2	76,520	159.5			
1937	1,199	253	12,459	1,945	15,896	31.0	1,680	4,464	2,150	2,153	2,150	4,256	4,256	915	6,702	53.3	41,431	66.3				
1938	1,046	265	21,376	1,951	25,478	53.1	1,223	2,617	5,194	2,336	2,234	3,149	5,265	1,710	9,286	33,056	68.8	50,511	121.9			
1939	1,932	344	15,982	860	16,118	37.7	1,566	3,993	2,469	1,823	2,102	3,861	1,447	3,969	25,037	52.2	43,157	89.9				
1940	1,365	29	1,310	145	14,869	31.0	1,274	3,635	2,016	1,357	1,215	2,240	1,140	549	16,645	30.5	28,511	61.5				
1941	805	33	5,182	707	7,333	15.3	18	167	101	159	161	215	326	557	58	2,837	5.9	8,905	18.6			
1942	2,342	1,676	22	2,460	691	4,871	10.1	33	153	8	203	292	303	254	101	1,702	3.5	2,300	19.5			
1943	1,676	34	2,231	10,605	32,051	28.6	231	1,766	8	11	317	329	394	647	305	200	2,229	4.6	25,220	52.6		
1944	1,676	1,657	1,707	1,707	1,707	10.1	1,671	1,671	1,671	1,671	1,671	1,671	1,671	1,671	1,671	1,671	1,671	1,671	1,671			
1945	1,676	1,707	22	2,460	691	4,871	10.1	33	153	8	203	292	303	355	101	1,702	3.5	2,300	19.5			
1946	1,676	1,707	34	2,231	10,605	32,051	28.6	231	1,766	8	11	317	329	394	647	305	200	2,229	4.6	25,220	52.6	
1947	1,793	120	3,396	2,397	4,548	9.5	63	961	59	200	418	419	1,022	994	406	2,058	5,838	12.2	17,604	36.7		
1948	1,040	170	6,551	219	7,980	16.6	55	1,326	97	202	420	420	702	968	406	3,395	3,874	8.1	8,402	17.5		
1949	299	275	4,019	345	4,938	10.3	2,611	1,690	1,690	1,690	1,690	1,690	1,690	1,690	1,690	1,690	1,690	1,690	16,039	33.4		
1950	1,377	298	10,892	661	13,021	27.1	1,095	1,282	897	1,282	1,282	1,734	1,637	2,281	1,030	21,032	56.3	40,973	89.4			
1951	1,656	309	16,192	615	17,722	30.7	1,251	1,288	816	1,251	1,251	1,734	1,637	2,281	1,030	21,032	56.3	40,973	89.4			
1952	286	202	5,263	712	6,459	13.5	975	5,532	2,512	3,150	1,593	4,910	1,847	2,063	1,375	25,297	54.1	32,116	67.5			
1953	224	254	15,109	1,229	16,816	35.0	393	4,892	2,780	1,363	1,602	3,990	2,318	1,279	6,123	21,740	57.8	48,526	92.8			
1954	270	246	1,201	1,201	1,201	42.5	1,421	4,767	1,421	1,421	1,421	4,966	2,244	5,388	4,664	28,479	101.0					
1955	161	191	32,049	2,040	34,405	71.7	4,584	5,511	9,518	1,676	19,502	2,779	2,307	3,328	2,986	52,253	109.5	66,958	161.2			
1956	213	239	4,393	1,935	4,6,780	97.5	5,110	5,674	2,124	30,798	2,044	1,552	2,890	6,214	1,759	127.5	107,924	225.0				
1957	183	243	30,263	2,026	33,097	2,026	6,599	6,662	2,654	32,559	2,255	33,198	2,654	1,315	6,269	62,669	95.5	96,566	199.1			
1958	923	254	36,674	2,662	4,797	67.2%	4,797	4,797	4,797	4,797	4,797	4,797	4,797	4,797	4,797	4,797	4,797	4,797	4,797			
1959	1,969	206	62,270	1,122	68,167	142.0	3,046	4,868	6,993	2,463	72,203	1,906	8,952	1,522	2,675	10,628	216.0	172,195	360.0			
1960	217,206	189	123,313	4,307	145,015	302.1	1,746	4,333	7,780	2,558	1,746	1,746	1,746	1,746	1,746	2,996	2,996	110,538	230.3	255,553	532.4	

