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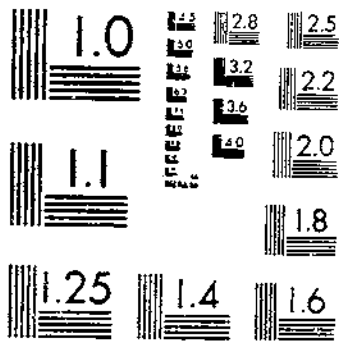
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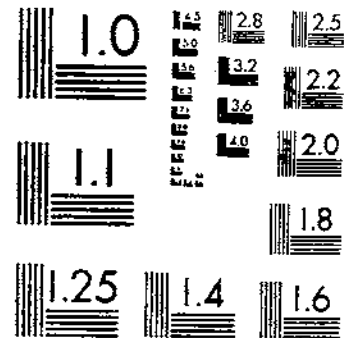
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MICROCOPY RESOLUTION TEST CHART  
NATIONAL BUREAU OF STANDARDS-1963-A

Price Risks for

**COTTON and**

**COTTON PRODUCTS**

and Means of  
Reducing Them

*by L. D. Howell*

Agricultural Economist  
Agricultural Marketing Service

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## SUMMARY AND CONCLUSIONS

Prices of raw cotton and of cotton yarns and fabrics at times fluctuate widely during relatively short periods. Holding substantial quantities of these products from the time they are ready for market until they are needed by consumers involves both risks of losses from price declines and possibilities of gains from price advances. The main purpose of this bulletin is to show the nature and extent of the risks from these price changes and to indicate means of improving the marketing of cotton and cotton products by reducing or offsetting these risks.

**Losses and gains from changes during the year in prices of cotton,** for the 6 years ended July 1953, averaged more than total costs involved in taking cotton from farms and delivering it to mills. The corresponding changes in prices of cotton yarns and fabrics were greater than those for raw cotton. An alternative to taking the gains and suffering the losses on market interests in these commodities, as a result of changes in prices, is to offset them through the use of futures as hedges.

**Cotton merchants usually hedge their long- or short-market interests in spot cotton** by offsetting sales or purchases of futures contracts. Operators of cotton mills may use futures markets in obtaining direct hedges against losses from changes in prices, but usually they buy cotton "on call" and leave hedging largely to cotton merchants. Small local buyers and farmers as a rule do not hedge their cotton, but most of them sell promptly and pass on the risks from price changes to the larger dealers.

**Effectiveness of futures trading in reducing risks from changes in prices of spot cotton, yarns, and fabrics** depends mainly upon the extent to which changes in prices of these commodities are associated with similar changes in prices of futures contracts. Large swings in prices of spot cotton usually are associated with more or less similar changes in prices of futures contracts, particularly for the near-active months. Because of the value added by manufacture and other factors, changes in prices of cotton futures usually are not so closely related to changes in prices of cotton yarns and fabrics as to changes in prices of spot cotton.

**Relationships between spot prices of cotton, yarns, and fabrics and prices of futures contracts** are affected by a number of factors. Abnormally large market supplies of cotton, when relatively smaller supplies are anticipated, may depress spot prices in relation to prices of futures contracts, particularly for the more distant months. Shortages of cotton immediately available, along with the anticipation of relatively larger supplies, tend to raise spot prices in relation to prices of futures contracts, particularly for the more distant months.

**Disparities between changes in spot prices and prices of futures contracts** at times result in considerable changes in basis (spread between the price of spot cotton of a specified quality in a given market and the price of a specified futures contract). Gains and losses from changes in basis are not offset by the normal hedging procedure. A

practical consideration, in evaluating the usefulness of futures contracts as hedges against losses from changes in spot prices, is concerned with determining how the risks from changes in spot prices compare with risks from changes in basis.

**Changes in spot prices compared with changes in basis** show that, during the 6-year periods ended July 1941 and 1953, changes over 8-week periods in spot prices of Middling  $1\frac{1}{8}$ -inch cotton in New Orleans exceeded the corresponding changes in basis, calculated from prices of near-month futures in New Orleans, 75 percent of the time. Changes in spot prices averaged 2.3 times as great as the corresponding changes in basis. These proportions are fairly typical for other qualities of cotton and for other markets.

**Relation of changes in prices of spot cotton to changes in basis varied considerably** from year to year and from one period to another. Usually, changes in spot prices and in basis averaged greatest near the change in the crop years, but the ratios of average changes in basis to the corresponding changes in spot prices varied irregularly from one part of the season to another.

**Changes in prices of the quantity of yarns and fabrics obtainable from a pound of cotton**, over 8-week periods, and the corresponding changes in spread between these prices and prices of cotton futures show that, during the 6-year periods ended July 1941 and 1953, protection afforded by cotton futures as hedges usually was less for yarns and fabrics than for raw cotton.

**Gains and losses from transferring hedges and from straddle transactions** may be used to supplement or offset gains and losses from changes in spot prices and in basis. But data relating to changes over 8-week periods in spread between prices of near-month and those for more distant month futures, during the 6 years ended July 1953, when related to the corresponding changes in spread between prices of spot cotton and prices of futures, for both current and immediately following 8-week periods, showed little, if any, correlation.

**Trading in futures may give some protection from changes in prices, aside from offsets through hedges, by reducing them.** Some students of futures trading have concluded that buying and selling futures by competent speculators tend to result in smaller but more frequent fluctuations in prices. Others contend that conclusive evidence is lacking with respect to whether prices are in any measure leveled purely as a result of trading in futures.

**Any influence that futures trading may have on the average level of farm prices of cotton** comes mainly from its influence on cost of marketing and manufacturing cotton. Futures trading makes possible a reduction in these costs by supplying means for reducing risks from changes in prices and for making savings in interest charges and in capital requirements.

**Benefits of reductions in risks and in capital costs** are offset to some extent by direct charges for trading in futures, the bulk of which are represented by commissions. Any net savings in marketing and manufacturing costs, as a result of futures trading, would make possible a reduction in margins necessary for marketing and manufacturing cotton. Available information is not adequate for ascertaining to what extent any such savings are passed on to growers in the form of higher farm prices or to consumers in the form of lower prices, but it appears reasonable to believe that both producers and consumers would be benefited by such savings.

# Price Risks for Cotton and Cotton Products and Means of Reducing Them<sup>1</sup>

By L. D. HOWELL, *agricultural economist, Agricultural Marketing Service*

## INTRODUCTION

Prices of raw cotton and of cotton yarns and fabrics sometimes fluctuate widely during relatively short periods. Changes in these prices are accounted for mainly by changes in the relative supply-and-demand situation and in purchasing power of the monetary unit in terms of which the prices are expressed (12).<sup>2</sup>

Cotton growers normally market most of their crop from September to December. Operators of cotton mills usually are not disposed to buy their whole year's requirements during this short period. Consequently, cotton merchants ordinarily buy more cotton during the harvesting season than they sell to mills during this period. Holding cotton from the time it is ready for market until it is needed by mills, involves both risks of losses from declines in prices and possibilities of gains from advances in prices.

Operators of cotton mills seldom find it possible to buy spot cotton and to sell simultaneously the yarns and fabrics to be made from it, or to sell yarns and fabrics and to buy simultaneously raw cotton for use in their manufacture (3). Consequently, they may buy raw cotton at fixed prices long before the yarns and fabrics made from it are sold at fixed prices, or they may sell cotton yarns and fabrics at fixed prices long before they buy at fixed prices the raw cotton used in their manufacture. These operations, when practiced, result in risks of losses, as well as possibilities of gains, from changes in prices.

Cotton merchants and operators of cotton mills usually specialize in merchandising raw cotton and in manufacturing yarns and fabrics, respectively, and generally they are not in a favorable position to assume the risk of loss from changes in prices. Consequently, they make use of the futures market in hedging, or in buying and selling "on call" (see p. 46). Some farmers also sell "on call."

Cotton merchants usually hedge their long- or short-market interests<sup>3</sup> in spot cotton by offsetting sales or purchases of futures contracts.<sup>4</sup> Operators of cotton mills may make use of the futures market in obtaining direct hedges against losses from changes in prices, but usually they buy cotton on call, leaving hedging largely to merchants. Small local buyers and farmers, as a general rule,

<sup>1</sup> Submitted for publication, October 1, 1954.

<sup>2</sup> Italic numbers in parentheses refer to Literature Cited, p. 97.

<sup>3</sup> The term "market interest," as used in this bulletin, refers to the quantity of the products purchased at fixed prices or otherwise owned (long-market interest) and that sold "short" at fixed prices (short-market interest).

<sup>4</sup> The expressions "buying or selling futures or futures contracts" are used in this bulletin to mean entering into a contract to buy or to sell cotton for delivery during a specified month in accordance with the rules and regulations of futures exchanges.



do not hedge their cotton. But most of them sell promptly, passing on the risks from price changes to the larger dealers.

Fear of loss and the possibility of gain motivate futures trading in cotton. Trading in cotton futures consists either in assuming these risks as speculators or in offsetting them as hedgers. The term "speculation" in common business usage is generally applied to the field of ventures, the outcome of which is relatively uncertain and, hence, from which profits or losses are likely to be large (8). In futures trading it is applied particularly to attempts to make profits by voluntarily assuming the risks, along with the possibilities of gain, from changes in prices. The success of the speculator depends mainly upon his buying and selling on the basis of an accurate anticipation of changes in prices.

Hedgers include principally cotton merchants and cotton manufacturers who buy and sell cotton futures as a means of transferring to speculators and other hedgers who are willing to assume the risks involved in later changes in prices. Cotton merchants mainly sell futures (short hedges) to protect purchases of spot cotton against the possibility of declines in prices before the cotton is sold at "fixed" prices, although at times they may sell spot cotton for forward delivery at fixed prices and buy futures (long hedges) to protect themselves against a possible advance in prices before the cotton is bought. Manufacturers, on the other hand, may buy futures as a hedge against a possible rise in prices of cotton when they have sold yarns or fabrics ahead and are not able, or are not disposed, to purchase simultaneously the cotton required. They may also sell futures as a hedge against losses from a possible decline in prices when cotton is bought at fixed prices before the cotton products are sold and their prices fixed.

## **Purpose of This Bulletin**

The main purposes of this bulletin are: (1) To show risks of losses and possibilities of gains from changes in prices of cotton and of cotton yarns and fabrics; (2) to ascertain to what extent futures trading affords protection from these changes by offsetting the risks from price changes through hedging and other transactions; (3) to indicate the influence of various factors on the spot-futures price relationships and protection afforded by futures as hedges; (4) to show gains and losses from transferring hedges and from straddle transactions; (5) to indicate the effects of trading in futures on fluctuations in prices of spot cotton; and (6) to give some indications of the effects of trading in futures on the stability and level of cotton prices, on the costs of marketing, on incomes to producers, and on costs to consumers.

## **Method of Procedure and Scope of Study**

Gains and losses from changes in prices of cotton, yarns, and fabrics and from straddling, and protection afforded by futures as hedges, are indicated by changes in prices and in price spreads over specified periods. No attempt was made to show results for actual operations of individuals in the market, as was done on a limited scale in the case of "A Study of Cotton Hedging for Grey Goods Mills, 1921-26" (17). Data to show average results of such operations would need to include details of all transactions for a representative sample of operators during a representative period of time. Problems involved

in selecting a representative sample of operators, in making satisfactory arrangements for obtaining from each operator detailed data for all transactions during a representative period, and in tabulating and analyzing these data may be such as to make this kind of study impracticable.

It is recognized, of course, that price risks for cotton and cotton products may be influenced by Government; i. e., price support and production control programs, surplus removal programs (including subsidies to domestic consumers and to exporters), and price ceilings and floors. But no attempt is made to show in this bulletin the influence of such programs on price risks for these commodities.

Results presented in this bulletin are based on analyses of data relating to prices of (1) spot cotton, (2) cotton futures, and (3) selected cotton yarns and fabrics for the prewar period—August 1935 to July 1941—and for the postwar period—August 1947 to July 1953. Prices of spot cotton of specified qualities in New Orleans and Augusta, Ga. (as officially quoted), closing prices of New York and New Orleans cotton futures contracts and prices of selected cotton yarns and fabrics in New York, adjusted to approximate the value of the quantity of yarns and fabrics obtainable from a pound of cotton, were used in the analyses.

Data used are mostly quotations on Wednesday of each week. Quotations on Wednesday are thought to represent a fairly typical cross section of prices from time to time for the commodities and in the markets studied. It is recognized that closing prices vary from day to day and that prices during the day may vary considerably from those at the close. Furthermore, closing prices on Wednesday do not reflect all variations in prices registered on cotton futures exchanges nor in prices at which spot cotton was sold in the specified markets. Consequently, the results obtained from the use of these data represent typical averages. They may show considerably more or less gains and losses from price changes and hedge protection afforded by futures than was actually obtained by some individuals in making specific transactions in these markets during the periods covered by this study.

Obviously, those who were adept in predicting changes in prices of cotton, yarns, and fabrics and in "basis"<sup>5</sup> may have been able to obtain greater gains and to suffer less losses from price changes, to realize more hedge protection, and to make greater gains and take smaller losses from transferring hedges and from straddle transactions than the average results of this study show. On the other hand, those who were less able to predict changes in prices and in basis may have realized less hedge protection and had greater losses or made less gains from changes in prices than indicated by the average results.

The number of observations used in the analyses generally amounted to one each week, except in February and March 1951 when quotations were not available because of price ceilings. When the markets were closed for holidays on Wednesdays, price quotations for Thursdays or Tuesdays usually were used. Differences between spot prices of cotton, yarns, and fabrics on Wednesdays, separated by 4-, 8-, and 16-week periods, were used to show gains and losses from changes in spot prices. Differences in the spread between spot prices and prices

<sup>5</sup> The term "basis," as employed in this bulletin, means the difference or spread between the price of spot cotton of a specified quality in a given market and the price of a specified futures contract.

of futures contracts on Wednesdays, separated by 4-, 8-, and 16-week periods, were used to show gains and losses from changes in basis, or spread between spot prices and prices of futures contracts. Differences in spread between prices of two futures contracts for the same and for different markets on Wednesdays, separated by 8-week periods, were used to show gains and losses from switching hedges and from straddle transactions.

Simple averages of these differences were calculated, and no attempt was made to use weights based on estimates of the quantity of hedges. Substantial changes during the year in the quantity of hedging are indicated by data showing open commitments, semimonthly, of large merchants and mills in connection with their long and short hedging commitments, as reported by the Commodity Exchange Authority (21). The published data on hedging commitments in cotton are not shown separately for each futures contract and consequently do not provide a basis for weighting the relative hedging importance of the various futures in estimating gains and losses per pound of cotton. Calculation of total gains and losses of all merchants and mills from hedging operations is not possible from the hedging commitment data, as they do not include commitments of merchants and mills whose futures positions are smaller than the reporting requirement. Data showing length of hedging periods are not available, and periods of 4, 8, and 16 weeks were arbitrarily selected for use in this study.

Gains and losses are shown in cents a pound for cotton and in cents for the quantity of cotton yarns and fabrics obtainable from a pound of cotton. Gains and losses from changes in spot prices, from changes in basis, from transferring hedges, and from straddle transactions are shown separately. It is recognized, of course, that individual cotton merchants or manufacturers may engage in one or more types of operations involving long- or short-market interests in the spot commodity not hedged, long or short interests in the spot commodity offset by sales or purchases of futures contracts, the transfer of hedges from one futures contract to another, and straddle transactions between futures months and markets (3).

Gains and losses from one type of transaction may be supplemented or offset, in whole or in part, by those from other types of transactions. Furthermore, transactions in spot and futures markets may be parts of larger ventures involving a variety of interests. It might be helpful, in evaluating the protection afforded by trading in futures, to know under what conditions and to what extent cotton merchants and manufacturers supplement or offset their gains and losses from one type of transaction with those from other types. But the information available for this study is not adequate for this purpose.

## **RISKS FROM CHANGES IN SPOT PRICES**

Risks of loss, as well as possibilities of gain, from changes in prices of cotton and of cotton yarns and fabrics are functions of market interests in these products combined with the probability of changes in prices. The extent of market interests in cotton may be indicated by data which show that stocks of cotton in the United States during the 6 years ending with July 1941 ranged from 4.5 million bales in July 1937 to 23.5 million bales in August 1939, and averaged 14.6 million bales. Similar data for the 6 years ended July 1953 show

that stocks ranged from 2.3 million bales in July 1951 to 20.1 million bales in August 1949, and averaged 10.1 million bales (20).

Similar data for specified cotton yarns and fabrics are not available, but, according to information made available by the American Cotton Manufacturers Institute, Inc., stocks of broad woven cotton goods, during the 5 years ended 1941, ranged from 2.8 to 11.7 equivalent week's production and averaged 7.2. During the 6 years ended 1953, stocks of these goods ranged from 1.1 to 5.7 equivalent week's production and averaged 2.8. Similar data relating to unfilled orders show that, during the prewar period, they ranged from 4.6 to 32.0 equivalent week's production and averaged 13.3. In the postwar period, unfilled orders ranged from 3.3 to 16.2 equivalent week's production and averaged 9.6.

It is apparent from these data that market interests in raw cotton, yarns, and fabrics usually are great enough to result in large gains or losses from substantial changes in prices of these products.

### Extent of Changes in Spot Prices

Data relating to changes in prices of raw cotton, cotton yarn, and cotton fabrics are presented in the order listed.

