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**FARM-RETAIL PRICE SPREADS**  
**for** **COTTON**  
**PRODUCTS**

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## PREFACE

The price spreads for cotton products, presented in this report, replace those published in Volume 4 of Major Statistical Series of the U. S. Department of Agriculture, Agr. Handbook 118, and in Price Spreads Between Farmers and Consumers, U. S. Dept. Agr., Inform. Bul. 4. To compute spreads for cotton products with the limited data available, many assumptions are necessary. However, the data presented here are believed to be useful to show the trends in farm and retail prices and in farm-retail spreads. Sources of data and methods of computation are discussed in considerable detail so that the reader may judge for himself the accuracy and representativeness of the series. This report is part of a broad program of continuing research designed to reduce the cost of marketing farm products.

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## FARM-RETAIL PRICE SPREADS FOR COTTON PRODUCTS

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### SUMMARY

The spread between the retail cost of a group of 25 cotton products and the farm value of cotton required for manufacture of these products has remained fairly stable since 1947. This is in contrast to farm-retail price spreads for food and tobacco products, which generally moved upward in the period 1947-57. The 1957 annual average retail cost, farm value, and spread for the cotton products were the same as the 1947-49 averages. During an earlier period, 1940-47, each of the three averages rose sharply, with farm value increasing by a greater percentage than retail cost. However, the farm value of the cotton is a small part of the retail cost of the products. As a result, the percentage increase in the spread between retail cost and farm value was only slightly less than the increase in retail cost.

The farmer's share (farm value as a percentage of retail cost) varies among products, depending on the amount of workmanship in relation to the quantity of cotton used. Annual averages for 1 year shown in this report ranged from 5 percent for girls' dresses to 31 percent for sheets. The farmer's share for the group of 25 products averaged 15 percent in 1947-49, compared with 11 percent in the prewar years, 1935-39. The highest annual average farmer's share for the entire period, 1935-57, was 18 percent in 1951 and 1952.

Business shirts, work shirts, and sheets are typical items for which farmer's shares differ because value added by manufacture and distribution differs in relation to the quantity of cotton required for manufacture. For each of the 3 products the farm value of cotton has increased in relation to retail price since 1939, as shown by the increase in the farmer's share.

### INTRODUCTION

Consumption of cotton has declined in relation to that of other fibers in recent years but it still accounts for 65 to 70 percent of the total pounds of fibers consumed in textile mills (7). <sup>1/</sup> While in many instances the price of cotton is a small part of the total cost of cotton products, nevertheless the manufacturer must consider prices and qualities of the raw

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<sup>1/</sup> Underlined figures in parentheses refer to Literature Cited, page 17.



material in relation to those of alternative fibers, especially synthetics. Per capita consumption of cotton fluctuates from year to year, but in the last 5 years it has averaged about the same as in the 1920's. The higher consumption levels of the 1940's are explained by production of cloth for the armed services.

Cotton, as is well known, is used for a variety of products. The National Cotton Council estimated the utilization of cotton in 1956 as 49 percent for apparel, 30 percent for household products, and 21 percent for industrial uses (5). 2/ Mill consumption of cotton per person ranged from 25 to 28 pounds in calendar years 1953-56, but only about 20 pounds of cotton per person was used for clothing and household textiles. Price spreads (difference between retail price of a product and the price the farmer receives for the cotton in the product) can be computed for only a part of the cotton used in these products. The series in table 2 of this report relate to not more than half of the total used for clothing and household products.

#### FARM-RETAIL SPREADS FOR SPECIFIED COTTON PRODUCTS

This report deals chiefly with the trend in spreads between the average composite retail cost to consumers of a group of cotton products and the return to farmers for the lint cotton from which the products were fabricated. For convenience the composite prices and spreads were computed in terms of 1 pound of cotton. Spreads are also shown for individual products for 1 year and for 3 typical products for a period of years.

#### Individual Cotton Products, 1953 3/

The individual items for which price spreads are shown are limited to those for which the Bureau of Labor Statistics (BLS) publishes quarterly indexes of retail prices. They include 19 items of cotton clothing, 2 of cotton yard goods, and 4 of cotton housefurnishings (table 1). The 25 items are mainly moderately priced products. Some require comparatively little workmanship.

The retail prices are averages of midmonth prices in 10 cities in March, June, September, and December 1953, collected by the BLS according to specifications for quality and workmanship. Farm values are returns to farmers for the quantities of lint cotton required for manufacture of the finished products. These quantities are valued at estimated prices received by farmers for the kinds of cotton suitable for these products. The farmer's share of the retail price is obtained by dividing the farm value by the retail price.