1/ Includes tapestry and upholstery fabrics, tire cord fabrics, and cloths in chief value cotton containing other fibers. 2/ Includes velvets and velveteens, corduroys, plushes and chenilles, and manufactures of pile fabrics. 3/ Includes blankets, quilts, and bedspreads, sheets and pillow cases. 4/ Includes knit and woven underwear and outerwear (collars and cuffs, shirts, coats, vests, robes, pajamas, and ornaments) wearing apparel. 5/ Includes nets and netting, veils and veillings, etc., and lace window curtains. 6/ Includes braids (except hat braids), tubing, labels, lacings, wickings, lace harnesses, table and bureau covers, polishing and dust cloths, fabrics with fast edges, cords and tassels, garters, suspenders and braces, and miscellaneous articles. 7/ Includes belts and bolting, fish nets and netting, and corsets, filled, or waterproof fabrics. 8/ 480 pound net weight bales. 9/ Preliminary.

Table 7.--Raw wool content of United States domestic exports of wool manufactures, 1920-1960 1/

Calendar year	Noils and wastes 2/		Tops and wool		Fabrics woven and knit		Wool blankets		Wearing apparel			Other manufactures 4/		Carpets and rugs 5/	
	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	
	: pounds	: pounds	: pounds	: pounds	: pounds	: pounds	: pounds	: pounds	: knit 3/	: Other than knit 3/	: Felts	: 4/	: 4/	: Total	
1920	---	---	---	---	8,725	645	---	2,596	---	5,987	---	17,953			
1921	---	---	---	---	2,206	196	---	1,554	---	2,319	---	6,275			
1922	668	42	151	1,105	---	205	1,161	449	432	141	4,354				
1923	765	---	164	1,032	---	227	1,131	436	1,152	152	5,059				
1924	1,044	---	99	637	---	172	1,039	357	452	133	3,933				
1925	618	---	56	547	---	220	837	390	544	97	3,309				
1926	769	---	33	433	---	347	859	320	406	159	3,326				
1927	796	---	35	439	---	393	937	259	554	133	3,546				
1928	828	---	45	486	---	595	817	238	480	206	3,695				
1929	540	---	31	469	---	688	891	350	497	304	3,770				
1930	599	---	149	361	---	762	540	186	366	158	3,121				
1931	401	---	72	201	---	582	382	73	255	64	2,030				
1932	324	---	68	82	---	141	217	30	175	32	1,069				
1933	453	---	11	92	---	146	357	32	310	57	1,458				
1934	642	---	7	187	---	88	198	64	133	126	1,445				
1935	332	---	16	289	---	136	306	38	266	149	1,532				
1936	328	---	29	232	---	204	312	50	159	205	1,519				
1937	597	---	16	216	---	185	458	76	128	208	1,884				
1938	1,319	---	11	253	---	200	443	48	101	180	2,555				
1939	884	---	70	310	---	246	481	85	416	178	2,670				
1940	7,658	---	192	650	---	235	631	159	1,423	222	11,170				
1941	623	2,280	178	1,018	659	318	1,276	246	147	517	7,262				
1942	749	3,055	659	6,268	3,742	459	980	272	360	537	17,081				
1943	897	2,625	2,887	30,721	5,088	370	894	205	280	461	44,428				
1944	1,164	2,316	1,715	46,691	8,299	2,949	8,868	597	2,412	339	75,350				
1945	982	1,258	3,259	28,935	7,399	2,361	10,426	739	277	365	56,001				
1946	2,416	3,437	2,340	23,141	6,832	3,693	14,623	943	555	920	58,900				
1947	4,978	7,101	4,347	17,505	3,150	1,677	4,708	850	774	998	46,088				
1948	2,940	262	1,820	5,391	3,742	755	4,099	628	672	342	20,651				
1949	2,225	96	402	3,077	1,131	397	1,808	563	342	234	10,275				
1950	1,385	54	414	2,392	761	434	1,259	393	226	217	7,535				
1951	2,296	47	216	2,444	1,196	214	487	436	288	537	8,161				
1952	2,255	51	316	1,229	164	338	397	437	375	505	6,067				
1953	1,513	99	206	851	218	322	415	388	480	476	4,968				
1954	1,693	87	281	772	838	277	383	383	463	381	5,558				
1955	2,102	78	283	681	464	294	426	346	406	434	5,514				
1956	2,176	117	245	847	107	340	461	288	611	474	5,666				
1957	1,421	159	155	557	109	271	515	237	502	636	4,562				
1958	1,748	95	133	664	242	177	364	176	314	664	4,577				
1959	1,321	231	270	598	1,013	116	303	220	375	489	4,936				
1960 5/	1,471	297	281	949	114	160	344	260	357	465	4,698				