*Raw cotton.*—Quoted prices of cotton in central markets show wide fluctuations during the year (fig. 1). In 1937, for example, spot prices of Middling 15/16-inch cotton in New Orleans declined from 15.50 cents a pound on March 17 to 8.50 cents on October 6, a decline of 7 cents

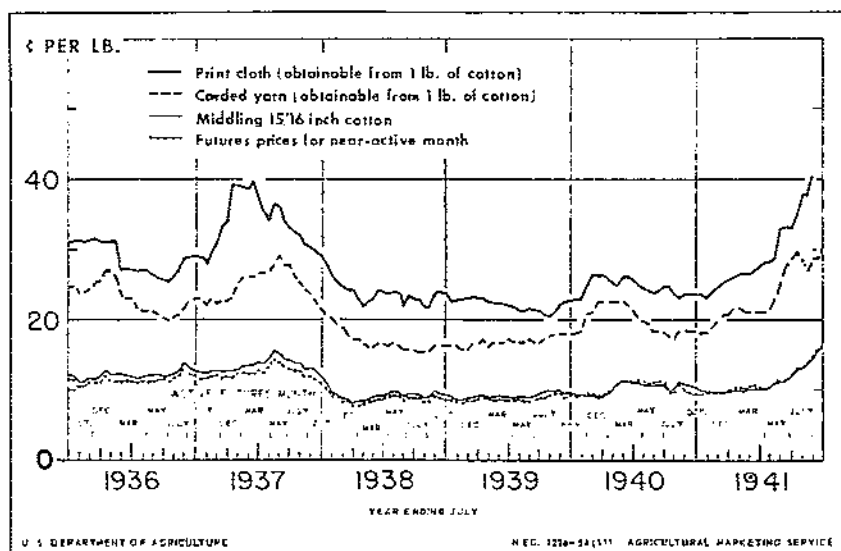


FIGURE 1.—Spot prices of Middling 15/16-inch cotton and cotton futures for the near-active month in New Orleans and prices in New York of the quantities of carded cotton yarn (10s) and cotton print cloth (39'' 80 x 80) obtainable from a pound of cotton, 1936-41.

The large changes in prices of spot cotton, carded yarn, and print cloth usually are associated with more or less similar changes in prices of cotton futures, but at times the spreads between spot prices, particularly of yarns and fabrics, and prices of cotton futures vary widely.

within less than 7 months. In 1941, prices of this cotton advanced from 10.11 cents on February 5 to 15.40 cents on July 16, an advance of 5.29 cents within less than 6 months. During the 6 years ended July 1941, ranges during the year in these prices averaged about 3.78 cents a pound, or about one-third of the lowest price during the year.

In more recent years, prices of cotton have advanced to relatively high levels and the extent of price change has also increased. In 1950, spot prices of Middling 15/16-inch cotton in New Orleans advanced from 33.90 cents a pound on September 5 to 42.90 cents on December 5, an advance of 9 cents within about 3 months. In 1952, prices of this cotton declined from 40.15 cents on August 6 to 32.40 cents on December 17, a decline of 7.75 cents within less than 5 months. During the 6 years ended July 1953, ranges in these prices during the year averaged about 7.96 cents a pound, or almost one-fourth of the lowest price during the year (fig. 2). These ranges in prices averaged substantially more than total costs involved in taking cotton from farms and delivering it to mills (13).

Data on quoted prices of Middling 15/16-inch spot cotton in New Orleans show rather large changes over relatively short periods. During the 6 years ended July 1941, differences between these prices on Wednesdays, separated by 8-week periods, reached as much as 3.59 cents a pound and they averaged 0.74 cent (table 1). These differences amounted to 2.25 cents or more a pound about 6 percent of the time. In the postwar period, August 1947 to July 1953, differences between prices of this cotton on Wednesday, separated by

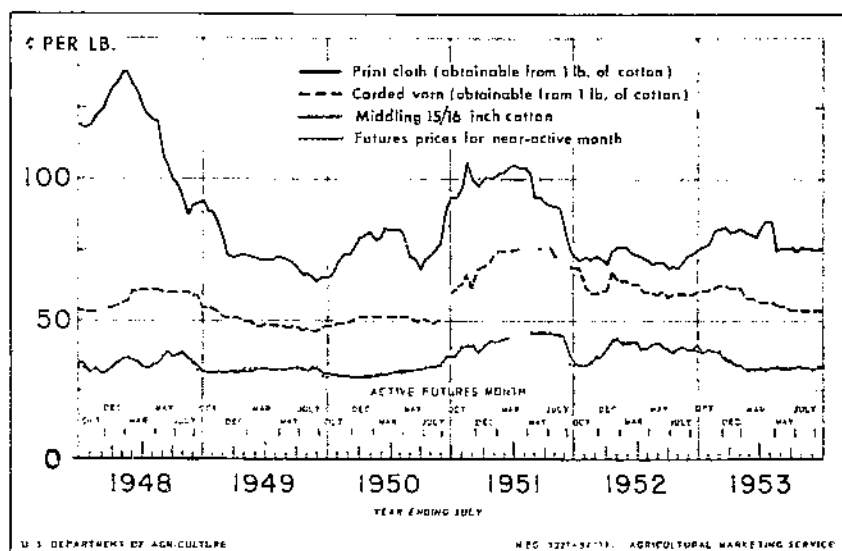


FIGURE 2.—Spot prices of Middling 15/16-inch cotton and cotton futures for the near-active month in New Orleans and prices in New York of the quantities of carded cotton yarn (10s) and cotton print cloth (39'' 80 x 80) obtainable from a pound of cotton, 1948-53.

The large changes in prices of spot cotton, carded yarn, and print cloth usually are associated with more or less similar changes in prices of cotton futures, but at times the spreads between spot prices, particularly of yarns and fabrics, and prices of cotton futures vary widely.

8-week periods, in some instances exceeded 6 cents a pound, and they averaged 1.98 cents (table 2). The differences amounted to 3.25 cents or more a pound almost 22 percent of the time.

Extent of the changes in prices of spot cotton over 8-week periods vary from year to year and from one part of the season to another. Such changes usually are greatest toward the end of one crop-year and near the beginning of the next, when changes in the immediate and prospective supply-and-demand situation for cotton usually are greatest. During the 6 years ended July 1941, changes in spot prices of Middling 15<sup>1</sup>/<sub>16</sub>-inch cotton in New Orleans over 8-week periods ended May to September averaged 87 percent greater than the average for 8-week periods ended during the other months (table 3). During the 6 years ended July 1953, similar changes over 8-week periods ended July to September averaged 44 percent greater than those for 8-week periods ended October and November, and averaged more than twice as great as those for 8-week periods ended during other months (table 4).

TABLE 1.—Changes over 8-week periods in spot prices of Middling 15<sup>1</sup>/<sub>16</sub>-inch cotton in New Orleans, 1936-41<sup>1</sup>

Item	Year ended July—						Total
	1936	1937	1938	1939	1940	1941	
Change in cents per pound:	Number	Number	Number	Number	Number	Number	Number
Under -2.25	1		8				9
-2.25 to -1.76	1	2	2				5
-1.75 to -1.26	2	6	2				10
-1.25 to -0.76	1	5	4	6	3	6	25
-0.75 to -0.26	12	7	11	4	14	5	53
-0.25 to 0.24	11	7	9	23	21	9	80
0.25 to 0.74	10	13	12	10	7	13	65
0.75 to 1.24	7	8	1	7	3	7	36
1.25 to 1.74	1	3			3		7
1.75 to 2.24	1	1			1	4	7
2.25 and over	1				1	8	10
Total	48	52	52	50	53	52	307
Gain <sup>2</sup>	28	29	20	28	25	38	168
Loss <sup>2</sup>	20	23	32	22	28	13	138
Average change	Cents	Cents	Cents	Cents	Cents	Cents	Cents
Gain	.69	.81	.98	.41	.53	1.01	0.74
Loss	.74	.93	1.26	.37	.37	.73	.76
Maximum:							
Gain	2.62	1.82	1.09	1.10	2.48	3.20	3.29
Loss	2.37	1.96	3.59	1.14	1.02	1.10	3.59

<sup>1</sup> Prices as officially quoted, usually on Wednesday or Thursday of each week.

<sup>2</sup> Gain and loss on long interests in spot cotton not hedged.

TABLE 2.—Changes over 8-week periods in spot prices of Middling <sup>1</sup>/<sub>16</sub>-inch cotton in New Orleans, 1948-53 <sup>1</sup>

Item	Year ended July—						
	1948	1949	1950	1951	1952	1953	Total
Change in cents per pound:	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>
Under -3.25	12	5		3	7	9	36
-3.25 to -2.75	2	1			3		6
-2.75 to -2.25	4				1	3	8
-2.25 to -1.75	1	1	3		4	3	12
-1.75 to -1.25	1	2	6		4	4	17
-1.25 to -0.75	4	3	5		3	2	17
-0.75 to -0.25	2	4	2		3	6	17
-0.25 to 0.24	1	14	3	12	5	16	51
0.25 to 0.74	3	13	7	2	3	7	35
0.75 to 1.24	2	7	8	3	1	2	23
1.25 to 1.74	1	2	12	2	3		20
1.75 to 2.24	3		3	2	3		11
2.25 to 2.74	1			4	4		9
2.75 to 3.24	4			4			8
3.25 and over	9		3	8	9		29
Total	50	52	52	40	53	52	299
Gain <sup>2</sup>	24	26	35	28	25	20	158
Loss <sup>2</sup>	26	24	17	4	28	30	129
Average change	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>
Gain	2.96	1.10	1.30	2.17	3.09	1.32	1.98
Loss	2.76	.62	1.30	2.35	2.88	.37	1.73
Maximum:	3.14	1.71	1.29	5.24	3.27	2.03	2.47
Gain	5.85	1.35	5.20	5.20	7.95	1.20	7.95
Loss	7.90	6.05	2.05	8.41	10.36	4.35	10.36

<sup>1</sup> Spot prices as officially quoted, usually on Wednesday or Thursday of each week.

<sup>2</sup> Gain and loss on long interests in spot cotton not hedged.

TABLE 3.—Changes over 8-week periods in spot prices of Middling <sup>1</sup>/<sub>16</sub>-inch cotton in New Orleans, by periods ended during specified months, 1936-41 <sup>1</sup>

Item	Changes for periods ended—					Total
	July 15- Oct. 14	Oct. 15- Dec. 14	Dec. 15- Mar. 14	Mar. 15- May 14	May 15- July 14	
Change in cents per pound:	Number	Number	Number	Number	Number	Number
Under 2.25.....	9					9
2.25 to 1.76.....	3				2	5
1.75 to 1.26.....	4	2		1	3	10
1.25 to 0.76.....	19	3		1	2	25
0.75 to 0.26.....	18	6	12	7	10	53
0.25 to 0.24.....	14	13	20	22	11	80
0.25 to 0.74.....	6	18	28	8	5	65
0.75 to 1.24.....	2	8	9	8	9	36
1.25 to 1.74.....	1		3	3		7
1.75 to 2.24.....			2	2	3	7
2.25 and over.....		2			8	10
Total.....	76	52	74	52	53	307
Gain <sup>2</sup> .....	16	33	54	31	34	168
Loss <sup>2</sup> .....	60	18	20	21	19	138
Average change.....	Cents 1.00	Cents 0.58	Cents 0.53	Cents 0.52	Cents 1.03	Cents 0.74
Gain.....	.45	.67	.61	.66	1.17	.73
Loss.....	1.14	.45	.29	.32	.70	.76
Maximum:						
Gain.....	1.51	2.62	2.12	1.82	3.29	3.29
Loss.....	3.59	1.42	.73	1.70	1.96	3.59

<sup>1</sup> Year ended July. Prices as officially quoted, usually on Wednesday or Thursday of each week.

<sup>2</sup> Gain and loss on long interests in spot cotton not hedged.



TABLE 4.—Changes over 8-week periods in spot prices of Middling  $1\frac{1}{8}$ -inch cotton in New Orleans, by specified periods, August 1947–July 1953<sup>1</sup>

Item	Period ended—					Total
	July 15– Oct. 14	Oct. 15– Dec. 14	Dec. 15– Mar. 14	Mar. 15– May 14	May 15– July 14	
Change in cents per pound:	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>
Under—3.25.....	22	8	3		3	36
—3.25 to—2.76.....	4				2	6
—2.75 to—2.26.....	1	2	4		1	8
—2.25 to—1.76.....	5		6	1		12
—1.75 to—1.26.....	11	1	4		1	17
—1.25 to—0.76.....	5	2	3	1	6	17
—0.75 to—0.26.....	5	2	4	3	3	17
—0.25 to 0.24.....	4	11	5	13	18	51
0.25 to 0.74.....	2	4	8	15	6	35
0.75 to 1.24.....		5	11	4	3	23
1.25 to 1.74.....	2	2	7	2	7	20
1.75 to 2.24.....	1	1	6	1	2	11
2.25 to 2.74.....	3	3	2		1	9
2.75 to 3.24.....	2	1	2	1	2	8
3.25 and over.....	8	11	5	4	1	29
Total.....	75	53	70	45	56	299
Gain <sup>2</sup> .....	19	34	44	34	27	158
Loss <sup>2</sup> .....	55	18	25	9	22	129
Average change.....	<i>Cents</i> 3.35	<i>Cents</i> 2.32	<i>Cents</i> 1.59	<i>Cents</i> 0.96	<i>Cents</i> 1.12	<i>Cents</i> 1.98
Gain.....	2.87	2.39	1.52	1.13	1.18	1.73
Loss.....	3.58	2.31	1.77	.55	1.40	2.47
Maximum:						
Gain.....	5.20	7.95	4.90	5.85	3.65	7.95
Loss.....	10.36	4.35	3.50	1.80	3.91	10.36

<sup>1</sup> Spot prices as officially quoted, usually on Wednesday or Thursday of each week.

<sup>2</sup> Gain and loss on long interests in spot cotton not hedged.

The extent of the changes in prices of cotton vary considerably with the length of the period. Results of analysis of data relating to prices of Middling  $1\frac{1}{8}$ -inch cotton in New Orleans, for both the prewar and postwar periods combined, show that differences between spot prices on Wednesdays, separated by 4-week periods, averaged about 64 percent as great, and those for 16-week periods averaged about 149 percent as great, as those for 8-week periods. Changes in these prices over specified periods vary somewhat with the quality of the cotton and from one market to another, but, on the average, these variations are not great.

*Cotton yarn.*—Data relating to fluctuations in prices of cotton yarn in New York show that for the prewar period, August 1935 to July 1941, the range during the year in value of the quantity of carded cotton yard (10s) obtainable from a pound of cotton averaged 6.9 cents, or about 38 percent of the lowest price during the year (fig. 1,

p. 9). Similar data for the postwar period, August 1947 to July 1953, show that annual ranges averaged 8.77 cents, or about 16 percent of the lowest price during the year (fig. 2, p. 10).

Quoted prices of carded cotton yarn in New York show rather large changes over relatively short periods. During the prewar period, August 1935 to July 1941, differences between the values of the quantity of carded cotton yarn (10s) obtainable from a pound of cotton on Wednesdays, separated by 8-week periods, reached 7.2 cents, and averaged 1.45 cents (table 5). These differences amounted to 3.25 cents or more about 10 percent of the time. Comparable data for the postwar period, August 1947 to July 1953, show that in some instances changes over 8-week periods exceeded 7 cents, and they averaged 2.28 cents (table 6). These changes amounted to 3.25 cents or more about 22 percent of the time.

TABLE 5.—Changes over 8-week periods in prices of carded cotton yarn (10s) in New York, 1936-41<sup>1</sup>

Item	Year ended July—						
	1936	1937	1938	1939	1940	1941	Total
Change in cents per pound:	Number	Number	Number	Number	Number	Number	Number
Under -3.25	7	4	2				13
-3.25 to -2.76	1	5	4				10
-2.75 to -2.26		1	5		3		9
-2.25 to -1.76	6	1	8		9		24
-1.75 to -1.26	4	1	2		8		15
-1.25 to -0.76	4	1	8		1	4	18
-0.75 to -0.26	2	4	10	10	1	7	34
-0.25 to 0.24	6	3	7	16	11	6	49
0.25 to 0.74	7	8	2	12	3	11	43
0.75 to 1.24	3	4	4	7	3	1	22
1.25 to 1.74	1	4		7	3	3	18
1.75 to 2.24	4	5			3	5	17
2.25 to 2.74	5	4			3	6	18
2.75 to 3.24	1	2			1		4
3.25 and over	1	5			4	9	19
Total	52	52	52	52	53	52	313
Gain <sup>2</sup>	22	32	6	26	20	35	141
Loss <sup>2</sup>	24	17	39	10	22	11	123
Average change	Cents	Cents	Cents	Cents	Cents	Cents	Cents
	1.68	1.86	1.32	0.49	1.51	1.86	1.45
Gain	1.53	1.74	.75	.81	2.07	2.57	1.75
Loss	2.23	2.41	1.65	.45	1.76	.61	1.70
Maximum:							
Gain	3.60	3.60	.90	1.35	4.50	7.20	7.20
Loss	4.50	4.50	3.60	.45	2.70	.90	4.50

<sup>1</sup> Prices as reported in *Daily News Record*, usually on Wednesday or Thursday of each week, adjusted to approximate the value of the quantity of yarn obtainable from a pound of cotton.

<sup>2</sup> Gain and loss on long interests in yarn not hedged.

TABLE 6.—Changes over 8-week periods in prices of carded cotton yarn (10s) in New York, 1948-53<sup>1</sup>

Item	Year ended July—						
	1948	1949	1950	1951	1952	1953	Total
Change in cents per pound:	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>
Under -3.25		7		1	15	8	31
-3.25 to -2.76		2			1		3
-2.75 to -2.26		5		2	1	3	11
-2.25 to -1.76	4	9	1		2	12	28
-1.75 to -1.26	4	4			1		5
-1.25 to -0.76	5	12	11		6	6	40
-0.75 to -0.26	8				1		9
-0.25 to 0.24	11	9	17		8	9	54
0.25 to 0.74	1				1		2
0.75 to 1.24	4	2	7		3	1	17
1.25 to 1.74	1						1
1.75 to 2.24	3		6	2	1	10	22
2.25 to 2.74	4		8		2	2	16
2.75 to 3.24	1				1		2
3.25 and over	7		1	23	4		35
Total	49	50	51	28	47	51	276
Gain <sup>2</sup>	21	2	22	25	12	13	95
Loss <sup>2</sup>	17	39	12	3	27	29	127
Average change	<i>Cents</i> 1.45	<i>Cents</i> 1.85	<i>Cents</i> 1.15	<i>Cents</i> 6.59	<i>Cents</i> 2.77	<i>Cents</i> 1.84	<i>Cents</i> 2.28
Gain	2.66	.90	2.13	6.95	2.55	1.87	3.51
Loss	.90	2.33	.98	3.60	3.68	2.39	2.34
Maximum:							
Gain	5.40	.90	8.10	13.50	6.30	2.70	13.50
Loss	1.80	6.30	1.80	5.40	6.45	4.50	9.45

<sup>1</sup> Prices as reported in *Daily News Record*, usually on Wednesday or Thursday of each week, adjusted to approximate the value of the quantity of yarn obtainable from a pound of cotton.