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2/ The quantity of cotton from which these percentages were computed does not include some of the smaller end uses.

3/ Price spreads for individual products were computed for 1953 because that is the base period used in this report for computing retail prices.



The price range for the 25 products is wide. In 1953 the annual average retail prices ranged from 30 cents for men's work gloves to \$6.31 for bedspreads. Farm values ranged from 2 cents for the cotton in girls' anklets to \$1.45 for that in bedspreads. The grades of cotton assumed to be used to fabricate the 25 articles vary from Low Middling to Strict Middling and the staple lengths from 15/16 inch to 1-1/8 inches.

Farmer's shares for the 19 items of cotton clothing ranged from 5 percent for girls' dresses to 23 percent for men's work gloves and averaged 13 percent. Percentages for the 6 household and yard-goods items were generally higher than for clothing, ranging from 13 to 31 percent in 1953 and averaging 23 percent.

Composites for 25 Cotton Products, 1935-57 4/

Retail prices of 25 products listed in table 1 and estimated prices received by farmers for lint cotton of the kinds suitable for their manufacture were weighted to obtain the total retail cost of the products and the farm value of the quantity of cotton necessary to manufacture them. 5/ Constant weights were used throughout the period. The farm value was reduced to allow for the value of salable spinning waste. Total retail cost and farm value divided by the number of pounds of lint cotton estimated to be used in manufacture gave the average retail cost of products from 1 pound of cotton and the average farm value of the cotton (fig. 1 and table 2). The farm-retail spread is the difference between the retail cost and farm value. The retail cost, farm value, and spread are essentially price indexes even though they are expressed in dollars. Changes in the farm-retail spread indicate changes in costs and profits of marketing cotton and of manufacturing and distributing the products.

The farm-retail spread for cotton products remained relatively stable from 1935 through 1941 and then increased sharply until 1947. It has remained rather stable since 1947, ranging between \$1.73 and \$1.87 per pound of cotton, except for a decline to \$1.68 in 1949 and 1950. In 1957 the retail cost, farm price, and spread were the same as the 1947-49 averages: Retail cost, \$2.12; farm value, 32 cents; and spread, \$1.80.

The farm price of a pound of cotton is small compared with the composite retail cost of products made from it. Accordingly, trends in the farm-retail spread and the retail cost are similar.

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4/ Neither the retail cost of products nor the average farm price of cotton suitable for the manufacture of the products can be calculated for the period before 1935 by current methods. Therefore, price spreads of this report begin in 1935 instead of 1927 as in previously published series.

5/ Prices of 25 items were available beginning March 1956. The retail cost was based on prices of 18 or more items from the middle of 1947 through 1955 and prices of 13 items before 1947. The 13 items account for about three-fourths of the total retail cost.