1/ Includes manufactures of mohair, alpaca and other wool-like specialty hair. Omissions indicate data were not reported separately.

2/ Not including rags.

3/ Includes knit wearing apparel 1920 and 1921.

4/ Census Bureau's Schedule B classification designated manufactures, n.e.c.

5/ Preliminary.

Compiled from reports of the U. S. Department of Commerce.

Table 8.--Raw wool content of United States imports for consumption of wool manufactures, 1920-1960 1/

Calendar year	Wastes			Tops and advanced wool			Woven fabrics			Wool blankets			Wearing apparel			Other manufac- tures	Carpets and rugs	Total
	Noils	2/					3/			4/			Knit	Other than knit 5/	6/			
	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds			
1920	2,584	1,962	1,063	3,407	7,096	76	928	940	456	5,150	23,662							
1921	4,846	2,395	15,390	5,135	8,486	45	1,074	801	376	5,678	44,226							
1922	4,648	11,281	2,325	4,432	8,768	67	1,914	1,029	526	7,298	42,288							
1923	8,575	6,812	3,980	5,617	11,114	244	1,645	1,002	575	9,411	48,975							
1924	10,885	6,251	781	3,121	11,503	225	1,580	1,452	1,819	9,511	47,128							
1925	7,828	5,189	335	1,229	10,813	296	1,499	2,681	1,146	10,040	41,056							
1926	4,663	4,054	185	843	10,765	577	1,218	3,935	539	11,206	37,985							
1927	8,336	4,750	250	339	11,485	836	1,369	5,255	705	11,647	44,972							
1928	8,816	4,629	113	212	9,874	861	1,302	6,185	563	10,974	43,529							
1929	6,831	3,143	708	247	10,280	831	1,168	7,415	575	10,673	41,871							
1930	3,747	2,599	379	253	5,190	543	1,194	4,841	318	7,388	26,452							
1931	2,151	707	30	154	2,785	261	1,443	2,753	209	5,751	16,244							
1932	1,807	152	8	197	1,901	125	1,109	2,142	124	4,249	11,814							
1933	2,449	1,293	97	344	2,794	163	1,142	1,959	105	4,545	14,891							
1934	1,287	811	101	294	2,487	122	677	2,080	101	3,045	11,005							
1935	4,092	1,476	110	441	3,149	229	1,220	2,669	130	4,074	17,590							
1936	9,759	4,112	366	539	4,535	738	1,449	3,527	385	4,173	29,583							
1937	6,671	3,051	247	342	5,730	1,028	1,349	3,177	453	3,993	26,041							
1938	2,279	730	58	455	3,866	472	804	2,445	193	2,519	13,821							
1939	6,022	3,904	114	652	6,891	468	1,037	1,472	197	4,050	24,807							
1940	5,189	2,066	35	604	5,513	237	1,057	612	135	4,752	20,200							
1941	7,035	3,720	158	523	5,305	227	989	510	135	3,806	22,408							
1942	4,540	4,805	134	650	6,414	393	567	367	399	2,319	20,588							
1943	3,764	3,480	224	795	2,510	764	346	412	317	576	13,188							
1944	4,932	4,439	223	299	1,076	314	162	441	140	2,007	14,033							
1945	3,325	4,248	801	73	1,517	164	198	1,110	110	3,981	15,527							
1946	4,845	5,736	117	835	2,161	120	629	368	132	5,520	20,463							
1947	4,091	2,256	264	390	2,508	224	849	329	80	4,948	15,939							
1948	17,049	4,261	4,018	1,257	4,712	325	1,043	2,087	93	7,418	42,263							
1949	19,807	6,604	2,266	1,506	4,295	227	1,425	413	125	6,731	43,399							
1950	20,579	13,225	4,480	2,413	9,188	384	2,661	587	201	10,086	63,804							
1951	15,900	7,298	10,456	1,605	9,019	238	2,169	1,053	249	8,400	56,387							
1952	25,485	11,721	23,247	2,386	12,528	448	2,181	1,303	214	8,481	87,994							
1953	18,521	9,087	5,633	2,114	12,096	421	2,407	1,352	424	9,908	61,963							
1954	25,689	10,350	451	1,649	9,357	206	2,111	1,180	995	9,064	61,052							
1955	31,693	14,456	391	2,038	14,402	156	2,424	1,692	1,814	12,333	81,399							
1956	30,381	16,370	1,175	2,405	17,449	142	3,611	3,148	2,477	13,923	91,081							
1957	28,572	14,451	936	2,313	15,987	164	3,737	2,952	1,838	14,223	85,173							
1958	34,082	11,862	1,277	2,420	16,444	190	3,929	2,655	1,601	15,736	90,196							
1959	37,748	17,576	4,162	5,229	22,670	292	5,782	6,076	1,814	25,573	126,922							
1960 7/	36,594	11,190	4,601	5,249	29,600	234	7,738	6,004	1,945	28,977	132,132							