<sup>2</sup> Gain and loss on long interests in yarn not hedged.

The extent of changes over 8-week periods in prices of the quantity of carded cotton yarn obtainable from a pound of cotton vary considerably from year to year and from one part of the season to another. In the prewar period, yearly average changes in prices ranged from 0.49 cent for the year ended July 1939 to 1.86 cents for the years ended July 1937 and 1941 (table 5). In the postwar period, similar changes in prices ranged from an average of 1.15 cents for the year ended July 1950 to 6.59 cents for the year ended July 1951 (table 6). Average changes over 8-week periods ranged from 1.17 cents for 8-week periods ended December to February to 1.83 cents for 8-week periods ended March and April, in the prewar years (table 7), and from 0.66 cent for 8-week periods ended May and June to 4 cents for 8-week periods ended July to September, in the postwar period (table 8).

The extent of the changes in prices of carded cotton yarn vary considerably with the length of the period. Results of the analysis

of data relating to changes in value of the quantity of carded cotton yarn (10s) obtainable from a pound of cotton, for both the prewar and postwar periods combined, show that differences between prices on Wednesdays, separated by 4-week periods, averaged about 57 percent as great, and that those for 16-week periods averaged about 175 percent as great, as those for 8-week periods.

*Cotton fabric.*—Data relating to fluctuations in prices of cotton fabrics in New York show that for the prewar period, August 1935 to July 1941, the range during the year in prices of the quantity of cotton print cloth (39" 80 x 80) obtainable from a pound of cotton averaged 8.4 cents, or about 36 percent of the lowest price during the year (fig. 1, p. 9). During the postwar period, August 1947 to July 1953, these ranges averaged 25.49 cents, or about 35 percent of the lowest price during the year (fig. 2, p. 10).

TABLE 7.—Changes over 8-week periods in prices of carded cotton yarn (10s) in New York, by specified periods, August 1935–July 1941<sup>1</sup>

Item	8-week periods ended—					Total
	July 15– Oct. 14	Oct. 15– Dec. 14	Dec. 15– Mar. 14	Mar. 15– May 14	May 15– July 14	
Change in cents per pound:	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>
Under -3.25	2	7	4	13		
-3.25 to -2.76	6	1	2	10		
-2.75 to -2.26	4	1	2	9		
-2.25 to -1.76	2	6	8	21		
-1.75 to -1.26	2	4	6	15		
-1.25 to -0.76	2	3	8	18		
-0.75 to -0.26	11	4	9	34		
-0.25 to 0.24	15	2	21	49		
0.25 to 0.74	11	7	14	43		
0.75 to 1.24	9	1	5	22		
1.25 to 1.74	4	7	3	18		
1.75 to 2.24	4	8	4	17		
2.25 to 2.74	6	10	1	18		
2.75 to 3.24	2	1	1	4		
3.25 and over	2	4	4	19		
Total	80	52	77	53	51	313
Gain <sup>2</sup>	38	38	26	20	19	141
Loss <sup>2</sup>	27	12	30	28	26	123
Average change	<i>Cents</i> 1.28	<i>Cents</i> 1.80	<i>Cents</i> 1.17	<i>Cents</i> 1.83	<i>Cents</i> 1.41	<i>Cents</i> 1.45
Gain	1.43	1.93	1.23	3.06	1.35	1.75
Loss	1.77	1.69	1.95	1.29	1.78	1.70
Maximum:						
Gain	3.60	4.50	4.50	7.20	6.30	7.20
Loss	3.60	3.15	3.60	2.70	4.50	4.50

<sup>1</sup> Prices as reported in *Daily News Record*, usually on Wednesday or Thursday of each week, adjusted to approximate the value of yarn obtainable from a pound of cotton.

<sup>2</sup> Gain and loss on long interests in yarn not hedged.

TABLE 8.—Changes over 8-week periods in prices of carded cotton yarn (10s) in New York, by specified periods, August 1947–July 1953<sup>1</sup>

Item	8-week periods ended—					
	July 15– Oct. 14	Oct. 15– Dec. 14	Dec. 15– Mar. 14	Mar. 15– May 14	May 15– July 14	Total
Change in cents per pound:	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>
Under —3.25.....	15	1	11	4	—	31
—3.25 to —2.76.....	1	1	1	—	—	3
—2.75 to —2.26.....	1	2	3	3	2	11
—2.25 to —1.76.....	2	5	7	8	6	28
—1.75 to —1.26.....	—	3	1	—	1	5
—1.25 to —0.76.....	3	1	9	15	12	40
—0.75 to —0.26.....	—	1	—	6	2	9
—0.25 to 0.24.....	7	3	15	7	22	54
0.25 to 0.74.....	—	—	—	2	—	2
0.75 to 1.24.....	7	6	2	—	2	17
1.25 to 1.74.....	—	1	—	—	—	1
1.75 to 2.24.....	13	7	2	—	—	22
2.25 to 2.74.....	4	8	4	—	—	16
2.75 to 3.24.....	—	—	2	—	—	2
3.25 and over.....	11	12	12	—	—	35
Total.....	64	51	69	45	47	276
Gain <sup>2</sup> .....	35	34	22	2	2	95
Loss <sup>2</sup> .....	22	14	32	36	23	127
Average change.....	<i>Cents</i> 4.00	<i>Cents</i> 2.55	<i>Cents</i> 2.27	<i>Cents</i> 1.26	<i>Cents</i> 0.66	<i>Cents</i> 2.28
Gain.....	4.32	2.99	3.52	.45	.12	3.51
Loss.....	4.77	2.02	2.48	1.55	1.27	2.34
Maximum:						
Gain.....	13.50	6.30	5.40	.45	.90	13.50
Loss.....	9.45	4.50	4.50	4.95	2.70	9.45

<sup>1</sup> Prices as reported in *Daily News Record*, usually on Wednesday or Thursday of each week, adjusted to approximate the value of yarn obtainable from a pound of cotton.

<sup>2</sup> Gain and loss on long interests in yarn not hedged.

Large changes in prices of print cloth over relatively short periods are shown by official quotations for the New York market. During the prewar period, differences between the values of the quantity of cotton print cloth (30" 80 x 80) obtainable from a pound of cotton on Wednesdays, separated by 8-week periods, reached 9.47 cents, and averaged 1.79 cents (table 9). These differences amounted to 3.25 cents or more about 19 percent of the time. Yearly averages of these changes ranged from 0.84 cent for the year ended July 1939 to 3.10 cents for the year ended July 1937.

Similar data for the postwar period show that these changes over 8-week periods in some instances exceeded 18.00 cents and averaged 5.87 cents (table 10). They amounted to 13.75 cents or more about 10 percent of the time. Yearly averages of these changes ranged from 3.58 cents for the year ended July 1953 to 10.35 cents for the year ended July 1948.

The extent of the changes over 8-week periods varied markedly from one part of the season to another. In the prewar period, the changes ranged from an average of 1.63 cents for 8-week periods ended March and April to an average of 2.13 cents for 8-week periods ended October and November (table 11). In the postwar period, the changes ranged from an average of 3.24 cents for 8-week periods ended December, January, and February to an average of 7.70 cents for 8-week periods ended July, August, and September (table 12).

Changes in prices of print cloth vary with the length of the period under consideration. Data relating to changes in value of the quantity of cotton print cloth (39" 80 x 80) obtainable from a pound of cotton show that, for both the prewar and postwar periods combined, differences between prices on Wednesdays, separated by 4-week periods, averaged about 60 percent as great, and those for 16-week periods averaged about 175 percent as great, as those shown for 8-week periods.

TABLE 9.—Changes over 8-week periods in prices of print cloth in New York, 1936-41<sup>1</sup>

Item	Year ended July—						Total
	1936	1937	1938	1939	1940	1941	
Change in cents per pound:	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>
Under -3.25.....	7	10	8				25
-3.25 to -2.76.....		4					4
-2.75 to -2.26.....	1	4	5				10
-2.25 to -1.76.....	1	2	8		6		17
-1.75 to -1.26.....	6	2	3	2	8		21
-1.25 to -0.76.....	3	2	6	15	4		30
-0.75 to -0.26.....	6	2	6	11	2	3	30
-0.25 to 0.24.....	13	3	3	11	8	2	40
0.25 to 0.74.....	8	2	2	5	13	1	31
0.75 to 1.24.....	2	3	4	1	3	7	20
1.25 to 1.74.....	1	1	4			9	15
1.75 to 2.24.....		3	3	6	1	9	22
2.25 to 2.74.....		1		1	2	2	6
2.75 to 3.24.....	2	2			1		5
3.25 and over.....	2	11			5	15	33
Total.....	52	52	52	52	53	48	309
Gain <sup>2</sup> .....	19	24	13	16	27	43	142
Loss <sup>2</sup> .....	29	28	36	33	23	3	152
Average change.....	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>
	1.37	3.10	1.72	.84	1.25	2.52	1.79
Gain.....	1.16	3.75	1.29	1.15	1.38	2.78	2.14
Loss.....	1.69	2.55	2.02	.76	1.25	.49	1.64
Maximum:							
Gain.....	3.60	9.47	2.23	2.27	3.60	7.45	9.47
Loss.....	4.25	4.25	4.50	1.55	2.05	.62	4.50

<sup>1</sup> Prices of print cloth (39" 80 x 80) as reported in *Daily News Record*, usually on Wednesday or Thursday of each week, adjusted to approximate the value of the quantity of fabric obtainable from a pound of cotton.

<sup>2</sup> Gain and loss on long interests in fabrics not hedged.

TABLE 10.—Changes over 8-week periods in prices of cotton print cloth in New York, 1948-53<sup>1</sup>

Item	Year ended July--						
	1948	1949	1950	1951	1952	1953	Total
Change in cents per pound:	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>
Under -13.75.....	13	3		2	3		21
-13.75 to -11.26.....	6	3	3	3	1		16
-11.25 to -8.76.....	4	2	3	2		4	15
-8.75 to -6.26.....	1	4	2		2	3	12
-6.25 to -3.76.....	3	8		2	5	1	19
-3.75 to -1.26.....	2	14	2	5	21	5	49
-1.25 to 1.24.....	5	16	9	4	6	18	58
1.25 to 3.74.....	3	1	12	8	4	5	33
3.75 to 6.24.....	2	1	1	2	11	8	25
6.25 to 8.74.....	3		14	2		6	25
8.75 to 11.24.....	2		3	2		1	8
11.25 to 13.74.....	6						6
13.75 and over.....	2		3	6			11
Total.....	52	52	52	38	53	51	298
Gain <sup>2</sup> .....	18	5	36	21	18	27	125
Loss <sup>2</sup> .....	31	42	12	15	34	22	156
Average change.....	<i>Cents</i> 10.35	<i>Cents</i> 4.21	<i>Cents</i> 5.78	<i>Cents</i> 7.76	<i>Cents</i> 4.02	<i>Cents</i> 3.58	<i>Cents</i> 5.87
Gain.....	9.35	1.80	5.83	8.55	3.43	3.81	5.85
Loss.....	11.93	5.00	7.58	7.08	4.45	3.63	6.52
Maximum:							
Gain.....	19.80	4.50	16.20	20.70	5.40	9.00	20.70
Loss.....	21.60	15.73	13.07	18.00	18.90	10.33	21.60

<sup>1</sup> Prices of print cloth (39" 80 x 80) as reported in *Daily News Record*, usually on Wednesday or Thursday of each week, adjusted to approximate the value of the quantity of fabric obtainable from a pound of cotton.

<sup>2</sup> Gain and loss on long interests in print cloth not hedged.

TABLE 11.—Changes over 8-week periods in prices of cotton print cloth in New York, by specified periods, August 1935–July 1941<sup>1</sup>

Item	8-week periods ended—					Total
	July 15– Oct. 14	Oct. 15– Dec. 14	Dec. 15– Mar. 14	Mar. 15– May 14	May 15– July 14	
Change in cents per pound:	Number	Number	Number	Number	Number	Number
Under —3.25.....	7	1	10	1	6	25
—3.25 to —2.76.....	1	—	1	1	1	4
—2.75 to —2.26.....	2	4	2	2	—	10
—2.25 to —1.76.....	4	3	5	2	3	17
—1.75 to —1.26.....	3	3	4	6	5	21
—1.25 to —0.76.....	5	2	9	10	4	30
—0.75 to —0.26.....	5	3	7	9	6	30
—0.25 to 0.24.....	8	10	7	8	7	40
0.25 to 0.74.....	11	5	7	5	3	31
0.75 to 1.24.....	5	3	10	—	2	20
1.25 to 1.74.....	2	4	6	—	3	15
1.75 to 2.24.....	12	3	4	—	3	22
2.25 to 2.74.....	3	1	2	—	—	6
2.75 to 3.24.....	3	1	—	—	1	5
3.25 and over.....	6	9	3	9	6	33
Total.....	77	52	77	53	50	309
Gain <sup>2</sup> .....	44	29	36	15	18	142
Loss <sup>2</sup> .....	28	21	39	36	28	152
Average change.....	Cents 1.70	Cents 2.13	Cents 1.64	Cents 1.63	Cents 1.96	Cents 1.79
Gain.....	1.71	2.81	1.40	3.08	2.82	2.14
Loss.....	1.96	1.39	1.95	1.11	1.70	1.64
Maximum:						
Gain.....	3.60	9.47	5.65	5.40	7.45	9.47
Loss.....	4.50	3.60	4.25	4.03	4.07	4.50

<sup>1</sup> Prices of print cloth (39" 80 x 80) as reported in *Daily News Record*, usually on Wednesday or Thursday of each week, adjusted to approximate the value of the quantity of fabric obtainable from a pound of cotton.

<sup>2</sup> Gain and loss on long interests in fabrics not hedged.



TABLE 12.—Changes over 8-week periods in prices of cotton print cloth in New York, by specified periods, August 1947–July 1953<sup>1</sup>

Item	8-week periods ended—					Total
	July 15– Oct. 14	Oct. 15– Dec. 14	Dec. 15– Mar. 14	Mar. 15– May 14	May 15– July 14	
Change in cents per pound:	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>
Under —13.75.....	5	3	1	7	5	21
—13.75 to —11.26.....	3	1	5	4	3	16
—11.25 to —8.76.....	2	—	1	8	4	15
—8.75 to —6.26.....	3	3	—	5	1	12
—6.25 to —3.76.....	3	2	4	3	7	19
—3.75 to —1.26.....	6	6	13	13	11	49
—1.25 to 1.24.....	8	6	24	7	13	58
1.25 to 3.74.....	7	8	14	—	4	33
3.75 to 6.24.....	11	3	8	—	3	25
6.25 to 8.74.....	12	11	1	—	1	25
8.75 to 11.24.....	5	2	—	—	1	8
11.25 to 13.74.....	—	6	—	—	—	6
13.75 and over.....	9	1	—	—	1	11
Total.....	74	52	71	47	54	298
Gain <sup>2</sup> .....	46	31	29	4	15	125
Loss <sup>2</sup> .....	25	20	33	42	36	156
Average change.....	<i>Cents</i> 7.70	<i>Cents</i> 6.28	<i>Cents</i> 3.24	<i>Cents</i> 7.34	<i>Cents</i> 5.14	<i>Cents</i> 5.87
Gain.....	8.06	7.18	2.77	.62	3.66	5.85
Loss.....	7.95	5.19	4.53	8.15	6.19	6.52
Maximum:						
Gain.....	20.70	14.40	8.10	.90	14.40	20.70
Loss.....	18.90	15.73	21.60	21.60	17.10	21.60

<sup>1</sup> Prices of print cloth (39" 80 x 80) as reported in *Daily News Record*, usually on Wednesday or Thursday of each week, adjusted to approximate the value of the quantity of fabric obtainable from a pound of cotton.

<sup>2</sup> Gain and loss on long interests in print cloth not hedged.

## Gains and Losses from Changes in Spot Prices

Changes in spot prices of cotton, yarn, and fabric include both advances and declines, and they represent both gains and losses on long- and short-market interests in these commodities. Results of analysis of changes in spot prices as shown in tables 1 to 12, inclusive, are presented primarily from the viewpoint of those who have long market interests in the spot commodities. It is recognized, of course, that the gains and losses shown on long-market interests represent losses and gains, respectively, on short-market interests in the spot commodity.

*Raw cotton.*—Changes in prices of Middling 15/16-inch cotton in New Orleans, over 8-week periods, showed declines less than one-half of the time during the prewar period, August 1935 to July 1941, and during the postwar period, August 1947 to July 1953, but the losses for both the prewar and the postwar periods averaged greater than the gains (tables 1 and 2, pp. 11 and 12). The proportion of the time

that gains and losses were shown and the average amounts of the gains and losses varied considerably from year to year and from one part of the season to another. The proportion of the time that these changes in prices showed losses, and the average amounts of the losses, were greatest toward the end of one crop year and early in the next when changes in the demand and supply situation usually are greatest (tables 3 and 4, pp. 13 and 14).

*Cotton yarn.*—Changes over 8-week periods in New York prices of the quantity of carded cotton yarn (10s) obtainable from a pound of cotton showed declines 39 percent of the time during the prewar period and 46 percent of the time during the postwar period. Maximum and average declines in prices were less than the advances. Proportions of the time that changes in prices resulted in gains and in losses and the average amounts of these gains and losses on long market interests varied widely from year to year (tables 5 and 6, pp. 15 and 16) and from one part of the season to another (tables 7 and 8, pp. 17 and 18).

*Cotton fabric.*—Differences between prices in New York of the quantity of cotton print cloth (39" 80 x 80) obtainable from a pound of cotton on Wednesdays, separated by 8-week periods, showed declines 49 percent of the time during the prewar period and 52 percent in the postwar period. In the prewar period, declines averaged 1.64 cents compared with average advances of 2.14 cents; in the postwar period, declines averaged 6.52 cents compared with average advances of 5.85 cents. The proportion of the time that changes in prices of print cloth showed advances and declines and the average amounts of the advances and declines varied widely from year to year (tables 9 and 10, pp. 19 and 20) and from one part of the year to another (tables 11 and 12, pp. 21 and 22).