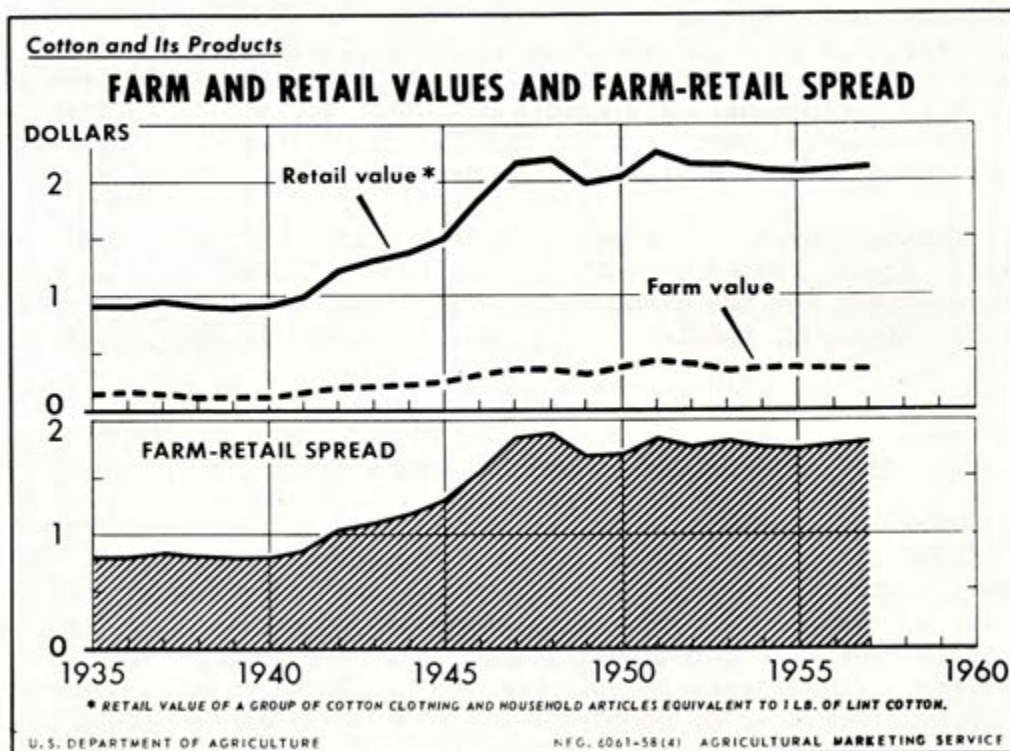


Figure 1

The trend in the spread for cotton products is in contrast to trends in spreads for farm food products and tobacco products. Spreads for food and tobacco products increased relatively less than spreads for cotton products between 1941 and 1947, but spreads for these other products continued to increase during the postwar years.

The cotton articles for which retail prices were available for computing spreads consist mainly of moderately priced clothing and household textiles embodying comparatively little workmanship. For that reason the price levels shown in table 2 are not necessarily representative of all cotton products bought by consumers. Trends in prices and in the farmer's share are, however, believed to be representative. The retail price of a cotton article, hence the farmer's share, depends much more on styling and workmanship than on the quantity of cotton used. For example, approximately the same quantity of cotton may be used for a housedress selling for \$3.95 as for a street dress selling for \$17.95. A better quality of cotton, however, may be used in the street dress, causing the farm value to be a little more than for the housedress. But the farmer's share of the retail price would be quite different for the two types of dresses because of the difference in retail price.

The farmer's shares are higher than those previously published for 42 cotton items. The principal reason for this is that the new series contains a larger proportion of household textiles and yard goods having higher farmer's shares than most other cotton products.

### Three Typical Cotton Products, 1939-57

Annual price spreads for 3 typical cotton products, 1939-57, are shown in table 3. The 3 items are business shirts made of combed cotton yarn, work shirts, and sheets. They represent 3 different levels of farmer's shares: Business shirts, 5 to 8 percent; work shirts, 9 to 19 percent; and sheets, 22 to 37 percent. The farm-retail spreads for business shirts and work shirts tended to level off after 1949; the trend in spreads for sheets was generally downward with more fluctuation. Spreads for all 3 products increased a little in 1957.

The farm value of cotton for business shirts is small in relation to the retail price. The cost of combing the yarn, weaving and finishing the broadcloth, and manufacturing and selling the shirt represents a much larger share of the retail price than the value of cotton does. Work shirts require as much cotton as business shirts but the retail price is lower, and, consequently, the farmer's share is larger. The farmer's share for sheets is more than his share for most other cotton items because, in relation to the quantity of cotton used, less value is added in the manufacture and distribution of sheets than in most other cotton products. Sheets are usually finished in the weaving mills and sold directly to retailers.

The farm value of the cotton used in each of the three products has increased in relation to the retail price of the product since 1939. But the value of cotton is such a small part of the retail cost that any change in the price of cotton is generally associated with a much smaller percentage change in the retail price.



Table 1.--Cotton products: Description of products, lint cotton equivalents, and farm-retail price spreads, 1953