1/ Includes manufactures of mohair, alpaca, and other wool-like specialty hair. 2/ Not including rags. 3/ Includes pile fabrics and manufactures, tapestry and upholstery goods, press and billiard cloths. 4/ Includes carriage and automobile robes, steamer rugs, etc. 5/ Includes laces, lace articles, veils and veilings, nets and nettings, when reported in pounds. 6/ Includes knit fabrics in the piece and miscellaneous manufactures not elsewhere specified. 7/ Preliminary.

Table 9.—Manmade fiber equivalent of United States exports of domestic manmade fiber manufactures, 1920-60

Year	Tops, yarn, thread, and cloth						Primarily manufactured products						Total manufactured exports
	Silver tops and roving	Yarns or spun	Yarns or spun	Sewing thread and hand-work	Cloth woven	Total	Hosiery	Underwear and nightwear	Outerwear	House-furnishings	Knit fabric in the piece	Narrow fabrics by	Other manufacturers
	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds
1920	—	—	—	—	—	—	741	—	—	—	—	—	—
1921	—	—	—	—	—	—	615	—	—	—	—	—	—
1922	—	—	—	—	—	—	1,322	—	—	—	—	—	—
1923	—	—	—	—	—	—	1,022	—	—	—	—	—	—
1924	—	—	—	—	—	—	776	—	15	—	—	—	—
1925	—	—	—	—	—	—	1,434	—	—	—	—	—	—
1926	—	—	—	—	—	—	1,150	17	—	—	—	—	—
1927	—	—	—	—	—	—	1,076	60	—	—	—	—	—
1928	—	—	—	—	—	—	1,024	142	—	—	—	—	—
1929	—	—	—	—	—	—	1,018	169	—	—	—	—	—
1930	—	—	—	—	—	—	551	150	—	—	—	—	—
1931	—	—	—	—	—	—	293	156	—	—	—	—	—
1932	—	—	—	—	—	—	189	104	—	—	—	—	—
1933	—	—	—	—	—	—	807	132	115	—	—	—	—
1934	—	—	—	—	—	—	872	115	110	—	—	—	—
1935	—	—	—	—	—	—	1,760	115	110	—	—	—	—
1936	—	—	—	—	—	—	1,758	115	110	182	—	—	—
1937	—	—	—	—	—	—	2,942	143	146	349	—	—	—
1938	—	—	—	—	—	—	3,898	201	150	548	—	—	—
1939	—	—	—	—	—	—	4,052	155	111	761	—	—	—
1940	—	—	—	—	—	—	6,948	226	231	1,115	13	—	—
1941	—	—	—	—	—	—	10,103	243	240	964	19	51	—
1942	—	—	—	—	—	—	18,346	527	459	1,155	36	219	—
1943	—	—	—	—	—	—	11,885	512	539	1,148	64	288	—
1944	—	—	—	—	—	—	11,079	629	436	932	107	777	—
1945	—	—	—	—	—	—	15,715	770	524	926	237	873	—
1946	—	—	—	—	—	—	24,386	667	668	1,418	399	679	—
1947	—	—	—	—	—	—	46,359	48,577	1,494	3,304	678	1,339	—
1948	—	—	—	—	—	—	77,777	94,662	3,142	1,612	1,981	562	2,221
1949	—	—	—	—	—	—	83,626	84,703	2,286	1,096	2,083	244	1,154
1950	—	—	—	—	—	—	97,320	99,527	2,416	801	1,140	290	1,138
1951	—	—	—	—	—	—	71,352	72,759	3,116	926	1,229	421	460
1952	—	—	—	—	—	—	80,323	80,893	3,349	1,364	1,542	373	654
1953	—	—	—	—	—	—	78,434	82,891	2,912	1,914	3,235	771	874
1954	—	—	—	—	—	—	200	71,015	82,941	2,608	2,091	3,572	982
1955	—	—	—	—	—	—	75,900	64,147	73,209	2,196	1,908	1,154	1,786
1956	—	—	—	—	—	—	64,052	64,739	75,801	2,234	2,250	3,137	1,814
1957	—	—	—	—	—	—	64,044	64,365	79,343	1,953	2,044	3,682	2,000
1958	—	—	—	—	—	—	4,039	265	62,138	70,880	1,617	2,286	3,700
1959	—	—	—	—	—	—	5,643	332	68,263	76,487	1,013	2,599	3,790
1960	—	—	—	—	—	—	5,516	361	81,20	9,767	799	3,352	4,362

1/ Includes products made from waste.

2/ Not reported separately as a manufactured product after 1957.

3/ Includes cord tire fabric and tire yarn which are estimated beginning with 1958 when these products are combined with filament yarn.

4/ Includes ribbons, trimmings, and braids (except hat braids)

5/ Not elsewhere classified.

6/ Preliminary.

Table 10.—Manmade fiber equivalent of United States imports for consumption of manmade fiber manufactures, 1920-60