## RELATION OF SPOT PRICES TO PRICES OF FUTURES CONTRACTS

The effectiveness of futures trading in reducing risks from changes in prices of cotton and of cotton yarns and fabrics depends mainly on the relationship between spot prices and prices of futures contracts (19). The extent to which losses from changes in spot prices can be offset by the use of futures as hedges, the adjustments in spot prices from market to market and from one period to another that may be brought about by futures trading, and the dependability of futures price quotations as a guide to buying and selling cotton depend mainly on the relationship between spot prices and prices of futures contracts. Information showing the extent to which changes in spot prices of cotton and of cotton yarns and fabrics are associated with similar changes in prices of futures contracts, and factors affecting spot-futures price relationships, supplies a basis for an understanding of the protection from fluctuations in spot prices afforded by trading in futures.

### Spot-Futures Price Relationships

Large swings in prices of spot cotton usually are associated with more or less similar changes in prices of cotton futures contracts, particularly for the near-active month (figs. 1 and 2, pp. 9 and 10).

Prices of spot cotton and of futures contracts are largely determined by the same group of factors. In addition, futures contracts can be converted into spot cotton at the date of their maturity if either the seller or the buyer so desires (although in actual practice only a small proportion of the futures contracts is liquidated by the delivery of cotton). These facts largely account for the larger and principal changes in prices of spot cotton being associated with more or less similar changes in prices of futures contracts. But these prices do not always change by the same amounts or in the same direction. Consequently, the spread between prices of spot cotton of a specified grade and staple length in a given market and prices of a specified futures contract may vary considerably.

During the prewar period, August 1935 to July 1941, and the postwar period, August 1947 to July 1953, the spread between prices of Middling 15/16-inch spot cotton in New Orleans and prices of New Orleans futures contracts, particularly for the more distant months, showed wide changes over relatively short periods (figs. 1 and 2, pp. 9 and 10). Changes in the spread were substantially greater in the postwar than in the prewar period. In the prewar period, the spread between spot prices of Middling 15/16-inch cotton in New Orleans and prices of New Orleans futures contracts changed by amounts ranging up to 1.4 cents a pound over 2-month periods. Similar changes in spread during the postwar period ranged up to about 7.7 cents a pound over 1-month periods. Usually, the spreads were greatest between spot prices and prices of new crop futures toward the end of the old crop year and near the beginning of the new.

Prices of cotton futures contracts usually are not nearly so closely related to spot prices of cotton yarns and fabrics as to spot prices of cotton. The value of the quantity of carded cotton yarn (10s), for example, obtainable from a pound of cotton are a great deal more than, and sometimes it is twice as much as, the price of cotton futures contracts (figs. 1 and 2, pp. 9 and 10). Similarly, the value of the quantity of cotton print cloth (39" 80 x 80) obtainable from a pound of cotton usually is more than twice as much, and sometimes it is more than three times as much, as prices of cotton futures contracts (figs. 1 and 2, pp. 9 and 10). Differences in changes in prices usually are associated with these differences in values, with the result that changes in the spread between prices of cotton futures contracts and prices of cotton yarns and fabrics usually are much greater than those between prices of futures contracts and prices of spot cotton.

## Factors Affecting Spot-Futures Price Relationships

The spread between spot prices of raw cotton and of cotton yarns and fabrics and prices of futures contracts, and variations in these spreads, are accounted for mainly by differences in place of delivery and in terms and conditions of sale; differences in date of delivery and between the immediate and prospective demand-and-supply situation; and differences in the nature, quality, and classification of the products.

*Differences in place of delivery and in terms and conditions of sale.*—Spot prices for cotton of the same quality in different market places vary considerably, and these variations are reflected in the spread between spot prices and prices of futures contracts. Prices of cotton in surplus-producing areas that are long distances from consuming centers usually are lower than prices of cotton of the same grade and

staple length in deficit-producing areas near centers of consumption. Consequently, the spreads between prices of a specified futures contract and prices of Middling  $1\frac{1}{16}$ -inch cotton at specified markets show substantial differences. During the year ended July 1953, spot prices of Middling  $1\frac{1}{16}$ -inch cotton at Augusta, Ga., averaged 1.33 cents a pound higher than at Dallas, for example, and these differences are reflected in differences in spread between prices of specified futures contracts and spot prices in these markets.

Differences in terms and conditions of sale may also affect the amounts and variations in the spread between spot prices and prices of futures contracts (11, 19). Cotton futures contracts are for Middling  $1\frac{1}{16}$ -inch cotton, but cotton of other grades equal to or better than Low Middling and of other staples seven-eighths inch and longer, provided the cotton is of good character, may be delivered in settlement of the contract obligations at specified premiums and discounts from the prices specified for Middling  $1\frac{1}{16}$ -inch cotton. Those who take cotton on futures contracts must accept whatever combination of these qualities that are offered, regardless of the number or the relative desirability of the qualities included. On the other hand, contracts in the spot market may be for large lots of cotton that are even running in grade and staple length and of the quality or qualities most desired. Spot prices for cotton Middling  $1\frac{1}{16}$ -inch or better naturally would be somewhat higher than prices of futures contracts for delivery in the same market at about the same time.

The probability that cotton tendered in settlement of the futures contract obligation will be delivered at the designated delivery point with the lowest price level may decrease the desirability of the contract from the viewpoint of the buyer. Delivery points for the New York and New Orleans cotton futures contracts include New York, Norfolk, Charleston, Savannah, Mobile, New Orleans, Galveston, and Houston. On July 1, 1953, for example, spot prices of Middling  $1\frac{1}{16}$ -inch cotton ranged from 32.60 cents in Houston to 33.50 cents in Charleston. Adequate supplies of the qualities of cotton most profitable for delivery on futures contracts, at the delivery point that has the lowest price level, may be necessary for the full effect of differences in prices of spot cotton at various delivery points to be reflected in the basis. Since the differences between prices of spot cotton at the markets designated as delivery points may change over relatively short periods, any effect of these differences on basis is most likely to be in evidence near the date of maturity of the futures contracts.

Furthermore, uncertainties with regard to where delivery will be made may add additional costs since some merchants, particularly the smaller ones, may not be in position to receive, without some extra cost, cotton at some points at which it may be delivered. In addition, costs of delivering and receiving cotton on futures contracts usually are greater than costs of selling and buying spot cotton. These additional costs may discourage the delivery and receiving of cotton on futures contracts and may depress prices of futures in relation to prices of spot cotton.

*Differences in date of delivery and between the immediate and prospective demand-and-supply situation.* Differences between spot prices of Middling  $1\frac{1}{16}$ -inch cotton at delivery points and prices of futures contracts depend considerably upon the date of maturity of the futures contracts, along with differences between the immediate and

prospective demand-and-supply situation. When market supplies of spot cotton are large in relation to the demand for cotton, with no significant changes in the relative demand-and-supply situation in prospect, prices of spot cotton for immediate delivery tend to advance in relation to prices of cotton futures contracts by amounts approximating the costs (such as storage, insurance, interest, etc.) of carrying spot cotton (14, 19). But changes in the relative demand-and-supply situation in recent years have been such that, during most of the period covered by this study, the changes in spread between spot prices and prices of futures contracts were not even approximately equal to costs of carrying spot cotton. During a substantial part of this period, prices of spot cotton advanced a great deal less or declined much more than prices of futures contracts.

If supplies of cotton made available in the market are abnormally large in relation to the demand, when relatively smaller supplies are anticipated, spot prices may be depressed in relation to prices of futures contracts, particularly those for the more distant months (11, 19). Such situations may exist during or soon after the ginning season when the crop is abnormally large if price supports or other control programs are not in effect. But the extent to which prices of futures contracts may remain above prices of spot cotton at delivery points under such conditions probably would be limited, fairly definitely, to an amount equal to the cost of carrying spot cotton to the date of maturity of the futures contracts plus the cost of making delivery on futures contracts.

If prices of futures contracts were higher than spot prices at delivery points by amounts appreciably greater than the cost of carrying the cotton to the date of maturity of the futures contracts, plus the cost of delivering it on futures contracts, an inducement would be created in the form of assured profits for traders to sell futures for the purpose of making deliveries. But prices of futures would need to exceed spot prices plus carrying charges by more than the cost of buying spot cotton plus the cost of delivering it on futures contracts, before assured profits could be obtained by buying spot cotton and selling futures contracts for the purpose of making deliveries.

A relative shortage of spot cotton immediately available in the market, along with the anticipation of relatively larger supplies, tends to raise spot prices in relation to prices of futures contracts, particularly for the more distant months (14, 19). The effects of such situations may be particularly noticeable during seasons of small crops and relatively small available supplies, especially if merchants have sold large quantities of cotton forward. Under such conditions, the difficulty of obtaining cotton with which to fulfill their commitments stimulates keen competition on the part of cotton merchants for the available supplies of spot cotton; a shortage of the most desired qualities of cotton stimulates early purchasing of spot cotton by mills; and the advance in prices with short supplies stimulates slow marketing by farm producers. All this may advance prices of spot cotton more rapidly than prices of futures contracts, particularly for the more distant months.

Price-support programs and other forms of organized control may result in a relative shortage of supplies of spot cotton immediately available in the market, so that prices of spot cotton may be high in relation to prices of futures contracts, particularly for the more distant months, even when the total physical supply of cotton in

existence is relatively large. The 1948 crop of American cotton was about 3 million bales larger than the 1947 crop, and the carryover also increased in 1948; but more than 5 million bales of the 1948 crop were pledged for Commodity Credit Corporation loans. Prices of Middling  $\frac{1}{8}$ -inch cotton in New Orleans from January through April 1949, for example, averaged more than 4 cents a pound above prices of New Orleans futures contracts for delivery in October and December. An examination of figures 1 and 2, pages 9 and 10, shows that prices of New Orleans futures contracts, particularly for the more distant months, were below spot prices of Middling  $\frac{1}{8}$ -inch cotton in that market during most of the period included in this study.

The extent to which prices of futures contracts may go below prices of spot cotton cannot be so definitely indicated as that for the reverse relationship. Prices of futures contracts may go below prices of spot cotton plus carrying charges at points of delivery by an amount greater than the costs of receiving the cotton on futures contracts, before purchasers can obtain cotton at the date of maturity of the futures contracts, and at lower costs, by purchasing futures contracts and requiring delivery than by purchasing spot cotton at the same time. Acute shortages of spot cotton immediately available in the market at current prices, along with prospects of relatively large supplies, may raise spot prices in relation to prices of futures contracts, particularly for the more distant months, by amounts substantially greater than the costs of receiving cotton on futures contracts. In addition, uncertainties with regard to time and place of delivery and to the qualities and commercial values of cotton which may have to be accepted on futures contracts, as indicated in more detail further on in this bulletin (see p. 28), may also depress prices of futures contracts in relation to prices of spot cotton.

A relative shortage of available supplies of spot cotton at prevailing prices, together with rather large long-market interests in near-month futures contracts, is favorable to a "squeeze" of the near-month futures contract. The term "squeeze" is used to describe a situation in which more cotton is expected to be called for in settlement of maturing futures contracts than is readily available for that purpose. As a result of a squeeze, prices of futures contracts maturing or about to mature usually may be raised above prices of contracts maturing in more distant months. They may also advance considerably in relation to prices of spot cotton not readily available for delivery on futures contracts.

The option on the part of the seller of a futures contract to deliver cotton on any day during the month of its maturity makes him less vulnerable to being squeezed and permits him to make deliveries at the time when it is most convenient, or more advantageous, for him. These advantages increase the desirability of the contract from the seller's viewpoint. On the other hand, such options add an element of uncertainty to be considered by one who anticipates receiving cotton on futures contracts. He must hold himself in readiness to receive the cotton at any time during the month. This uncertainty reduces somewhat the desirability of futures contracts from the purchaser's viewpoint. These advantages to the seller, and disadvantages to the buyer, may weaken the prices of futures contracts in relation to prices of spot cotton, particularly as the date of maturity of the contract approaches (14, 19).

*Differences in nature, quality, and classification of the products.*—Differences between prices of futures contracts and spot prices of cotton, yarn, and fabric vary widely with the nature and quality of the products to which the spot prices apply. Prices of futures contracts apply to Middling  $\frac{1}{8}$ -inch cotton, whereas prices of spot cotton may apply to any one or more of the various grades and staple lengths. Averages for the year ended July 1953, for example, show that prices of cotton of other grades and staple lengths at Memphis, for example, ranged from 9.72 cents a pound below prices of Middling  $\frac{1}{8}$ -inch cotton for Good Ordinary  $\frac{3}{8}$  inch to 15.14 cents above prices of Middling  $\frac{1}{8}$ -inch cotton for Good Middling  $\frac{1}{4}$ -inch cotton. Spot prices of the higher grades and longer staples may be a great deal higher than prices of futures contracts; whereas, at the same time and in the same market, spot prices of the lower grade and shorter staple cotton may be considerably below prices of futures contracts.

Cotton yarns and fabrics differ from raw cotton as a result of the value added by manufacture. In 1950, for example, net cotton cost accounted for about 72 percent of total cost to manufacturers for carded cotton yarn (10s), about 65 percent for carded cotton yarn (20s), about 50 percent for cotton print cloth, and 34 percent for cotton voile (13, 23). Early in May 1950, prices in New York of the cotton carded yarn (10s) obtainable from a pound of cotton averaged about 50 cents, or about 55 percent higher than prices of cotton futures contracts in New York for delivery in May.

Similarly, prices in New York of the quantity of cotton print cloth (39" 80 x 80) obtainable from a pound of cotton averaged about 70 cents, or more than twice as much as prices of cotton futures in New York for delivery in May. Changes in the relative demand-and-supply situation for raw cotton and for cotton products, and in wages and other items of cost of manufacturing these products, may result in wide variations in spread between prices of cotton futures contracts and prices of cotton yarns and fabrics (figs. 1 and 2, pp. 9 and 10).

Cotton of various grades and staple lengths may be delivered in settlement of the futures contract obligation at the seller's option at quoted premiums and discounts. The buyer of futures contracts cannot tell in advance how many or what qualities of cotton will be delivered; but he may reasonably expect that the cotton tendered will be of the grades and staple lengths least desirable at contract prices, and of the lowest qualities of each such grade and staple length, that the seller has available to offer (19).

If central-market quotations do not reflect accurately the differences in spot values of the various grades and staples available for delivery on futures contracts, it is advantageous for the seller to confine his deliveries to the grade or grades for which the prices allowed on futures contracts in relation to prices of spot cotton are relatively highest. Under such situations, prices of futures contracts may be depressed by an amount equivalent to the differences between the evaluations in the spot market and for delivery on futures contracts of the grade or grades most likely to be delivered on futures contracts.

The seller may also find it advantageous to deliver the lowest quality of cotton included in the grades and staple lengths most profitable for him to deliver. As no qualifications are made in the futures contracts with regard to the quality of cotton within the deliverable grades, the buyer may reasonably assume that the seller probably

will deliver on futures contracts the lowest quality of the cotton available of the most profitable grade for the seller to deliver. In anticipation of such deliveries, futures prices may be depressed by an amount approximately equal to the differences in value between the average quality and the poorest quality of cotton of the most profitable grade available for the seller to deliver.

Some indication of the influence that variations in quality of cotton of the same grade and staple designation may have on the basis may be obtained from a comparison of variations in price with quality. During the year ended July 1953, the 10-market discount for Strict Low Middling  $\frac{1}{8}$ -inch cotton averaged 1.35 cents a pound, and that for Low Middling  $\frac{1}{8}$ -inch averaged 4.81 cents, from the price of Middling  $\frac{1}{8}$ -inch cotton. These discounts presumably represent averages for the various qualities included within the limits of the respective grades. The change in value per unit change in grade increased from the higher to the lower grades, so that the range in value between Strict Low Middling and Low Middling was greater than that between Strict Middling and Good Middling.

If differences in value for the different qualities within grades are proportionately about as great as the differences in value from one grade to another, and this appears to be a reasonable assumption, the differences between the central-market value of the highest quality of Low Middling  $\frac{1}{8}$ -inch cotton and the value of the lowest quality of Low Middling  $\frac{1}{8}$ -inch cotton in the same market during the year ended July 1953 averaged about 3 cents a pound. The central-market value of the highest quality of Low Middling  $\frac{1}{8}$ -inch cotton amounted, on the average, to as much as 1.0 cent a pound more, and the central-market value of the lowest quality of Low Middling  $\frac{1}{8}$ -inch cotton amounted, on the average, to as much as 1.5 cents less than that for the average quality of Low Middling  $\frac{1}{8}$ -inch cotton in the same market at the same time. The lowest quality of Low Middling  $\frac{1}{8}$ -inch cotton, when delivered on futures contracts, however, was worth just as much as the highest quality of Low Middling  $\frac{1}{8}$ -inch cotton.

The range in value for cotton of the various qualities of the same grade and staple designation was progressively less for the grades above Low Middling. Differences in these values for grade may be supplemented by similar differences for staple designations, so that even for the higher grades these differences may be great enough to affect materially the basis.

It is recognized, of course, that these differences in quality within grade and staple designations are not always clearly reflected in prices of spot cotton because of a lack of sensitiveness of the market, due in part to a lack of precision in classing and in part to differences in bargaining power and other factors. Differences in values, as a result of differences in quality of the same grade and staple length designations, however, are recognized in the various markets, and prices in central markets reflect these differences to a considerable degree. The rules of the New Orleans Cotton Exchange, for example, state that, unless prohibited by law or by ruling of the Secretary of Agriculture, the value of cotton "within" midway between grades promulgated by the Secretary of Agriculture shall be considered the mean of the adjacent grades.

The extent to which differences in quality within specified grade and staple length designations may be reflected in prices in central



markets was also indicated by data relating to sales of spot cotton on ex-warehouse terms in New Orleans during the seasons 1929-30 and 1930-31. These data show that cotton called "full" in grade or staple commanded a premium over the price of cotton equal in quality to the average for the standard. These premiums, on the average, amounted to approximately one-half of the difference between the price of the specified grade or staple length and that of the next higher grade or longer staple.

Cotton described as "shy" in grade or staple sold at a discount from the price of cotton equal in quality to the average for the standard. The discount amounted, on the average, to approximately 30 percent of the difference between the price of the specified grade and staple and that of the next lower grade or shorter staple length.