Item	Description <u>1/</u>	Lint cotton equivalents <u>3/</u>			Farm-retail spread			Farmer's share of retail price
		Retail weight <u>2/</u> of cotton	Grade	Staple length	Retail price	Farm value <u>4/</u>	Farm-retail spread	
		Number	Pounds	Inches	Dollars	Dollars	Dollars	Percent
<b>Men's clothing</b>								
Gloves, work .....	Canton flannel, carded, 8 oz. per yd.	1.629	0.20	SLM 1	0.30	0.07	0.23	23
Overalls .....	8 oz. denim, 42-44 yd. per doz.	.877	2.11	LM 1	3.30	.65	2.65	20
Pajamas .....	68 x 72 percale or 80 x 60. broadcloth, 50-51 yd. per doz.	.642	1.03	SLM 1-1/32	3.00	.35	2.65	12
Shirt, business ..	Broadcloth, combed cotton, 128 x 68 or 136 x 60, 31-32 yd. per doz.	.942	.85	M 1-1/32	3.94	.28	3.66	7
Shirt, business ..	Broadcloth, carded, 100 x 60, 29-30 yd. per doz.	1.689	.71	M 1-1/32	2.20	.25	1.95	11
Shirt, work .....	Chambray, 3.6 yd. per lb.; 30-31 yd. per doz.	1.370	.78	M 1	1.61	.26	1.35	16
Shorts .....	Broadcloth, 80 x 60, 12-13 yd. per doz.	5.115	.25	SLM 1-1/16	.65	.08	.57	12
Socks, dress .....	Combed yarn, 220-240 needles	7.171	.20	SM 1-1/32	.51	.07	.44	14
Trousers, work .....	4-leaf twill; 8.2-8.5 oz. per sq. yd. (gray), 28-29 yd. per doz.	.915	1.54	SLM 1	3.58	.51	3.07	14
Undershirt .....	Combed yarn, rib knit, 1-3/4 to 2 lb. per doz.	3.959	.30	M 1-1/16	.55	.10	.45	18
<b>Women's clothing</b>								
Blouse .....	Broadcloth, combed cotton, 136 x 60.	.437	.77	M 1-3/32	5/	5/	5/	5/
Housedress .....	Percale, 80 x 80, carded yarn	1.065	.98	SLM 1-1/32	3.34	.33	3.01	10
<b>Boy's clothing</b>								
Sport shirt .....	Broadcloth, 100 x 60, or poplin; 100 x 44.	.834	.53	M 1	1.97	.18	1.79	9
Jeans .....	Denim, 8-11 oz. per yd.	.998	1.25	LM 15/16	2.50	.36	2.14	14
Shorts .....	Rib knit, combed yarn, 1 to 1/12; lb. per doz.	1.485	.20	M 1-1/16	.59	.07	.52	12

See footnotes at end of table.



Table 1.—Cotton products: Description of products, lint cotton equivalents, and farm-retail price spreads, 1953 - Continued

Item	Description <sup>1/</sup>	Lint cotton equivalents <sup>2/</sup>			Farm-retail spread		
		Retail weight <sup>2/</sup>	Quantity of cotton	Grade	Staple length	Retail price	Farm value <sup>4/</sup>
		Number	Pounds	Inches	Dollars	Dollars	Percent
<u>Girls' clothing</u>							
Anklets .....	Combed yarn, 160-176 needles, size 6 to 8-1/2.	4.223	0.07	SM 1-1/32	0.36	0.02	0.34
Dress .....	Broadcloth, carded 100 x 60, or percale 90 x 80.	.740	.62	SLM 1-1/32	3.87	.21	3.66
Pantie .....	Combed yarn, knit, size 10	.745	.32	M 1-1/16	.57	.10	.47
<u>Infants</u>							
Diapers, doz. ....	Carded yarn, gauze, 4.0 yd. per lb., size 21" x 40".	.142	2.25	SLM 1	3.63	.75	2.88
<u>Yard goods</u>							
Percale .....	Percale, 80 x 80, 4 yd. per lb.; carded.	6.569	.28	SLM 1-1/32	.51	.09	.42
<u>Household textiles</u>							
Bath towel .....	22" x 44", 6-1/2 to 7-1/2 lb. per doz.	1.979	.75	SLM 1-1/32	1.01	.25	.76
Bedspread .....	Jacquard 3 to 3-1/2 lb. 85" x 108".	.438	4.32	SLM 1-1/32	6.31	1.45	4.86
Curtains .....	Ruffled, with tiebacks, combed or gandy, 90" long.	.559	1.65	M 1-1/8	4.22	.56	3.66
Drapery fabric ....	Pebble cloth, 1.18 yd. per lb. or bark cloth, 1.25 yd. per lb.	2.970	1.05	LM 1-1/32	1.80	.32	1.48
Sheet .....	Muslin, 64 x 64, 81" x 99".	2.458	2.13	M 1	2.35	.74	1.61

<sup>1/</sup> Bureau of Labor Statistics pricing specifications.

<sup>2/</sup> Based on expenditure data for 1950 published in Consumer Expenditure, Income, and Savings (10) and on retail prices obtained by applying Bureau of Labor Statistics indexes to base period prices.

<sup>3/</sup> Based on data published in Outlets for Cotton (2, 3, 4) and in Cotton Regulations (6).