Year	Tops, yarn, thread, and cloth						Primarily manufactured products						
	Silver tops and roving	Yarns twrovn or plied	Yarns spun	Yarns hand- work	Rayon and fabriC including woven cord fabriC	1,000 pounds	Sewing thread		Wearing apparel		Laces and lace articles		
							1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	
1920	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	---	---	---	72	1,38	---	
1921	---	---	---	---	---	---	---	---	---	132	183	---	
1922	22	---	---	---	92	---	---	---	---	323	377	---	
1923	450	---	---	---	450	---	---	---	41	146	484	---	
1924	89	---	---	---	89	27	---	---	33	47	832	---	
1925	223	---	---	---	223	23	---	---	73	914	1,047	---	
1926	300	---	---	---	300	24	---	---	96	1,047	1,667	---	
1927	512	---	---	---	512	26	---	---	81	958	1,111	---	
1928	322	---	---	---	322	20	---	---	81	958	1,111	---	
1929	374	---	---	379	553	47	1	---	82	331	331	14	
1930	46	38	3	301	369	15	66	3	93	139	139	4	
1931	6	39	54	1	238	13	60	3	123	77	77	4	
1932	7	5	12	1	268	293	44	46	116	29	4	12	
1933	1	3	19	1	269	293	60	34	5	242	21	---	
1934	4	8	6	1	195	214	44	31	11	323	11	---	
1935	17	4	4	3	248	276	51	36	3	444	9	---	
1936	4	13	3	9	499	524	268	39	4	652	15	1	
1937	4	48	4	64	1,097	1,217	252	57	5	682	42	1	
1938	4	6	8	4	617	639	108	33	21	439	12	5	
1939	2	6	1	4	533	546	41	28	2	602	14	7	
1940	2	---	1	1	313	327	19	16	4	401	6	1	
1941	---	---	---	---	313	327	12	4	---	220	3	---	
1942	---	---	---	---	46	46	1	1	---	166	---	---	
1943	---	---	---	---	68	68	1	3	2	48	2	---	
1944	---	---	---	---	46	46	1	1	65	32	3	---	
1945	199	1	1	---	330	330	3	2	258	52	16	2	
1946	2	10	1	---	662	863	40	13	194	287	61	3	
1947	2	220	14	1	244	257	8	6	21	152	59	2	
1948	---	---	1	152	480	667	3	2	10	210	91	1	
1949	2	5	1	1,180	260	1,448	4	6	2	454	35	2	
1950	1,135	27	13	1,143	458	3,252	21	12	4	833	27	2	
1951	1,902	20	4	585	668	3,355	44	62	7	631	38	1	
1952	404	5	2	504	729	2,059	86	108	108	1,071	53	10	
1953	327	17	488	17	486	1,487	2,870	157	94	488	117	10	
1954	5	16	70	7	374	1,939	1,939	154	340	1,705	93	7	
1955	3	22	61	---	628	1,967	2,681	443	519	306	2,570	106	
1956	---	106	106	---	501	3,156	480	515	137	3,163	224	53	
1957	---	37	32	1	616	3,654	4,310	615	975	2,588	458	17	
1958	5	56	28	1	404	5,274	5,768	615	1,196	1,688	4,106	818	
1959	42	75	24	1	5,365	11,644	17,151	884	3,274	510	8,998	1,521	
1960	2/	87	37	302	1	1,465	20,009	12,701	1,184	3,315	652	9,653	1,521

1/ Includes gloves, hosiery, underwear, outerwear, and hats.

2/ Includes veils and veillings, nets and nettings, lace window curtains, edgings, insertings, flounceings, all-overs, etc., embroideries, and ornamented wearing apparel.

3/ Includes braid (except hat braid), fabrics with fast edges not over 12 inches wide, garters, suspenders, braces, tassels, cords, tubings, webs, seines, and other nets for fishing.

4/ Not elsewhere classified.

5/ Preliminary.

Table 11.--U. S. foreign trade in textile manufactures: Fiber equivalent, exports, imports, and trade balance by fiber, 1920 to 1960