When these discounts for cotton, shy in grade and in staple, were applied to data relating to prices that prevailed during the year ended July 1953, the discounts for shy Strict Low Middling  $\frac{1}{8}$ -inch cotton, for example, from the price of Strict Low Middling  $\frac{1}{8}$ -inch cotton equal in quality to the average for the standard, averaged approximately 1.3 cents a pound. Such differences in value, resulting from differences in quality of cotton of the same grade and staple designation, would exist even if classing were absolutely accurate. Any lack of precision in classing may increase the range in value of the cotton included under specified grade and staple designations. These ranges in value, along with the option on the part of the merchant to sell the best quality bales of each grade and staple-length designation in spot markets and to pull out the poorest quality bales of each tenderable grade and staple-length designation for delivery on futures contracts, may at times depress prices of futures contracts, particularly those for the near months, in relation to prices of spot cotton.

## RISKS FROM CHANGES IN BASIS

An alternative to taking the gains and suffering the losses from changes in spot prices of cotton and of cotton yarns and fabrics, as previously indicated (p. 22), is to hedge long- and short-market interests in these commodities by offsetting sales and purchases of futures contracts. This means of hedging is based on the assumption that changes in spot prices of these commodities will be associated with more or less similar changes in prices of futures contracts. When the movement of spot prices and prices of futures contracts are parallel (which is by no means the usual relationship), those who hedge long market interests in cotton, yarns, and fabrics by offsetting sales of futures contracts lose on the spot commodities as prices decline, but the losses from a decline in spot prices are offset by gains from changes in prices of futures contracts.

On the other hand, as prices advance, the gains on the spot commodity are offset by losses on futures contracts. Gains and losses on long-market interests in the spot commodities would have as their counterpart losses and gains, respectively, on short-market interests in these commodities. The hedge under such conditions would offset both losses and gains from changes in prices.

Although, as indicated earlier (p. 23), the large swings in prices of spot cotton usually are associated with more or less similar changes in prices of futures contracts, substantial changes in the spread between spot prices of cotton, cotton yarn, and cotton fabric and prices of futures contracts occur in many instances during relatively short periods (figs. 1 and 2, pp. 9 and 10). Risks from changes in the spread between spot prices and prices of futures contracts, usually referred to as changes in basis, are not offset by the normal hedging procedure. They may be responsible for substantial gains and losses to merchants, manufacturers, and others who may hedge invariably, but who fail to anticipate correctly the changes in basis. The extent of such gains and losses may be indicated by data showing changes in spread between spot prices and prices of futures contracts.

### Extent of Changes in Basis

As indicated in an earlier section of this bulletin (p. 24), prices of futures contracts are much more closely related to prices of spot cotton than to spot prices of cotton yarns and fabrics, with the result that changes in the spread between prices of futures contracts and prices of spot cotton usually are much less than those between prices of futures contracts and spot prices of cotton yarns and fabrics. Data relating to changes in spread between prices of futures contracts and spot prices of cotton, yarns, and fabrics are presented in the order listed.

*Raw cotton.*—Data relating to the spread between spot prices of Middling  $\frac{1}{8}$ -inch cotton in New Orleans and prices of New Orleans futures contracts for the near-active month show that changes over 8-week periods in spread between these prices, during the 6 years ended July 1941, amounted to as much as 1.30 cents a pound, and averaged 0.28 cent (table 13). During the 6 years ended July 1953, the corresponding changes in basis amounted in some instances to more than 5 cents a pound, and averaged 0.90 cent (table 14). Changes over 8-week periods amounted to 0.75 cent or more a pound about 8 percent of the time during the earlier period, and they amounted to more than 2.25 cents a pound about 11 percent of the time during the later period. The extent of the changes varied considerably from year to year (tables 13 and 14).

Changes in basis vary considerably with the length of the interval and the futures contract used in calculating the changes. During the 6 years ended July 1941, changes in basis for Middling  $\frac{1}{8}$ -inch cotton in New Orleans, when calculated from near-month New Orleans futures, averaged 0.16 cent a pound for 4-week, 0.28 cent for 8-week, and 0.43 cent for 16-week periods. Similar changes for the 6 years ended July 1953 averaged 0.50 cent a pound for 4-week, 0.90 cent for 8-week, and 1.69 cents for 16-week periods. Changes in basis calculated from futures contracts for the near-active months usually were somewhat less than those calculated from futures for the more distant months. Usually changes in basis for cotton of other grades and staple lengths and in other markets were about the same as to somewhat greater than the corresponding changes for Middling  $\frac{1}{8}$ -inch cotton in New Orleans.

TABLE 13.—Changes over 8-week periods in spread between spot prices of Middling  $1\frac{1}{8}$ -inch cotton in New Orleans and prices of New Orleans futures contracts, 1936-41<sup>1</sup>

Item	Year ended July--						
	1936	1937	1938	19	1940	1941	Total
Change in cents per pound:							
Under -0.75	1			2	8	9	20
-0.75 to -0.26	22	12	8	12	17	9	80
-0.25 to 0.24	21	35	44	36	19	28	183
0.25 to 0.74	3	5			6	5	19
0.75 and over	1				3	1	5
Total	48	52	52	50	53	52	307
Gain <sup>2</sup>	8	21	35	12	12	16	104
Loss	40	30	15	33	40	34	192
Average change	Cents 0.35	Cents 0.18	Cents 0.15	Cents 0.21	Cents 0.43	Cents 0.37	Cents 0.28
Gain	.34	.15	.08	.11	.45	.22	.18
Loss	.35	.20	.34	.28	.43	.46	.35
Maximum:							
Gain	1.18	.36	.15	.23	.97	1.28	1.28
Loss	1.27	.62	.70	.98	1.22	1.30	1.30

<sup>1</sup> Prices as officially quoted at the close of the futures market, usually on Wednesday or Thursday of each week. Futures prices are for the near-active month.

<sup>2</sup> Gain and loss on long interests in spot cotton hedged by the sale of futures contracts.

The extent of the changes in basis varied somewhat irregularly from one part of the year to another, but usually they were greatest toward the end of the old- and near the beginning of the new-crop year, when changes in crop prospects and in prices of spot cotton usually were also greatest. During the 6 years ended July 1941, changes in basis for Middling  $1\frac{1}{8}$ -inch spot cotton, calculated from near-month futures in New Orleans, over 8-week periods ended July to September, averaged more than twice as great as those for comparable periods ended October through April (table 15). Similar data for the 6 years ended July 1953 show that changes in basis, over 8-week periods ended July to September, averaged more than five times as great as those for similar periods ended during other months (table 16). Changes in basis over 8-week periods, when calculated

TABLE 14.—Changes over 8-week periods in spread between spot prices of Middling  $1\frac{3}{16}$ -inch cotton in New Orleans and prices of New Orleans futures contracts, 1948-53<sup>1</sup>

Item	Year ended July—						
	1948	1949	1950	1951	1952	1953	Total
Change in cents per pound:							
Under—2.25	9	5	3	2	7	7	33
—2.25 to —1.76	3	2	3	—	1	2	11
—1.75 to —1.26	2	2	6	—	1	—	11
—1.25 to —0.76	1	10	4	4	6	4	29
—0.75 to —0.26	4	12	4	11	15	2	48
—0.25 to 0.24	16	11	17	17	20	18	99
0.25 to 0.74	15	10	15	6	3	18	67
0.75 and over	—	—	—	—	—	1	1
Total	50	52	52	40	53	52	299
Gain <sup>2</sup>	23	17	28	11	10	30	119
Loss <sup>2</sup>	27	35	24	28	42	22	178
Average change	Cents 1.08	Cents 0.91	Cents 0.74	Cents 0.56	Cents 1.25	Cents 0.76	Cents 0.90
Gain	.30	.27	.34	.27	.16	.37	.31
Loss	1.75	1.21	1.21	.69	1.54	1.29	1.30
Maximum:							
Gain	.66	.57	.74	.52	.56	.87	.87
Loss	5.37	4.29	2.56	5.30	8.34	2.94	8.34

<sup>1</sup> Prices as officially quoted at the close of the futures market, usually on Wednesday or Thursday of each week. Futures prices are for the near-active month.

<sup>2</sup> Gain and loss on long interests in spot cotton hedged by the sale of futures contracts.

from near-month futures, averaged less for periods ended December to April than for those ended in other months.

*Cotton yarn.*—Data relating to the spread between spot prices in New York of the quantity of carded cotton yarn (10s) obtainable from a pound of cotton and prices of cotton futures in New York show considerable changes over relatively short periods. During the 6 years ended July 1941, these changes, over 8-week periods, amounted to 3.25 cents or more 7 percent of the time, and they averaged 1.25 cents (table 17). Similar changes for the 6 years ended July 1953 amounted to 3.25 cents or more about 22 percent of the time, and they averaged 2.29 cents (table 18). The extent of these changes varied widely from one year to another (tables 17 and 18).

TABLE 15.—Changes over 8-week periods in spread between spot prices of Middling  $1\frac{1}{8}$ -inch cotton in New Orleans and prices of New Orleans futures contracts, by periods ended during specified months, 1936-41<sup>1</sup>

Item	Changes for 8-week periods ended—					
	July 15- Oct. 14	Oct. 15- Dec. 14	Dec. 15- Mar. 14	Mar. 15- May 14	May 15- July 14	Total
Change in cents per pound:	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>
Under -0.75.....	17	1	1	2	2	20
-0.75 to -0.26.....	40	10	9	10	11	80
-0.25 to 0.24.....	18	35	58	40	32	183
0.25 to 0.74.....	1	6	5	1	6	19
0.75 and over.....		1	1	1	2	5
Total.....	76	52	74	52	53	307
Gain <sup>2</sup> .....	6	22	30	16	30	104
Loss <sup>2</sup> .....	69	30	37	33	23	192
Average change.....	<i>Cents</i> 0.49	<i>Cents</i> 0.22	<i>Cents</i> 0.18	<i>Cents</i> 0.18	<i>Cents</i> 0.28	<i>Cents</i> 0.28
Gain.....	.10	.22	.16	.15	.20	.18
Loss.....	.53	.23	.22	.21	.37	.35
Maximum:						
Gain.....	.32	1.18	.97	1.28	.82	1.28
Loss.....	1.27	.60	1.22	.58	1.30	1.30

<sup>1</sup> Prices as officially quoted at the close of the futures market, usually on Wednesday or Thursday of each week. Futures prices are for the near-active month.

<sup>2</sup> Gain and loss on long interests in spot cotton hedged by the sale of futures contracts.

TABLE 16.—Changes over 8-week periods in spread between spot prices of Middling  $\frac{1}{16}$ -inch cotton in New Orleans and prices of New Orleans futures contracts, by periods ended during specified months, 1948-53 <sup>1</sup>

Item	Changes for 8-week periods ended—					Total
	July 15- Oct. 14	Oct. 15- Dec. 14	Dec. 15- Mar. 14	Mar. 15- May 14	May 15- July 14	
Change in cents per pound:	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>
Under—2.25.....	32	1				33
—2.25 to—1.76.....	10	1				11
—1.75 to—1.26.....	9	1			1	11
—1.25 to—0.76.....	11	6		3	9	29
—0.75 to—0.26.....	8	22	4	5	9	48
—0.25 to 0.24.....	3	19	28	32	17	99
0.25 to 0.74.....	2	3	37	5	20	67
0.75 and over.....			1			1
Total.....	75	53	70	45	56	299
Gain <sup>2</sup> .....	2	11	55	24	27	119
Loss <sup>2</sup> .....	73	42	14	20	29	178
Average change.....	<i>Cents</i> 2.44	<i>Cents</i> 0.47	<i>Cents</i> 0.33	<i>Cents</i> 0.23	<i>Cents</i> 0.48	<i>Cents</i> 0.90
Gain.....	.45	.13	.36	.17	.38	.31
Loss.....	2.49	.56	.21	.32	.57	1.30
Maximum:						
Gain.....	.56	.36	.87	.51	.74	.87
Loss.....	8.34	2.68	.62	1.13	1.64	8.34

<sup>1</sup> Prices as officially quoted at the close of the futures market, usually on Wednesday or Thursday of each week. Futures prices are for the near-active month.

<sup>2</sup> Gain and loss on long interests in spot cotton hedged by the sale of futures contracts.

TABLE 17.—Changes over 8-week periods in spread between prices of carded cotton yarn in New York and prices of cotton futures in New York, 1936-41<sup>1</sup>

Item	Year ended July—						
	1936	1937	1938	1939	1940	1941	Total
Change in cents per pound:							
Under—3.25	7	2				3	12
—3.25 to—2.76	1	1				3	5
—2.75 to—2.26	4	2			9	1	16
—2.25 to—1.76	4	2	5		8		19
—1.75 to—1.26	5	3	6		4	1	19
—1.25 to—0.76	2	1	9	3	2	2	19
—0.75 to—0.26	2	5	16	9	6	6	44
—0.25 to 0.24	3	11	10	20	6	8	58
0.25 to 0.74	8	8	5	14	7	5	47
0.75 to 1.24	8	4	1	6	3	5	27
1.25 to 1.74	6	3				5	14
1.75 to 2.24	1	3				1	5
2.25 to 2.74	1	1			3	4	9
2.75 to 3.24		6			2	1	9
3.25 and over					3	7	10
Total	52	52	52	52	53	52	313
Gain <sup>2</sup>	25	30	10	29	21	29	144
Loss <sup>2</sup>	26	21	42	23	31	23	166
Average change	Cents 1.63	Cents 1.31	Cents 0.77	Cents 0.30	Cents 1.52	Cents 1.88	Cents 1.25
Gain	.98	1.33	.40	.42	1.49	2.33	1.25
Loss	2.32	1.34	.86	.36	1.59	1.31	1.28
Maximum:							
Gain	2.34	3.18	.99	1.20	4.03	6.15	6.15
Loss	4.52	3.72	2.10	1.08	2.73	3.84	4.52

<sup>1</sup> Prices of carded cotton yard (10s) as reported in *Daily News Record*, adjusted to approximate the value of the quantity of yarn obtainable from a pound of cotton, and closing prices of New York futures for the near-active month, usually on Wednesday or Thursday of each week.

<sup>2</sup> Gain and loss on long interests in carded yarn hedged by sales of New York futures contracts.

TABLE 18.—Changes over 8-week periods in spread between prices of carded cotton yarn in New York and prices of cotton futures in New York, 1948-53<sup>1</sup>

Item	Year ended July—						
	1948	1949	1950	1951	1952	1953	Total
Change in cents per pound:	Number	Number	Number	Number	Number	Number	Number
Under—3.25.....	8	11	1	-----	15	-----	33
-3.25 to—2.75.....	3	2	-----	-----	1	1	7
-2.75 to—2.25.....	-----	11	1	2	4	6	24
-2.25 to—1.75.....	1	9	1	1	2	8	22
-1.75 to—1.25.....	3	2	10	-----	3	-----	18
-1.25 to—0.75.....	3	7	6	-----	6	7	29
-0.75 to—0.25.....	2	2	4	1	1	9	19
-0.25 to 0.24.....	10	3	6	-----	4	5	28
0.25 to 0.74.....	4	3	1	-----	4	3	18
0.75 to 1.24.....	1	-----	4	-----	2	2	9
1.25 to 1.74.....	3	-----	4	2	1	-----	10
1.75 to 2.24.....	1	-----	2	1	2	2	8
2.25 to 2.74.....	2	-----	6	5	1	2	16
2.75 to 3.24.....	1	-----	2	2	-----	2	7
3.25 and over.....	9	-----	-----	14	1	4	28
Total.....	49	50	51	28	47	51	276
Gain <sup>2</sup> .....	25	5	24	24	11	15	104
Loss <sup>2</sup> .....	24	45	27	4	36	36	172
Average change.....	Cents 2.41	Cents 2.14	Cents 1.37	Cents 4.13	Cents 2.95	Cents 1.60	Cents 2.29
Gain.....	2.73	.22	1.40	4.19	1.52	2.37	2.55
Loss.....	2.07	2.35	1.26	1.98	3.39	1.28	2.13
Maximum:							
Gain.....	7.80	.33	2.88	9.17	5.05	5.21	9.17
Loss.....	6.43	5.58	5.60	2.70	11.86	2.99	11.86

<sup>1</sup> Prices of carded cotton yard (10s) as reported in *Daily News Record*, adjusted to approximate the value of the quantity of yarn obtainable from a pound of cotton, and closing prices of New York futures for the near-active month, usually on Wednesday or Thursday of each week.

<sup>2</sup> Gain and loss on long interests in carded yarn hedged by sales of New York futures contracts.



The extent of the changes in spread between prices of the quantity of carded cotton yarn (10s) and prices of New York futures contracts varied irregularly from one part of the year to another; no consistent pattern of seasonal variations were indicated. During the 6 years ended July 1941, these changes ranged from an average of 0.93 cent for 8-week periods ended July, August, and September to 1.55 cents for 8-week periods ended March and April (table 19). Similar data for the 6 years ended July 1953 show changes which ranged from an average of 1.36 cents for 8-week periods ended May and June to 2.97 cents for 8-week periods ended July, August, and September (table 20).

TABLE 19.—Changes over 8-week periods in spread between prices of carded cotton yarn in New York and prices of cotton futures in New York, by specified periods, August 1935–July 1941<sup>1</sup>

Item	8-week periods ended--					Total
	July 15- Oct. 14	Oct. 15- Dec. 14	Dec. 15- Mar. 14	Mar. 15- May 14	May 15- July 14	
Change in cents per pound:	Number	Number	Number	Number	Number	Number
Under -3.25.....	1	-----	7	-----	4	12
-3.25 to -2.76.....	1	-----	1	-----	3	5
-2.75 to -2.26.....	1	1	4	6	4	16
-2.25 to -1.76.....	3	3	8	3	2	19
-1.75 to -1.26.....	2	2	5	7	3	19
-1.25 to -0.76.....	1	3	6	3	6	19
-0.75 to -0.26.....	13	4	13	6	8	44
-0.25 to 0.24.....	11	3	19	12	13	58
0.25 to 0.74.....	23	9	6	4	5	47
0.75 to 1.24.....	12	8	2	4	1	27
1.25 to 1.74.....	5	7	1	1	-----	14
1.75 to 2.24.....	2	3	-----	-----	-----	5
2.25 to 2.74.....	3	4	1	1	-----	9
2.75 to 3.24.....	2	2	4	-----	1	9
3.25 and over.....	-----	3	-----	6	1	10
Total.....	80	52	77	53	51	313
Gain <sup>2</sup> .....	50	37	24	19	14	144
Loss <sup>2</sup> .....	29	15	52	33	37	166
Average change.....	Cents 0.93	Cents 1.39	Cents 1.29	Cents 1.55	Cents 1.26	Cents 1.25
Gain.....	.96	1.48	.87	2.33	.82	1.25
Loss.....	.90	1.15	1.50	1.15	1.42	1.28
Maximum:						
Gain.....	3.21	4.03	3.18	6.15	4.04	6.15
Loss.....	3.40	2.67	4.52	2.73	3.84	4.52

<sup>1</sup> Prices of carded cotton yarn (10s) as reported in *Daily News Record*, adjusted to approximate the value of the quantity of yarn obtainable from a pound of cotton, and closing prices of New York futures for the near-active month, usually on Wednesday or Thursday of each week.