<sup>4/</sup> Gross farm value of products made of carded cotton reduced 2 percent and gross farm value of products made of combed cotton reduced 10 percent to allow for value of salable spinning waste.

<sup>5/</sup> Retail price not available.

Table 2.--Cotton products: Average composite retail cost of 25 products (expressed in terms of 1 pound of cotton), average farm value, farm-retail spread, and farmer's share of retail cost, 1935-57 <sup>1/</sup>

Year and quarter	Retail cost <sup>2/</sup>	Average farm value <sup>3/</sup>	Farm-retail spread	Farmer's share of retail price
	Dollars	Dollars	Dollars	Percent
1935 .....	0.91	0.12	0.79	13
1936 .....	.91	.12	.79	13
1937 .....	.95	.11	.84	12
1938 .....	.89	.08	.81	9
1939 .....	.88	.09	.79	10
1940 .....	.89	.10	.79	11
1941 .....	.98	.13	.85	14
1942 .....	1.22	.18	1.04	15
1943 .....	1.29	.19	1.09	15
1944 .....	1.37	.20	1.17	15
1945 .....	1.50	.22	1.28	14
1946 .....	1.84	.29	1.55	16
1947 .....	2.17	.33	1.84	15
1948 .....	2.20	.33	1.87	15
1949 .....	1.98	.30	1.68	15
1947-49 average ..	2.12	.32	1.80	15
1950 .....	2.03	.35	1.68	17
1951 .....	2.24	.41	1.83	18
1952 .....	2.14	.38	1.76	18
1953 .....	2.13	.32	1.80	15
1954 .....	2.08	.33	1.75	16
1955 .....	2.07	.34	1.73	16
1956 .....	2.10	.33	1.77	16
1957 .....	2.12	.32	1.80	15
<u>1956</u>				
Mar. ....	2.08	.34	1.74	16
June ....	2.09	.34	1.75	16
Sept. ....	2.10	.32	1.78	15
Dec. ....	2.11	.31	1.80	15

See footnotes at end of table.

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Table 2.- Cotton products: Average composite retail cost of 25 products (expressed in terms of 1 pound of cotton), average farm value, farm-retail spread, and farmer's share of retail cost, 1935-57 <sup>1/</sup> - Continued

Year and quarter	Retail cost <sup>2/</sup>	Average farm value <sup>3/</sup>	Farm-retail spread	Farmer's share of retail price
	Dollars	Dollars	Dollars	Percent
<u>1957</u>				
Mar. ....	2.12	0.32	1.80	15
June .....	2.12	.32	1.80	15
Sept. ....	2.12	.31	1.81	15
Dec. ....	2.12	.32	1.80	15
<u>1958</u>				
Mar. ....	2.12	.32	1.80	15
June .....				
Sept. ....				
Dec. ....				

<sup>1/</sup> A tax of 4 cents per pound of lint cotton, levied upon processors under the Agricultural Adjustment Act, was in effect from Aug. 1, 1933, until Jan. 6, 1936. Funds from the tax were used to make payments to producers of cotton. No adjustments were made in 1935 farm prices and spreads to show the effect of the tax.

Quarterly data are published in The Marketing and Transportation Situation, U. S. Dept. Agr., Agr. Mktg. Serv.

<sup>2/</sup> Retail cost of 25 items divided by the number of pounds of lint cotton estimated to be required for their manufacture. Annual averages are simple averages of retail costs in March, June, September, and December.

<sup>3/</sup> Estimated farm value of cotton of grades and staple lengths suitable for manufacture of the products, less allowance for value of salable spinning waste, divided by the number of pounds of cotton required. Farm value is based on average prices of cotton in central markets less 1/2 cent per pound estimated to be the difference between central-market price and price received by farmers.