	Exports			Imports			Trade balance					
	Cotton	Wool	Manmade	Total	Cotton	Wool	Manmade	Total	Cotton	Wool	Manmade	Total
	1,000 lb.	1,000 lb.	1,000 lb.	1,000 lb.	1,000 lb.	1,000 lb.						
1920	361,399	17,953	904	380,256	43,916	23,662	210	67,788	317,483	-5,709	694	312,468
1921	210,930	6,275	999	218,204	35,854	44,226	315	80,395	175,076	-37,951	684	137,809
1922	235,413	4,354	1,799	241,566	45,519	42,288	910	88,717	189,894	-37,934	889	152,849
1923	199,058	5,059	1,588	205,705	61,159	48,975	1,020	111,154	137,899	-43,916	568	94,551
1924	200,414	3,933	2,400	206,887	62,811	47,128	633	110,572	137,603	-43,195	1,907	96,315
1925	234,622	3,309	2,317	240,248	48,040	41,056	1,125	90,221	186,582	-37,747	1,192	150,027
1926	231,962	3,326	2,069	237,357	39,163	37,985	1,311	78,459	192,799	-34,659	758	158,898
1927	264,487	3,546	2,278	270,311	40,482	44,972	1,681	87,135	224,005	-41,426	597	183,176
1928	256,921	3,695	2,885	263,001	38,167	43,529	1,402	83,098	218,754	-39,834	983	179,903
1929	260,002	3,770	2,598	266,670	40,505	41,871	1,028	83,404	219,497	-38,101	1,870	183,266
1930	189,627	3,121	2,900	195,648	30,591	26,452	729	57,772	159,036	-23,331	2,171	137,876
1931	162,937	2,030	2,423	167,390	27,669	16,244	641	44,554	135,268	-14,214	1,782	122,836
1932	159,971	1,069	1,597	162,637	24,695	11,814	548	37,057	135,276	-10,745	1,049	125,580
1933	137,480	1,458	1,612	140,550	28,802	14,891	666	44,359	108,678	-13,433	946	96,191
1934	105,227	1,445	1,786	108,458	25,499	11,005	650	37,154	79,728	-9,560	1,136	71,304
1935	91,607	1,532	2,64	95,703	37,069	17,590	831	55,490	54,538	-16,058	1,733	40,213
1936	99,281	1,519	3,915	104,775	60,834	29,583	1,519	91,936	38,447	-28,064	2,156	12,839
1937	124,403	1,884	5,297	131,584	76,550	26,041	2,293	104,884	47,853	-24,157	3,004	26,700
1938	150,552	2,555	5,543	158,650	41,431	13,821	1,281	56,533	109,121	-11,266	4,262	102,117
1939	178,099	2,670	9,054	189,823	58,514	24,807	1,259	84,580	119,585	-22,137	7,795	105,243