<sup>2</sup> Gain and loss on long interests in carded yarn hedged by sales of New York futures contracts.

Data for 4-, 8-, and 16-week periods show that the extent of the changes in spread between prices of the quantity of carded cotton yarn (10s) obtainable from a pound of cotton and prices of cotton futures contracts in New York varied directly with the length of the period. For the 6 years ended July 1941 and the 6 years ended July 1953 combined, changes over 4-week periods averaged 62 percent and changes over 16-week periods averaged 158 percent of the average for 8-week periods. Changes in the spread between the value of combed cotton yarn (20s) and prices of New York futures contracts averaged somewhat greater than the corresponding spreads for carded cotton yarn (10s).

TABLE 20.—Changes over 8-week periods in spread between prices of carded cotton yarn in New York and prices of cotton futures in New York, by specified periods, August 1947–July 1953<sup>1</sup>

Item	8-week periods ended—					Total
	July 15– Oct. 14	Oct. 15– Dec. 14	Dec. 15– Mar. 14	Mar. 15– May 14	May 15– July 14	
Change in cents per pound:	Number	Number	Number	Number	Number	Number
Under -3.25.....	11	7	4	10	1	33
-3.25 to -2.76.....	1	1	1	1	3	7
-2.75 to -2.26.....	2	6	4	5	7	24
-2.25 to -1.76.....	1	1	11	7	2	22
-1.75 to -1.26.....	1	2	6	6	3	18
-1.25 to -0.76.....	4	2	10	5	8	29
-0.75 to -0.26.....	3	1	7	3	5	19
-0.25 to 0.24.....	9	2	7	3	7	28
0.25 to 0.74.....	4	4	1	3	6	18
0.75 to 1.24.....	5	1	1	-----	2	9
1.25 to 1.74.....	4	1	3	1	1	10
1.75 to 2.24.....	2	3	2	-----	1	8
2.25 to 2.74.....	6	6	3	-----	1	16
2.75 to 3.24.....	2	5	-----	-----	-----	7
3.25 and over.....	9	9	9	1	-----	28
Total.....	64	51	69	45	47	276
Gain <sup>2</sup> .....	35	30	21	6	12	104
Loss <sup>2</sup> .....	29	21	48	39	35	172
Average change.....	Cents 2.97	Cents 2.66	Cents 2.03	Cents 2.25	Cents 1.36	Cents 2.29
Gain.....	2.81	2.69	3.23	1.24	.91	2.55
Loss.....	3.17	2.61	1.51	2.41	1.51	2.13
Maximum:						
Gain.....	9.17	5.47	7.80	5.05	2.33	9.17
Loss.....	11.86	4.78	3.48	6.43	5.60	11.86

<sup>1</sup> Prices of carded cotton yarn (10s) as reported in *Daily News Record*, adjusted to approximate the value of the quantity of yarn obtainable from a pound of cotton, and closing prices of New York futures for the near-active month, usually on Wednesday or Thursday of each week.

<sup>2</sup> Gain and loss on long interests in carded yarn hedged by sales of New York futures contracts.

*Cotton fabric.*—Data relating to the spread between spot prices in New York of the quantity of cotton print cloth (39" 80 x 80) obtainable from a pound of cotton and prices of cotton futures in New York show changes in spread over relatively short periods that were substantially greater, particularly in recent years, than the corresponding changes in spread between prices of New York futures and spot prices of cotton and cotton yarn. During the 6 years ended July 1941, these changes, over 8-week periods, amounted to 3.25 cents or more about 12 percent of the time, and they averaged 1.59 cents (table 21).

TABLE 21.—Changes over 8-week periods in spread between prices of cotton print cloth in New York and prices of cotton futures in New York, 1936-41<sup>1</sup>

Item	Year ended July—						
	1936	1937	1938	1939	1940	1941	Total
Change in cents per pound:	Number Number Number Number Number Number Number						
Under -3.25	7	7					14
-3.25 to -2.76		2			2	1	5
-2.75 to -2.26	2	6	3		1		12
-2.25 to -1.76	5	5	3	3	8		24
-1.75 to -1.26	6	5	10	3	5		29
-1.25 to -0.76	6	1	9	11	11		38
-0.75 to -0.26	3	2	7	15	4	1	32
-0.25 to 0.24	10	2	8	9	3	5	37
0.25 to 0.74	3	1	5	5	6	5	25
0.75 to 1.24	2	2	3	3	5	6	21
1.25 to 1.74	4	4	3	2		10	23
1.75 to 2.24	4	3	1	1	2	5	16
2.25 to 2.74		1			1	4	6
2.75 to 3.24					3		3
3.25 and over		11			2	11	24
Total	52	52	52	52	53	48	309
Gain <sup>2</sup>	18	24	16	13	22	44	137
Loss <sup>2</sup>	34	28	36	39	30	4	171
Average change	Cents 1.46	Cents 2.99	Cents 1.01	Cents 0.79	Cents 1.44	Cents 1.91	Cents 1.59
Gain	.92	3.56	.75	.83	1.41	1.98	1.77
Loss	1.75	2.50	1.12	.78	1.45	1.03	1.45
Maximum:							
Gain	1.91	9.58	1.79	1.79	3.45	4.88	9.58
Loss	4.34	5.59	2.58	1.88	2.93	3.15	5.59

<sup>1</sup> Prices of print cloth (39" 80 x 80) as reported in *Daily News Record*, adjusted to approximate the value of the quantity of fabric obtainable from a pound of cotton, and closing prices of New York futures for the near-active month, usually on Wednesday or Thursday of each week.

<sup>2</sup> Gain and loss on long interests in print cloth hedged by sales of New York futures contracts.

Similar data for the 6 years ended July 1953 show that changes, over 8-week periods, amounted to 11.25 cents or more about 12 percent of the time, and they averaged 5.55 cents (table 22). Yearly averages of these changes ranged from 0.79 cent in 1939 to 2.99 cents in 1937 for the prewar period and from 3.53 cents in 1952 to 10.11 cents in 1948 (tables 21 and 22).

TABLE 22.—Changes over 8-week periods in spread between prices of cotton print cloth in New York and prices of cotton futures in New York, 1948-53 <sup>1</sup>

Item	Year ended July—						
	1948	1949	1950	1951	1952	1953	Total
Change in cents per pound:	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>
Under -13.75.....	13	3	-----	2	3	-----	21
-13.75 to -11.26.....	1	4	2	2	-----	-----	9
-11.25 to -8.76.....	6	2	5	1	1	4	19
-8.75 to -6.26.....	3	4	1	1	2	3	14
-6.25 to -3.76.....	4	9	1	3	8	1	26
-3.75 to -1.26.....	2	13	3	7	16	1	42
-1.25 to 1.24.....	3	14	10	7	16	13	63
1.25 to 3.74.....	5	1	9	5	3	15	38
3.75 to 6.24.....	4	1	4	-----	4	-----	21
6.25 to 8.74.....	4	1	13	4	-----	5	27
8.75 to 11.24.....	4	-----	4	1	-----	1	10
11.25 to 13.74.....	2	-----	-----	1	-----	-----	3
13.75 and over.....	1	-----	-----	4	-----	-----	5
Total.....	52	52	52	38	53	51	298
Gain <sup>2</sup> .....	21	8	34	17	12	37	129
Loss <sup>2</sup> .....	31	44	17	20	41	14	167
Average change.....	<i>Cents</i> 10.11	<i>Cents</i> 4.73	<i>Cents</i> 5.24	<i>Cents</i> 6.05	<i>Cents</i> 3.53	<i>Cents</i> 3.79	<i>Cents</i> 5.55
Gain.....	7.09	1.90	5.18	7.42	2.51	3.39	4.82
Loss.....	12.15	5.24	5.67	5.18	3.83	4.85	6.18
Maximum:							
Gain.....	17.41	6.33	9.85	16.22	4.63	9.14	17.41
Loss.....	25.90	16.11	12.18	14.27	16.03	10.26	25.90

<sup>1</sup> Prices of print cloth (39" 80 x 80) as reported in *Daily News Record*, adjusted to approximate the value of the quantity of fabric obtainable from a pound of cotton, and closing prices of New York futures for the near-active month, usually on Wednesday or Thursday of each week.

<sup>2</sup> Gain and Loss on long interests in print cloth hedged by sales of New York futures contracts.

The extent of the changes in spread between prices of the quantity of print cloth obtainable from a pound of cotton and prices of cotton futures in New York varied irregularly from one part of the year to another, as indicated above for carded cotton yarn, but no consistent pattern of seasonal variation was indicated. During the 6 years ended July 1941, these changes ranged from an average of 1.22 cents

TABLE 23.—Changes over 8-week periods in spread between prices of cotton print cloth in New York and prices of cotton futures in New York, by specified periods, August 1935–July 1941<sup>1</sup>

Item	8-week periods ended—					Total
	July 15– Oct. 14	Oct. 15– Dec. 14	Dec. 15– Mar. 14	Mar. 15– May 14	May 15– July 14	
Change in cents per pound:	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>
Under -3.25			11	3		14
-3.25 to -2.76		2	1		2	5
-2.75 to -2.26		4	1	1	6	12
-2.25 to -1.76	2	3	6	7	5	23
-1.75 to -1.26	8	4	6	7	4	29
-1.25 to -0.76	6	6	15	6	5	38
-0.75 to -0.26	7	5	8	8	4	32
-0.25 to 0.24	9	5	9	7	7	37
0.25 to 0.74	8	6	4	5	4	27
0.75 to 1.24	8	3	4		5	20
1.25 to 1.74	13	2	6		2	23
1.75 to 2.24	10	2	2	1	1	16
2.25 to 2.74	2	1	1		2	6
2.75 to 3.24	2	1				3
3.25 and over	2	8	3	8	3	24
Total	77	52	77	53	50	309
Gain <sup>2</sup>	48	24	26	18	21	137
Loss <sup>2</sup>	28	28	51	35	29	171
Average change	<i>Cents</i> 1.22	<i>Cents</i> 2.11	<i>Cents</i> 1.64	<i>Cents</i> 1.66	<i>Cents</i> 1.46	<i>Cents</i> 1.59
Gain	1.42	3.05	1.35	2.08	1.38	1.77
Loss	.90	1.30	1.80	1.45	1.52	1.45
Maximum:						
Gain	3.45	9.58	5.23	4.88	4.51	9.58
Loss	2.08	2.93	5.59	5.18	3.15	5.59

<sup>1</sup> Prices of print cloth (39" 80 x 80) as reported in *Daily News Record*, adjusted to approximate the value of the quantity of fabric obtainable from a pound of cotton, and closing prices of New York futures for the near-active month, usually on Wednesday or Thursday of each week.

<sup>2</sup> Gain and loss on long interests in print cloth hedged by sales of New York futures contracts.

for 8-week periods ended July, August, and September to 2.11 cents for 8-week periods ended October and November (table 23). Similar changes for the 6 years ended July 1953 ranged from an average of 2.64 cents for 8-week periods ended December, January, and February to 8.23 cents for 8-week periods ended March and April (table 24).

TABLE 24.—Changes over 8-week periods in spread between prices of cotton print cloth in New York and prices of cotton futures in New York, by specified periods, August 1947–July 1953 <sup>1</sup>

Item	8-week periods ended—					Total
	July 15– Oct. 14	Oct. 15– Dec. 14	Dec. 15– Mar. 14	Mar. 15– May 14	May 15– July 14	
Change in cents per pound:	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>
Under —13.75.....	5	3	1	7	5	21
—13.75 to —11.26.....	3	1	—	3	2	9
—11.25 to —8.75.....	2	1	4	10	2	19
—8.75 to —6.25.....	1	4	2	5	2	14
—6.25 to —3.75.....	4	6	2	6	8	26
—3.75 to —1.25.....	6	5	15	7	9	42
—1.25 to 1.24.....	7	2	29	8	17	63
1.25 to 3.74.....	12	8	13	—	5	38
3.75 to 6.24.....	10	3	5	1	2	21
6.25 to 8.74.....	14	12	—	—	1	27
8.75 to 11.24.....	4	5	—	—	1	10
11.25 to 13.74.....	1	2	—	—	—	3
13.75 and over.....	5	—	—	—	—	5
Total.....	74	52	71	47	54	298
Gain <sup>2</sup> .....	50	31	26	4	18	129
Loss <sup>2</sup> .....	23	20	45	43	36	167
Average change.....	<i>Cents</i> 6.58	<i>Cents</i> 6.68	<i>Cents</i> 2.64	<i>Cents</i> 8.23	<i>Cents</i> 4.55	<i>Cents</i> 5.55
Gain.....	6.26	6.56	2.18	1.77	2.33	4.82
Loss.....	7.58	7.20	2.90	8.84	5.66	6.18
Maximum:						
Gain.....	17.41	13.18	5.33	4.15	8.80	17.41
Loss.....	16.03	16.11	20.38	25.90	17.11	25.90

<sup>1</sup> Prices of print cloth (39" 80 x 80) as reported in *Daily News Record*, adjusted to approximate the value of the quantity of fabric obtainable from a pound of cotton, and closing prices of New York futures for the near-active month, usually on Wednesday or Thursday of each week.

<sup>2</sup> Gain and loss on long interests in print cloth hedged by sales of New York futures contracts.

Data relating to changes over 4-, 8-, and 16-week periods in spread between prices of the quantity of print cloth obtainable from a pound of cotton and prices of cotton futures in New York show considerable variations with length of period. For the 6 years ended July 1941 and the 6 years ended July 1953 combined, changes over 4-week periods averaged 61 percent and changes over 16-week periods averaged 175 percent of the changes for 8-week periods. Changes in the spreads for print cloth averaged substantially greater than the corresponding changes for sheeting and twill.

## Gains and Losses From Changes in Basis

Changes in spread between spot prices of cotton, yarns, and fabrics and prices of cotton futures contracts represent gains or losses on market interests in these commodities hedged by opposite interests in futures contracts. Data relating to gains and losses from changes in these spreads are presented primarily from the viewpoint of long market interests in the spot commodity, usually referred to as a long-basis position. It is recognized, of course, that gains and losses on these positions have, as their counterpart, losses and gains, respectively, on short interests in the spot commodity hedged, generally referred to as a short-basis position.

When no adjustments are made for carrying charges, as was the case for data contained in this bulletin, the gains and losses shown on long-basis positions are the same as the losses and gains, respectively, on short-basis positions. Adjusting the changes in basis for costs of carrying the spot commodity over specified periods would reduce the gains and increase the losses, shown on long-basis positions, and increase the gains and reduce the losses, shown on short-basis positions, by amounts equivalent to the carrying charges.

Gains and losses from changes in basis, from the viewpoint of long market interests in the spot commodity, as shown in this section of this bulletin, are limited to results from long interests in the spot commodity hedged by short interests in cotton futures. It is realized that such hedging operations may be a part of a larger venture involving other types of operation, and that gains or losses from basis may be supplemented or offset, in whole or in part, by gains or losses from other operations. Alternative gains or losses involved in not hedging market interests in the spot commodity are considered in another section of this bulletin (see p. 8).

Data relating to gains and losses, on long-basis positions, from changes in spread between prices of cotton futures and spot prices of cotton, cotton yarn, and cotton fabric are presented in the order listed.

*Raw cotton.*—Data relating to changes over 8-week periods in basis for Middling  $\frac{1}{8}$ -inch cotton at New Orleans, calculated from prices of New Orleans futures contracts for the near-active month, show, for the 6 years ended July 1941, gains on long-basis positions about 34 percent of the time (table 13, p. 32). These gains amounted in some instances to more than a cent a pound and they averaged 0.18 cent. These changes in basis show losses on long-basis positions about 63 percent of the time. These losses in some instances exceeded a cent a pound and they averaged 0.35 cent. Similar data for the 6 years ended July 1953 show gains from changes in basis about 40 percent of the time, and the gains averaged about 0.31 cent (table

14, p. 33). Losses were shown about 60 percent of the time, and the losses averaged about 1.30 cents a pound.

Gains and losses vary considerably with the length of the interval, the futures contract used in calculating the changes in basis, and from one part of the year to another. Usually, the proportion of the time that changes in basis resulted in losses on long-basis positions and the average amounts of these losses were much greater for 8-week periods ended July, August, and September than for 8-week periods ended during other months (tables 15 and 16, pp. 34 and 35).

*Cotton yarn.*—During the 6 years ended July 1941, data relating to changes over 8-week periods in spread between spot prices in New York of the quantity of carded cotton yarn (10s) obtainable from a pound of cotton and prices of cotton futures in New York show gains on long-basis positions about 46 percent of the time and the gains averaged 1.25 cents (table 17, p. 36). These changes in spread showed losses on long-basis positions about 53 percent of the time, and the losses averaged about 1.28 cents. Similar data for the 6 years ended July 1953 show gains on long-basis positions about 38 percent of the time, and the gains averaged 2.55 cents (table 18, p. 37). Losses on long-basis positions are indicated about 62 percent of the time, and the losses averaged 2.13 cents. The proportion of the time that changes in basis indicated gains and losses on long-basis positions and the average amounts of the gains and losses varied widely from year to year and from one part of the season to another, but no consistent seasonal patterns were indicated (tables 19 and 20, pp. 38 and 39).