Table 3.--Price spreads for 3 typical cotton products, 1939-57

Item and year	Retail price per item 1/	Farm value 2/	Farm-retail spread	Farmer's share of retail price
	Dollars	Dollars	Dollars	Percent
<u>Business shirt</u>				
1939 .....	1.67	0.08	1.59	5
1940 .....	1.68	.09	1.59	5
1941 .....	1.77	.11	1.66	6
1942 .....	2.12	.17	1.95	8
1943 .....	2.20	.18	2.02	8
1944 .....	2.31	.18	2.13	8
1945 .....	2.48	.19	2.29	8
1946 .....	3.39	.25	3.14	7
1947 .....	4.17	.28	3.89	7
1948 .....	4.18	.29	3.89	7
1949 .....	3.76	.26	3.50	7
1950 .....	3.73	.30	3.43	8
1951 .....	4.03	.34	3.69	8
1952 .....	3.90	.32	3.58	8
1953 .....	3.94	.28	3.66	7
1954 .....	3.91	.29	3.62	7
1955 .....	3.88	.30	3.58	8
1956 .....	3.86	.29	3.57	8
1957 .....	3.92	.29	3.63	7
<u>Work shirt</u>				
1939 .....	.77	.07	.70	9
1940 .....	.79	.08	.71	10
1941 .....	.91	.11	.80	12
1942 .....	1.16	.15	1.01	14
1943 .....	1.21	.16	1.05	13
1944 .....	1.28	.16	1.12	13
1945 .....	1.33	.17	1.16	13
1946 .....	1.55	.24	1.31	15
1947 .....	1.70	.27	1.43	16
1948 .....	1.71	.27	1.44	16
1949 .....	1.59	.25	1.34	16

See footnotes at end of table.

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Table 3.--Price spreads for 3 typical cotton products, 1939-57 - Continued

Item and year	Retail price per item <u>1/</u>	Farm value <u>2/</u>	Farm-retail spread	Farmer's share of retail price
	Dollars	Dollars	Dollars	Percent
<u>Work shirt</u>				
1950	1.62	0.29	1.33	18
1951	1.74	.33	1.41	19
1952	1.65	.30	1.35	18
1953	1.61	.26	1.35	16
1954	1.57	.27	1.30	17
1955	1.56	.27	1.29	17
1956	1.67	.27	1.40	16
1957	1.72	.26	1.46	15
<u>Sheets</u>				
1939	.92	.21	.71	23
1940	.93	.23	.70	25
1941	1.09	.31	.78	28
1942	1.39	.42	.97	30
1943	1.40	.45	.95	32
1944	1.41	.47	.94	33
1945	1.50	.50	1.00	33
1946	1.98	.67	1.31	34
1947	2.42	.76	1.66	31
1948	2.56	.75	1.81	29
1949	2.24	.70	1.54	31
1950	2.40	.81	1.59	34
1951	2.81	.92	1.89	33
1952	2.44	.86	1.58	35
1953	2.35	.74	1.61	31
1954	2.10	.76	1.34	36
1955	2.05	.76	1.29	37
1956	2.16	.76	1.40	35
1957	2.22	.74	1.48	33

1/ Annual average prices are simple averages of prices in March, June, September, and December, computed by applying Bureau of Labor Statistics indexes to annual average price in 10 cities in 1953.

2/ Estimated net farm value of the quantity of cotton of grade and staple length suitable for manufacture. Byproduct adjustments of 10 percent of the gross farm value of cotton for business shirts and 2 percent of the gross farm value of cotton for work shirts and sheets were made to allow for the value of spinning waste.



## BASIC DATA AND METHODS OF COMPUTATION

### Retail Prices

The Bureau of Labor Statistics is the source of retail price data used in this report. <sup>6/</sup> To obtain comparable prices from period to period, from store to store, and from city to city, the BLS collects prices of cotton products by detailed specifications, or descriptions, as to kind of fabric, yardage, and workmanship. But the collection of retail prices over the years has necessitated changes in specifications because of changes in products available in the retail stores. This was especially true during World War II when fabrics for civilian products were scarce. Average retail prices also change because of changes in outlets or store sample. The BLS takes changes in product and changes in outlets into consideration in computing retail price indexes for individual items of cotton products.

Since average retail prices vary from one period to the next because of changes in product and in outlets when there is no real price change, price indexes give a better indication of price changes than average prices do. The BLS considers the index series for each item comparable throughout 1935-57 (8).

For purposes of computing price spreads, retail price series for individual items, 1935-57, were computed by applying indexes to prices in the base period 1953. An annual average price for each item in 1953 was obtained by computing a simple average of BLS prices in each of 10 cities in the 4 pricing periods — March, June, September, and December — and combining city averages with weights furnished by the BLS. Prices in 1953 were used as base-period prices because they are more nearly comparable for the 4 pricing periods than prices for 1954 and 1955, the only other recent years for which prices have been published. In 1954 and 1955 published prices of some products which changed from one pricing period to the next carried the notation that change was due to change in outlet sample and that quotations from stores common to both the old and the new samples did not show a price change.