1940	179,644	11,170	12,112	202,926	43,155	20,200	779	64,134	136,489	-9,030	11,333	138,792
1941	284,742	7,262	22,244	314,248	29,514	22,408	375	52,297	255,228	-15,146	21,869	261,951
1942	217,680	17,081	15,225	249,986	8,905	20,588	214	29,707	208,775	-3,507	15,011	220,279
1943	271,092	44,428	14,731	330,251	9,380	13,188	124	22,692	261,712	31,240	14,607	307,559
1944	289,025	75,350	20,908	385,283	6,573	14,033	149	20,755	282,452	61,317	20,759	364,528
1945	292,292	56,001	31,000	379,293	25,230	15,527	668	41,425	267,062	40,474	30,332	337,868
1946	376,333	58,900	59,148	494,681	17,604	20,463	1,483	39,550	358,729	38,437	57,965	455,131
1947	758,266	46,088	111,150	915,804	8,422	15,939	514	24,875	749,844	30,149	110,336	890,929
1948	453,824	20,651	93,893	568,368	16,009	42,263	1,232	59,504	437,815	-21,612	92,661	508,864
1949	385,010	10,275	107,349	502,634	18,464	43,399	2,057	63,920	366,546	-33,124	105,292	438,714
1950	258,666	7,535	81,385	347,586	40,053	63,804	4,348	108,205	218,613	-56,269	77,037	239,381
1951	388,635	8,161	92,063	488,859	33,945	56,387	4,153	94,485	354,690	-48,226	87,910	394,374
1952	337,885	6,067	95,000	438,952	32,416	87,994	3,882	123,592	305,469	-81,927	91,818	315,360
1953	291,223	4,968	96,012	392,203	44,556	61,963	4,638	111,157	246,667	-56,995	91,774	281,046
1954	290,181	5,558	96,349	392,088	48,479	61,052	4,942	114,473	241,702	-55,494	91,107	277,615
1955	262,799	5,514	87,733	356,046	86,958	81,399	6,965	115,322	175,841	-75,885	80,768	180,724
1956	254,559	5,666	92,64	352,589	107,994	91,081	8,801	207,876	146,565	-85,415	83,563	144,713
1957	277,979	4,562	97,551	95,566	85,173	9,496	1,235	182,413	190,235	-80,611	88,155	189,957
1958	250,084	4,577	90,353	345,014	112,138	90,196	13,173	215,507	137,946	-85,619	77,180	129,507
1959	236,430	4,936	96,738	338,104	172,795	126,922	33,628	333,345	63,635	-121,986	63,110	14,759
1960	233,147	4,698	122,926	360,771	255,553	132,132	31,102	418,787	-22,406	-127,434	91,824	-58,016