*Cotton fabric.*—Data relating to changes in spread between spot prices in New York of the quantity of cotton print cloth (39" 80 x 80) obtainable from a pound of cotton and prices of cotton futures in New York show substantial gains and losses on long-basis positions over relatively short periods. During the 6 years ended July 1941, these changes over 8-week periods show gains on long-basis positions about 44 percent of the time, and the gains averaged 1.77 cents. The changes showed losses on long-basis positions about 59 percent of the time, and the losses averaged 1.45 cents (table 21, p. 40). Similar data for the 6 years ended July 1953 show gains on long basis positions about 43 percent of the time, and the gains averaged 4.82 cents. Losses on long-basis positions were indicated about 55 percent of the time and the losses averaged 6.18 cents (table 22, p. 41). The proportion of the time that gains and losses were indicated and the average amounts of the gains and losses varied widely from year to year and from one part of the season to another, but no definite seasonal pattern was indicated (tables 23 and 24, pp. 42 and 43).

## PROTECTION AFFORDED BY FUTURES AS HEDGES

Futures contracts are used extensively as hedges against losses from changes in prices of spot cotton. Such hedges are obtained by offsetting long- or short-market interests in the spot commodity by sales or purchases, respectively, of futures contracts. Annual reports of the Commodity Exchange Authority show that, during the 6 years ended July 1953, long-hedging commitments in cotton futures open on the 15th of each month, for large traders whose position in one



future was 5,000 bales or more, averaged 729,000 bales, or about 24 percent of total open contracts (21). Average open-hedging commitments by months for all years combined ranged from 594,000 bales in July to 890,000 bales in February. Similar data for short hedges show that open commitments averaged 936,000 bales, or 31 percent of total open contracts; the monthly averages for all years combined ranged from 587,000 bales in July to 1,284,000 bales in January. In addition, speculative and hedging commitments of the smaller traders have, in recent years, accounted for more than one-half of total open interests in cotton futures.

Protection against losses from changes in prices of the spot commodity may also be obtained through buying or selling on call. A call contract is one in which the seller (usually a cotton merchant or a farmer) agrees to deliver a specified quantity of cotton of a specified description and the buyer (usually a mill operator or a cotton merchant) agrees to receive the cotton within a designated period, with the price to be derived by adding to or subtracting from the price of a specified futures contract a specified number of points previously agreed upon by the seller and the buyer. The period within which the price must be fixed is specified in the contract. The time within the period when the price is fixed may be decided by the buyer ("buyer's option") or by the seller ("seller's option") in accordance with the provisions of the contract (8).

The quantity of call contracts may be indicated by data showing "unfixed" call sales and purchases of cotton during the 6 years ended July 1953, as reported by Commodity Exchange Authority (22). Unfixed sales of cotton on call based on New York futures, as reported by merchants with contracts of 5,000 bales or more in one futures, averaged 970,000 bales, or about one-third of total open interests of traders in cotton futures, during the 6-year period. Yearly averages ranged from about 706,000 bales in 1949 to 1,384,000 bales in 1951. Monthly averages for all years combined ranged from about 505,000 bales in May to 1,472,000 bales in October.

Similar data for purchases by merchants of cotton on call show that unfixed purchases averaged 156,000 bales, or about 5 percent of total open interests of traders in cotton futures, during this 6-year period. Yearly averages of these unfixed purchases ranged from about 93,000 bales in 1949 to 222,000 bales in 1953. Monthly averages for all years combined ranged from 92,000 bales in June to 242,000 bales in November.

Gains and losses from market interests in the spot commodity hedged by opposite market interests in futures and from on call transactions are limited mainly to changes in basis. Merchants or others who have long-market interests in the spot commodity hedged by the sale of futures contracts and purchasers of the spot commodity on call are considered to be long the basis. Operators who have short market interests in the spot commodity hedged by long interests in futures and sellers of the spot commodity on call are considered to be short the basis (6).

Greater advances or less declines in spot prices than in prices of futures result in gains on long-basis positions and in losses on short-basis positions. Smaller advances or greater declines in spot prices than in prices of futures result in losses on long-basis positions and gains on short-basis positions.

The extent to which gains and losses from changes in spot prices of cotton and of cotton yarns and fabrics could have been offset by the use of futures contracts as hedges, and the extent of the gains and losses on purchases and sales on call, may be indicated by a comparison of changes in spot prices with the corresponding changes in spread between spot prices and prices of futures. Data showing no changes in the spread between spot prices and prices of futures indicate that gains and losses from changes in spot prices could have been completely offset by the use of futures as hedges, and that no gains or losses would have been realized on call sales and purchases.

Changes in the spread that are less than the corresponding changes in spot prices mean that gains and losses from changes in prices could have been reduced but not completely offset by the use of futures as hedges, and that gains or losses from on call sales and purchases would have been less than the changes in spot prices. Changes in spread as great as or greater than the corresponding changes in spot prices indicate that no reductions in gains or losses from changes in prices could have been made by using futures as hedges, and that gains or losses from on call sales and purchases would have equaled or exceeded the changes in spot prices.

It is recognized, of course, that cotton merchants or manufacturers may supplement or offset, at least in part, the gains and losses from changes in spot prices and in basis through straddle and other transactions involving trading in futures (3). As indicated earlier in this bulletin, the assumption of risks from changes in spot prices or from changes in basis may be a part of larger operations involving straddle and other transactions. An adequate appraisal of the results of such combined ventures would necessitate the combining and balancing of the gains and losses from all the operations involved. But the information available is neither adequate for showing the extent to which the assumption of risks from changes in prices of the spot commodity or from changes in basis are parts of larger operations involving straddle and other transactions, nor for indicating to what extent gains or losses, from the assumption of such risks, are supplemented or offset by other operations involved in the combined venture.

### Price Risks Usually Greater Than Basis Risks

As indicated in earlier sections of this bulletin, risks of loss and possibilities of gain from changes in prices of the spot commodity and in the spread between prices of the spot commodity and prices of futures contracts usually were much less for raw cotton than for cotton yarns and fabrics. Data showing the relation of gains and losses from changes in prices of the spot commodity to gains and losses from changes in the spread between prices of the spot commodity and prices of futures contracts for raw cotton, cotton yarns, and cotton fabrics are presented in the order listed.

*Raw cotton.*—The extent to which farmers, merchants, or manufacturers, who have long- or short-market interests in spot cotton, could have reduced or offset their risks of loss and possibilities of gain from changes in spot prices by the use of futures as hedges, and the gains or losses on sales and purchases on call, may be indicated by a comparison of changes in prices of spot cotton with the corresponding changes in spread between these prices and prices of futures contracts.

The data in table 25 show that changes over 8-week periods in prices of Middling  $\frac{1}{8}$ -inch spot cotton in New Orleans usually were substantially greater than the corresponding changes in spread between these prices and prices of cotton futures in New Orleans.

During the 6 years ended July 1941 and the 6 years ended July 1953 combined, changes over 8-week periods in spot prices of Middling  $\frac{1}{8}$ -inch cotton in New Orleans exceeded the corresponding changes in basis, calculated from prices of near-month futures contracts in New Orleans, 74 percent of the time. Changes in spot prices averaged about 2.3 times as much as the corresponding changes in basis. Advances in spot prices exceeded the corresponding changes in basis 83 percent of the time, and the declines in spot prices exceeded the corresponding changes in basis 67 percent of the time.

TABLE 25.—Distribution of changes over 8-week periods in prices of spot cotton in New Orleans and in basis calculated from prices of near-month futures in New Orleans, August 1935–July 1941 and August 1947–July 1953<sup>1</sup>

Changes in spot prices (cents a pound)	Changes in basis (cents a pound)							Total
	- 1.76 and under	- 1.75 to - 1.26	- 1.25 to - 0.76	- 0.75 to - 0.26	- 0.25 to 0.24	0.25 to 0.74	0.75 and over	
	No.	No.	No.	No.	No.	No.	No.	No.
- 3.76 and under	20	1	2	2	3	1		29
- 3.75 to - 3.26	1		1	3	3	2		10
- 3.25 to - 2.76	2	2	2	3				9
- 2.75 to - 2.26	2	1	1	2	3	2		11
- 2.25 to - 1.76	4		1	4	6	2		17
- 1.75 to - 1.26	7	3	1	7	8	1		27
- 1.25 to - 0.76	2	4	9	12	13	2		42
- 0.75 to - 0.26	2	1	9	20	31	8		71
- 0.25 to 0.24	3		9	31	67	18	2	130
0.25 to 0.74	1		4	13	65	16	1	100
0.75 to 1.24		1	1	11	35	10	1	59
1.25 to 1.74			1	5	8	12		26
1.75 to 2.24				2	11	5	1	19
2.25 to 2.74			2	1	11		1	15
2.75 to 3.24				2	7	2		11
3.25 and over			5	9	11	5		30
Total	44	13	48	127	282	86	6	606

<sup>1</sup> Closing prices of near-month futures and spot prices of Middling  $\frac{1}{8}$ -inch cotton in New Orleans as of the close of the futures market, usually on Wednesday or Thursday of each week, were used. Minus ( - ) signs mean losses on long-market interest in spot cotton hedged by sales of New Orleans futures.

The relation of changes in prices of spot cotton to changes in basis varies considerably from year to year and from one period to another (fig. 3). During the 6 years ended July 1941, changes over 8-week periods in basis for Middling  $\frac{1}{8}$ -inch cotton in New Orleans, calculated from prices of New Orleans futures for the near-active month, averaged about 38 percent of the corresponding changes in spot prices, and the proportions ranged from 15 percent for the year ended July 1938 to 81 percent for the year ended July 1940.

Similar data for the 6 years ended July 1953 show that changes in basis averaged about 45 percent of the corresponding changes in prices of spot cotton, and the proportions ranged from 26 percent for the year ended July 1951 to 83 percent for the year ended July 1949. Although these proportions varied widely from year to year, the variations were not closely related to changes in price level and no distinct trends were indicated.

Although changes over 8-week periods in spot prices and in basis usually were greater near the change of the crop years, the ratios of average change in basis to the corresponding change in spot prices varied somewhat irregularly from one part of the season to another (fig. 4). During the 6 years ended July 1941, average change in spot prices was greatest, and the average ratio of changes in basis to changes in spot prices was least, for 8-week periods ended May and June. The ratio of average change in basis to average change in spot prices was greatest for 8-week periods ended July, August, and September.

During the 6 years ended July 1953, average changes in spot prices and the ratios of average change in basis to average change in spot prices were greatest for 8-week periods ended July, August, and September. The greatest protection afforded by futures as hedges was indicated for 8-week periods ended October and November.

Ratios of average changes, over 8-week periods, in basis for Middling  $1\frac{1}{8}$ -inch spot cotton in New Orleans, calculated from prices of near-month futures contracts in New Orleans, to the corresponding average change in spot prices were fairly typical of those for similar cotton in other central markets (14). Basis calculated from prices of New Orleans futures averaged about the same as those calculated

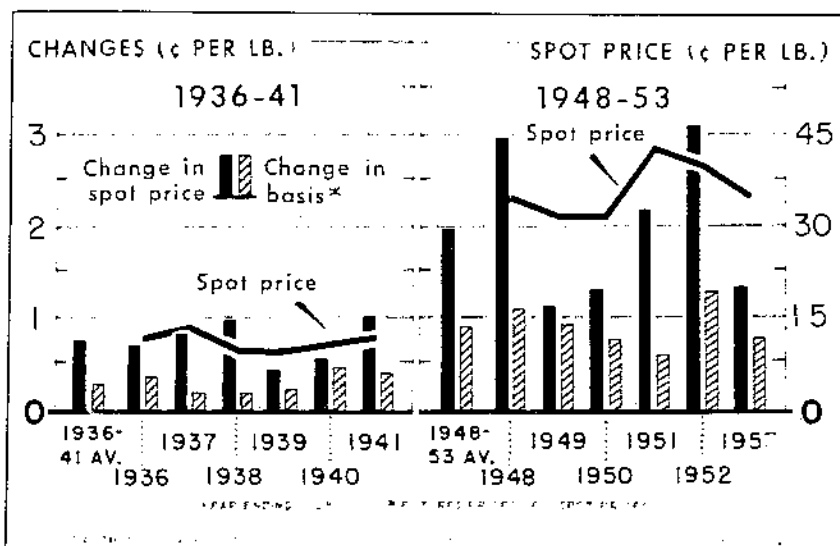


FIGURE 3.—Average changes over 8-week periods in spot prices and in basis, calculated from near-month futures in New Orleans, for Middling  $1\frac{1}{8}$ -inch cotton, and average price of this cotton in New Orleans, 1936-41 and 1948-53.

Average changes in spot prices and in basis varied widely from year to year, but these changes were not closely related to changes in price level. Changes in basis usually averaged substantially less than changes in spot prices.

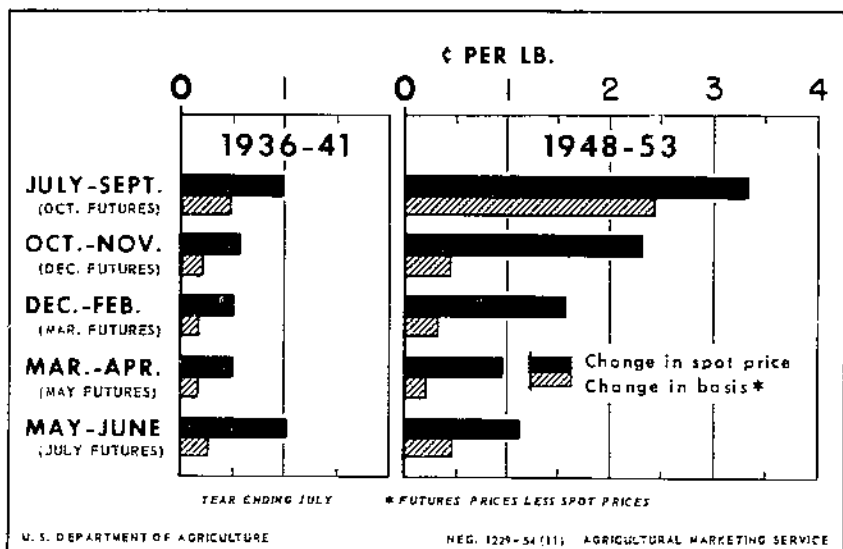


FIGURE 4.—Average changes in spot prices and in basis for Middling  $1\frac{5}{16}$ -inch cotton in New Orleans over 8-week periods ended during specified months, 1936-41 and 1948-53.

Changes in spot prices and in basis over 8-week periods varied widely from one part of the year to another. Usually they were greatest toward the end and near the beginning of the crop year when changes in the supply situation were greatest.

from New York futures. Ratios of average changes in basis to the corresponding average changes in spot prices averaged somewhat less when calculated from near-month futures than when calculated from futures for more distant months. Although average changes in spot prices and in basis vary with the length of the period, the ratios of average changes in basis to the corresponding average changes in spot prices for 8-week periods were somewhat greater than those for 4-week, and somewhat less than those for 16-week periods.

Changes in prices of spot cotton include both advances and declines which represent gains and losses on long-market interests, and losses and gains, respectively, on short-market interests in spot cotton. Changes in basis as a result of greater advances or less declines in spot prices than in prices of futures reflect gains on long-basis positions and losses on short-basis positions. On the other hand, changes in basis resulting from smaller advances or greater declines in spot prices than in prices of futures reflect losses on long-basis positions and gains on short-basis positions.

Changes over 8-week periods in spot prices of Middling  $1\frac{5}{16}$ -inch cotton in New Orleans, during the 6 years ended July 1941 and the 6 years ended July 1953 combined, showed declines about 45 percent of the time, but the declines averaged greater than the advances (table 26). On the average, for both prewar and postwar periods, about 90 percent of the gains on long-market interests and losses on short-market interests from advances in spot prices could have been offset by the use of New Orleans futures for the near-active month as hedges. Furthermore, gains on long-basis positions and losses on short-basis positions as a result of prices of futures not advancing as

much as prices of spot cotton, on the average, would have been more than offset by losses and gains respectively, as a result of prices of futures advancing more than prices of spot cotton.

The net result would have been an average loss on long-basis positions and an average gain on short-basis positions of about 4 percent of the average advance in spot prices. Considerable variations from one year to another in advances in spot prices and in protection afforded by futures as hedges are indicated (table 26).

The proportions of the losses on long-market interests and of gains on short-market interests from declines in spot prices that could have been offset by the use of futures as hedges averaged about 67 percent for the prewar period and about 48 percent for the postwar period (table 26). In addition, substantial losses on long-basis positions and gains on short-basis positions would have resulted from greater declines in prices of spot cotton than in prices of futures contracts.

The net result would have been losses on long-basis positions and gains on short-basis positions, which would have averaged about 43 percent of the declines in spot prices during the prewar period and about 59 percent of the declines in spot prices during the postwar period. Average results would have varied widely from year to year (table 26).

The degree of protection afforded by futures as hedges varied considerably from one part of the year to another (table 27). During the 6 years ended July 1941, advances and declines in spot prices and protection afforded by futures as hedges averaged greatest for 8-week periods ended May to September. During the 6 years ended July 1953, advances in spot prices and protection afforded by futures as hedges averaged greatest for 8-week periods ended July to November. Declines in spot prices averaged greatest for 8-week periods ended July to September, but protection afforded by futures as hedges averaged greatest for 8-week periods ended October to February.

Advances and declines in spot prices and protection afforded by futures as hedges for Middling  $\frac{1}{16}$ -inch cotton averaged about the same as for cotton of other grades and staple lengths (table 28). Advances and declines in spot prices of Middling  $\frac{1}{16}$ -inch cotton, over 8-week periods, averaged much greater than those for 4-week periods and much less than those for 16-week periods, but the proportions of the gains and losses from advances and declines in spot prices that could have been offset by the use of futures as hedges for 8-week periods averaged about the same as for 4- and 16-week periods (table 29).

When prices of futures contracts are higher than prices of Middling  $\frac{1}{16}$ -inch spot cotton at delivery points by amounts approximately equal to costs of carrying the spot cotton to the date of maturity of the futures contracts, prices of spot cotton normally are expected to advance more or decline less than prices of futures contracts (19). Adjustments for the influence of carrying charges would reduce these differences. On the other hand, when prices of futures contracts, particularly for the more distant months, are substantially below spot prices of Middling  $\frac{1}{16}$ -inch cotton at delivery points, as was the case during a substantial proportion of the 6-year periods ended July 1941 and 1953, prices of futures contracts, particularly for the near-active months, normally are expected to advance more or to decline less than spot prices.