### Retail Weights

Quantity weights used to compute the total retail cost of these cotton products were calculated from family expenditure data for 1950 collected by the BLS (10), and from average retail prices of specified products calculated for 1950. For example, the average family expenditure for work trousers for men and boys 16 years old and over was \$3.11. The annual average price for the specified kind of work trousers was \$3.40. Dividing \$3.11 by \$3.40 gives a quantity weight of 0.915. When weights are calculated in this manner, the

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<sup>6/</sup> Prices paid by farmers for cotton products are also available, but these prices are not reported by specification, and items covered are approximately the same as those priced by the BLS.



expenditure for a class of products, such as work trousers, is carried by the price of a single product in that class. The expenditure for children's clothing, ages 2 to 16, was used to compute the weights for boys' and girls' clothing.

For some items it was necessary to allocate family expenditure between cotton and other fibers. For example, 97.5 percent of the expenditure for bedspreads was estimated to be for cotton bedspreads while only 68.5 percent of the expenditure for draperies and 52.8 percent of that for curtains were estimated to be for cotton products. 7/

### Cotton Equivalents

The quantity of cotton needed for the manufacture of an article of cotton clothing or a household textile item is called the cotton equivalent. The size of the cotton equivalent depends on the yardage, weight and kind of fabric, kind of cotton used, and whether it is carded or combed. The BLS specifies the kind of fabric, weight of cloth, and, for most items, the yardage for products for which it reports prices. The grade and staple length of cotton used for a particular product vary among mills. But, for these price-spread calculations it was necessary to choose one particular grade and staple length for each product. A grade and a staple length were selected from ranges shown in market-outlet reports published by the Agricultural Marketing Service (2, 3, 4).

To compute the cotton equivalent, the spinning waste and noncotton content of the fabric must be taken into account. Factors used for this purpose are those collected by the Department and used for computing the conversion factors in connection with an analysis of the processing tax program of the early 1930's (6). According to the Cotton Division of the Department of Agriculture, a survey in 1947 did not indicate a need for any material change in these factors (9).

Because spinning and combing wastes are salable, some allowance should be made for the value of byproducts. Although the price of waste does not always bear the same relation to the price of lint cotton, the estimates of farm value are not accurate enough to justify estimating a byproduct adjustment percentage each month. A 2-percent adjustment in the farm value was used for all carded-yarn items and a 10-percent adjustment for combed-yarn items. 8/ There is also a market for scraps resulting from cutting of garments, but no allowance was made for this type of byproduct. The value is small compared with the value of spinning waste.

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7/ Estimates were based on data published by the National Cotton Council of America.

8/ The percentage for carded yarn is that used by the Cotton Division in computing mill margins for 17 constructions of carded-cotton fabrics; the 10 percent was estimated on the basis of gross and net cotton costs to mills for a limited number of combed-yarn fabrics (1, table 28).



The following computation for work shirts illustrates the method used to obtain cotton equivalents:

Work Shirt - BLS specifications: Chambray, 3.6 yd. per lb., finished wt.; 30-31 yards per dozen shirts; carded cotton.

Weight of fabric = 3.6 yd. per lb., or 0.278 lb. per yd.

Weight of dozen shirts =  $30.5 \times .278 = 8.48$  lb.

Weight of 1 shirt =  $8.48$  divided by  $12 = .707$  lb.

Waste 16.0 percent; noncotton content, 7.5 percent.

Allowance for 7.5 percent noncotton content: 92.5 percent of the weight of the shirt, or  $.707 \times 92.5 = .654$  lb. of cotton.

Allowance for 16 percent spinning waste:  $.654$  divided by  $.84 = .78$  lb. of lint cotton per shirt.

Allowance for bagging and ties, estimated at 4 percent of the gross-bale weight of lint cotton: gross weight of lint cotton required is  $.78$  divided by  $.96 = .81$  lb. <sup>9/</sup>

Therefore, quantity of lint cotton required for 1 shirt is .78 lb. net weight and .81 lb. gross weight.

Middling 1 inch cotton is assumed to be used for chambray for work shirts.

### Farm Prices

Because cotton of different qualities is used for manufacture of the household textiles and clothing represented in the retail cost series, prices received by farmers for specific qualities of cotton are needed to estimate the farm value of the cotton. The Agricultural Marketing Service does not estimate United States average prices received by farmers for cotton by grade and staple length. However, it publishes monthly averages of daily base prices and premiums and discounts in 14 spot (or central) markets designated by the Secretary of Agriculture as markets whose price quotations are used in the settlement of futures contracts. Before 1954, averages for staple lengths of 1-1/16 inches or less were available for only 10 central markets, and only Memphis prices were available for longer cotton. <sup>10/</sup> These base

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<sup>9/</sup> Equivalents are needed on a gross-weight basis because estimated prices received by farmers are on that basis.

<sup>10/</sup> The 14 designated markets are Greenville, S. C., Charleston, S. C., Augusta and Atlanta, Ga., Montgomery, Ala., New Orleans, La., Little Rock, Ark., Memphis, Tenn., Greenwood, Miss., Dallas, Houston, Galveston, and Lubbock, Tex., and Fresno, Calif. The 10 markets were Charleston, Augusta, Montgomery, New Orleans, Little Rock, Memphis, Dallas, Houston, Galveston, and Savannah.



prices together with premiums and discounts for the various grades and staple lengths are reported as part of the market news service of the Department of Agriculture. Prices of specific grades and staple lengths of cotton are calculated from these base prices by adding premiums and subtracting discounts.

These central market average prices for specific grades and staple lengths were used to compute the farm value, with 1/2 cent per pound subtracted as the difference between prices in these central markets and prices received by farmers. <sup>11/</sup> The change from 10-market to 14-market averages had no appreciable effect on estimates of the farm value, as shown by computations for one season for which both series were available. Monthly prices were averaged to obtain quarterly and annual averages.

Farm Price Weights

For each item of table 1 the cotton equivalent was multiplied by the retail quantity weight to obtain the cotton required for manufacture of the group of products. The quantities of cotton were then totaled by grade and staple length (table 4).

Table 4.--Estimated quantities of cotton used in 25 products, by grade and staple length, 1957

Grade	Staple length	Quantity
	<u>Inches</u>	<u>Pounds</u>
Strict Middling .....	1-1/32	1.730
Middling .....	1-1/8	.922
Middling .....	1-3/32	1.137
Middling .....	1-1/16	1.723
Middling .....	1-1/32	1.199
Middling .....	1	6.747
Strict Low Middling .....	1-1/16	1.279
Strict Low Middling .....	1-1/32	7.379
Strict Low Middling .....	1	2.055
Low Middling .....	1-1/32	3.118
Low Middling .....	1	1.850
Low Middling .....	15/16	1.248
Total .....	---	30.387

<sup>11/</sup> The 1/2 cent per pound was estimated by specialists of the Cotton Division, Agricultural Marketing Service, as the approximate average differential between prices at central markets and farm disposal points.



### COMPARISON WITH PREVIOUS SERIES

Price spreads for cotton products given in this report replace the series published in Agricultural Information Bulletin 4 and Agricultural Handbook 118. The new series are believed to be an improvement over the earlier ones. However, long-time trends in the retail cost, farm value, and farm-retail spread are similar in both the old and the new series.

The new series were developed to make use of retail prices that have become available in recent years, to maintain better comparability in the retail cost between years, and to improve the estimates of the farm value. These changes should result in a more reliable trend in the farm-retail spread.

The retail cost of the new series is expressed in terms of the average cost of products from 1 pound of cotton, obtained by dividing the total retail cost of 25 products by the number of pounds of cotton required for their manufacture. The farm value is the average price per pound of cotton of the kind typically used in the products, after an estimated allowance for the value of salable spinning waste. The previously published series were total values for 42 items.

The number of items priced has varied, so that neither series is calculated from prices of the maximum number of items in all years. The new series is based on prices of 25 items beginning March 1956 and on prices of fewer items before that time. In the earlier series 42 items were priced in 1937. The value of the 42 items in that year established the level of retail cost, but the retail cost in other years was estimated from prices of fewer items — only 13 in recent years. The additional items in the list of 25 now priced are not the same as those that had been dropped from the list of 42 items; therefore, the prices had not been included in the earlier series as they became available.

In making previous estimates of the retail cost, prices of individual items were used for part of the period; then, during the war when comparable prices were no longer available, indexes were used. The trend in the retail cost is believed to be improved by the use of indexes for the entire period. The retail weights of the current series are from a 1950 survey while those previously used were from a survey made in the mid-1930's. The current series contains a larger proportion of household textiles.

Farm prices by grade and staple length were previously estimated by a rather complicated procedure of adjusting monthly average prices received by farmers. The use of central market prices simplifies the computation of the farm value and is believed to give more reliable estimates.



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