TABLE 26.—Average advance and decline, over 8-week periods, in spot prices of Middling  $\frac{1}{16}$ -inch cotton in New Orleans, hedge offset afforded by New Orleans futures, and gain or loss on basis, 1936-41 and 1948-53 <sup>1</sup>

WHEN PRICES OF SPOT COTTON ADVANCED <sup>2</sup>

Year ended July—	Pro- por- tion of time	Price change	Hedge		Additional		Gain or loss (-) on basis
			Offset <sup>3</sup>	Not offset <sup>4</sup>	Gain <sup>5</sup>	Loss <sup>6</sup>	
	Percent	Cents	Cents	Cents	Cents	Cents	Cents
1936.....	58.3	0.62	0.56	0.06	0	0.22	-0.16
1937.....	55.8	.72	.64	.08	.01	.09	0
1938.....	38.5	.53	.45	.08	0	0	.08
1939.....	56.0	.44	.39	.05	0	.18	-.13
1940.....	47.2	.71	.63	.08	.07	.22	-.07
1941.....	75.0	1.08	1.01	.07	0	.12	-.05
Average.....	55.0	.71	.64	.07	.01	.14	-.06
1948.....	48.0	2.76	2.59	.17	0	.18	-.01
1949.....	53.8	.57	.43	.14	.01	.24	-.09
1950.....	67.3	1.30	1.04	.26	.01	.07	.20
1951.....	90.0	1.83	1.79	.04	.04	.28	-.20
1952.....	47.2	2.88	2.85	.03	0	.20	-.26
1953.....	42.3	.34	.20	.14	.09	.24	-.01
Average.....	56.9	1.61	1.48	.13	.03	.21	-.05

WHEN PRICES OF SPOT COTTON DECLINED

1936.....	41.7	0.69	0.40	0.29	0	0.05	-0.34
1937.....	44.2	.93	.78	.15	.03	0	-.12
1938.....	61.5	1.26	1.10	.16	.03	0	-.13
1939.....	44.0	.37	.22	.15	0	.04	-.19
1940.....	52.8	.37	.12	.25	.06	.18	-.37
1941.....	25.0	.73	.04	.69	0	.14	-.83
Average.....	45.0	.75	.51	.24	.02	.07	-.29
1948.....	52.0	3.14	1.68	1.46	.11	.19	-1.54
1949.....	46.2	1.71	.55	1.16	.01	.33	-1.48
1950.....	32.7	1.29	.01	1.28	0	.27	-1.55
1951.....	10.0	5.24	2.89	2.35	0	0	-2.35
1952.....	52.8	3.27	1.26	2.01	.03	.04	-2.02
1953.....	57.7	2.03	1.57	.46	.17	.34	-.63
Average.....	43.1	2.47	1.17	1.30	.07	.22	-1.45

<sup>1</sup> Closing prices of near-month futures and spot prices as of the close of the futures market, usually on Wednesday or Thursday of each week, are used. The term "basis" refers to the spread between prices of spot cotton and prices of a specified futures contract. Gains and losses are calculated for long interests in spot cotton hedged by sales of futures contracts.

<sup>2</sup> Periods showing no change in spot prices are also included.

<sup>3</sup> Spot prices and prices of futures contract advanced or declined the same amounts.

<sup>4</sup> Extent to which advances or declines in spot prices exceeded the corresponding advances or declines in prices of futures contracts.

<sup>5</sup> Extent to which prices of futures declined more than prices of spot cotton.

<sup>6</sup> Extent to which prices of futures advanced more than prices of spots.

TABLE 27.—Average advance and decline, over 8-week periods, in spot prices of Middling  $\frac{1}{16}$ -inch cotton in New Orleans, hedge offset afforded by New Orleans future, and gain and loss on basis, by specified periods, August 1935–July 1941 and August 1947–July 1953<sup>1</sup>  
WHEN SPOT PRICES ADVANCED<sup>2</sup>

Year and 8-week periods ended—	Proportion of time	Price advance	Hedge		Additional		Gain or loss (—) on basis
			Offset <sup>3</sup>	Not offset <sup>4</sup>	Gain <sup>5</sup>	Loss <sup>6</sup>	
<i>1936-41</i>							
	Percent	Cents	Cents	Cents	Cents	Cents	Cents
July 15–Oct. 14.....	24.1	0.55	0.81	0.04	0.01	0.20	—0.15
Oct. 15–Dec. 14.....	65.4	.62	.53	.09	.01	.11	— .01
Dec. 15–Mar. 14.....	73.0	.61	.53	.08	.01	.07	— .02
Mar. 15–May 14.....	60.8	.62	.59	.03	0	.18	— .15
May 15–July 14.....	60.8	.99	.92	.07	.04	.24	— .13
Average.....	55.0	.71	.64	.07	.01	.14	— .06
<i>1948-53</i>							
July 15–Oct. 14.....	28.2	2.49	2.45	.04	0	.71	— .67
Oct. 15–Dec. 14.....	66.0	2.33	2.30	.03	0	.29	— .26
Dec. 15–Mar. 14.....	64.3	1.49	1.23	.26	.05	.03	— .28
Mar. 15–May 14.....	80.0	1.06	.99	.07	.02	.14	— .05
May 15–July 14.....	60.4	.98	.80	.18	.05	.12	— .11
Average.....	56.9	1.61	1.48	.13	.03	.21	— .05

WHEN SPOT PRICES DECLINED

<i>1936-41</i>							
July 15–Oct. 14.....	75.9	1.13	0.69	0.44	0	0.09	—0.53
Oct. 15–Dec. 14.....	34.6	.45	.37	.08	.03	.08	— .13
Dec. 15–Mar. 14.....	27.0	.29	.11	.18	0	.05	— .23
Mar. 15–May 14.....	39.2	.25	.20	.05	.02	.03	— .06
May 15–July 14.....	59.2	.84	.80	.04	.11	.63	— .04
Average.....	45.0	.75	.51	.24	.02	.07	—0.29
<i>1948-53</i>							
July 15–Oct. 14.....	71.8	3.52	.94	2.58	0	.40	—2.98
Oct. 15–Dec. 14.....	34.0	2.31	1.64	.67	.02	.08	— .73
Dec. 15–Mar. 14.....	35.7	1.77	1.72	.05	.24	.01	— .18
Mar. 15–May 14.....	20.6	.55	.43	.12	.09	.01	— .04
May 15–July 14.....	30.6	1.44	1.05	.39	.09	.21	— .51
Average.....	43.1	2.47	1.17	1.30	.07	.22	—1.45

<sup>1</sup> Closing prices of near-month futures and spot prices as of the close of the futures market, usually on Wednesday or Thursday of each week, were used. The term "basis" refers to the spread between prices of spot cotton and prices of specified futures contracts. Gains and losses are calculated for long interests in spot cotton hedged by sales of futures contracts.

<sup>2</sup> Periods showing no change in spot prices are also included.

<sup>3</sup> Spot prices and prices of futures contracts advanced or declined the same amount.

<sup>4</sup> Extent to which advances or declines in spot prices exceeded the corresponding advances or declines in prices of futures contracts.

<sup>5</sup> Extent to which prices of futures declined more than prices of spot cotton.

<sup>6</sup> Extent to which prices of futures advanced more than prices of spots.



TABLE 28.—Average advance and decline, over 8-week periods, in spot prices of cotton of specified grade and staple length in central markets hedge offset afforded by New York futures, and gain or loss on basis, 1936-41 and 1948-53<sup>1</sup>

WHEN PRICES OF SPOT COTTON ADVANCED<sup>2</sup>

Year ended July and grade and staple length	Proportion of time	Price change	Hedge		Additional		Gain or loss (-) on basis
			Offset <sup>3</sup>	Not offset <sup>4</sup>	Gain <sup>5</sup>	Loss <sup>6</sup>	
<i>1936-41</i>							
	<i>Percent</i>	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>
M 1 <sup>1</sup> / <sub>8</sub> in.....	56.9	0.74	0.66	0.08	0.01	0.12	-0.03
SLM 3/8 in.....	53.0	.79	.69	.10	.01	.11	0
SM 1 in.....	56.7	.79	.86	.13	.01	.10	.04
M 1 <sup>1</sup> / <sub>2</sub> in.....	56.1	.80	.65	.15	.02	.11	.06
M 1 <sup>3</sup> / <sub>8</sub> in.....	54.3	.88	.65	.23	.03	.11	.15
<i>1948-53</i>							
M 1 <sup>1</sup> / <sub>8</sub> in.....	56.5	1.57	1.43	.14	.12	.27	-.01
SLM 3/8 in.....	56.1	1.56	1.42	.14	.09	.29	-.06
SM 1 in.....	57.1	1.60	1.41	.19	.09	.26	.02
M 1 <sup>1</sup> / <sub>2</sub> in.....	56.8	1.62	1.41	.21	.09	.28	.02
M 1 <sup>3</sup> / <sub>8</sub> in.....	53.5	1.68	1.48	.20	.03	.30	-.07

WHEN PRICES OF SPOT COTTON DECLINED

<i>1936-41</i>							
M 1 <sup>1</sup> / <sub>8</sub> in.....	43.1	0.84	0.50	0.34	0.04	0.06	-0.36
SLM 3/8 in.....	47.0	.76	.46	.30	.04	.08	-.34
SM 1 in.....	43.3	.92	.50	.42	.04	.08	-.46
M 1 <sup>1</sup> / <sub>2</sub> in.....	43.9	.92	.48	.44	.04	.09	-.49
M 1 <sup>3</sup> / <sub>8</sub> in.....	45.7	.88	.45	.43	.04	.12	-.51
<i>1948-53</i>							
M 1 <sup>1</sup> / <sub>8</sub> in.....	43.5	2.37	1.16	1.21	.12	.20	-1.29
SLM 3/8 in.....	43.9	2.37	1.15	1.22	.09	.22	-1.35
SM 1 in.....	42.9	2.47	1.17	1.30	.12	.23	-1.41
M 1 <sup>1</sup> / <sub>2</sub> in.....	43.2	2.45	1.13	1.32	.13	.21	-1.40
M 1 <sup>3</sup> / <sub>8</sub> in.....	46.5	2.16	1.01	1.15	.25	.22	-1.12

<sup>1</sup> Closing prices of near-month futures and spot prices as of the close of the futures market, usually on Wednesday or Thursday of each week, were used. Prices of Middling 3/8-inch, Strict Low Middling 3/8-inch, Strict Middling 1-inch, and Middling 1 1/8-inch cotton as quoted in Augusta and prices of Middling 1 1/8-inch cotton as quoted in Memphis. The term "basis" refers to the spread between prices of spot cotton and prices of a specified futures contract. Gains and losses are calculated for long interests in spot cotton hedged by sales of futures contracts.

<sup>2</sup> Periods showing no change in spot prices are also included.

<sup>3</sup> Spot prices and prices of futures contracts advanced or declined the same amounts.

<sup>4</sup> Extent to which advances or declines in spot prices exceeded the corresponding advances or declines in prices of futures contracts.

<sup>5</sup> Extent to which prices of futures declined more than prices of spot cotton.

<sup>6</sup> Extent to which prices of futures advanced more than prices of spot cotton.

An examination of the data in tables 26 to 29 shows that a large proportion of the changes in spread between prices of spot cotton and prices of futures contracts are accounted for by prices of spot cotton advancing less or declining more than prices of futures contracts. Adjustments for carrying charges would accentuate these differences.

TABLE 29.—Average advance and decline, over 4-, 8-, and 16-week periods, in spot prices of Middling  $\frac{1}{8}$ -inch cotton in New Orleans, hedge offset afforded by New Orleans futures, and gain or loss on basis, 1936-41 and 1948-53 <sup>1</sup>

WHEN PRICES OF SPOT COTTON ADVANCED <sup>2</sup>

Year ended July and length of period	Proportion of time	Price change	Hedge		Additional		Gain or loss (—) on basis
			Offset <sup>3</sup>	Not offset <sup>4</sup>	Gain <sup>5</sup>	Loss <sup>6</sup>	
<i>1936-41</i>							
	<i>Percent</i>	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>
4 weeks.....	53.6	0.52	0.46	0.06	0	0.06	0
8 weeks.....	55.0	.71	.64	.07	.01	.14	-.06
16 weeks.....	55.0	.99	.91	.08	.02	.24	-.14
<i>1948-53</i>							
4 weeks.....	50.4	1.19	1.09	.10	.03	.13	0
8 weeks.....	56.9	1.61	1.48	.13	.03	.21	-.05
16 weeks.....	56.3	2.49	2.33	.16	.02	.51	-.33

WHEN PRICES OF SPOT COTTON DECLINED

<i>1936-41</i>							
4 weeks.....	46.4	0.52	0.36	0.16	0.02	0.03	-0.17
8 weeks.....	45.0	.75	.51	.24	.02	.07	-.29
16 weeks.....	45.0	1.12	.76	.36	.02	.17	-.51
<i>1948-53</i>							
4 weeks.....	49.6	1.37	.77	.60	.07	.07	-.60
8 weeks.....	43.1	2.47	1.17	1.30	.07	.22	-1.45
16 weeks.....	43.7	3.88	1.45	2.43	.11	.42	-2.74

<sup>1</sup> Closing prices of near-month futures and spot prices as of the close of the futures market, usually on Wednesday or Thursday of each week, are used. The term "basis" refers to the spread between prices of spot cotton and prices of specified futures contract. Gains and losses are calculated for long interests in spot cotton hedged by sales of futures contracts.

<sup>2</sup> Periods showing no changes in spot prices are also included.

<sup>3</sup> Spot prices and prices of futures contracts advanced or declined by the same amounts.

<sup>4</sup> Extent to which advances or declines in spot prices exceeded the corresponding advances or declines in prices of futures contracts.

<sup>5</sup> Extent to which prices of futures declined more than prices of spot cotton.

<sup>6</sup> Extent to which prices of futures advanced more than prices of spot cotton.

In recent years prices of spot cotton that were unusually high in relation to prices of futures contracts usually were succeeded by greater declines or smaller advances in prices of spot cotton than in prices of futures

contracts. During the 6 years ended July 1953, premiums and discounts in prices of Middling  $\frac{1}{8}$ -inch spot cotton in New Orleans during May, June, July, and August, in relation to prices of New Orleans futures for delivery in October, usually varied inversely with changes in these premiums over the succeeding 8-week periods (fig. 5).

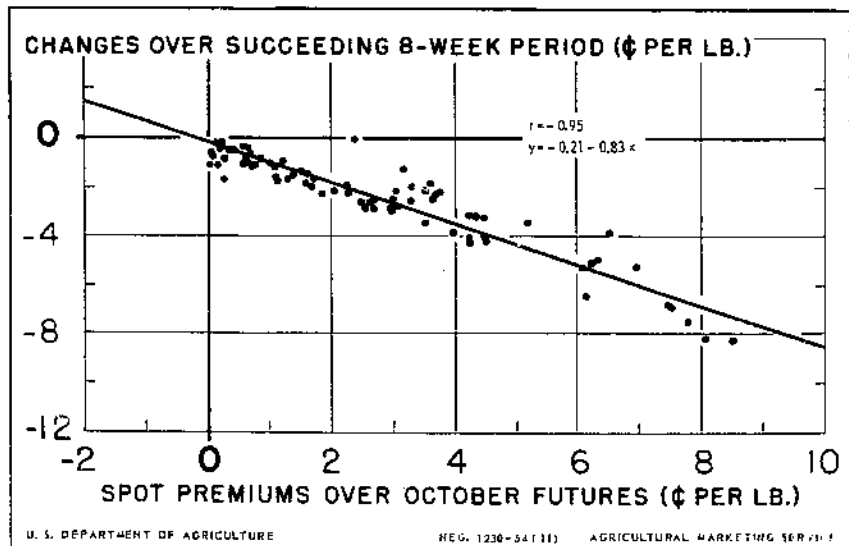


FIGURE 5.—Relation of premiums of Middling  $\frac{1}{8}$ -inch cotton in New Orleans, during May to August, over prices of October futures in New Orleans in relation to changes in these premiums over succeeding 8-week periods, 1947-53.

During the 6 years ended July 1953, premiums in prices of spot cotton in New Orleans during May, June, July, and August over prices of October futures usually varied inversely with changes in these premiums over succeeding 8-week periods. The correlation coefficient is  $-0.95$ , and the regression equation is  $y = -0.21 - 0.83x$ . ( $x$  = futures prices minus spot prices and  $y$  = changes in  $x$  over subsequent 8-week periods. Standard error of regression coefficient is  $0.04$ .)

The correlation coefficient obtained was  $-0.95$ . The regression equation,  $y = -0.21 - 0.83x$ , indicates that, on the average, for each cent a pound premium of spot prices over prices of October futures during this period, losses on long-basis positions and gains on short-basis positions, over the succeeding 8-week period, would have amounted to about  $0.83$  cent a pound.

Under such conditions, the possibility of loss on long-basis positions and the possibility of gain on short-basis positions may result in a reduction in the price of spot cotton for deferred delivery in relation to prices of spot cotton for immediate delivery and of futures contracts for old-crop months.

Similar comparisons of the relation of spot prices to prices of futures for near-active months other than October show that, during the 6 years ended July 1953, changes over 8-week periods in premiums and discounts in prices of spot cotton in relation to prices of futures contracts usually varied inversely with the extent of these premiums

and discounts at the beginning of the 8-week periods (fig. 6). An analysis of this relationship gave a correlation coefficient of  $-0.79$ . The regression equation,  $y = -0.13 - 0.79x$ , indicates that, on the average, for each cent a pound premium or discount of spot prices in relation to prices of futures contracts during this period, losses or gains, respectively, on long-basis positions and gains or losses, respectively, on short-basis positions would have amounted to 0.79 cent a pound during the succeeding 8-week periods.

During the 6-year period ended July 1941, changes in spread between prices of spot cotton and prices of futures contracts, over 8-week periods, usually varied inversely with the extent of the spread at the beginning of the 8-week periods, but the relationships were not as close as those indicated for the postwar period.

The relationships of premiums and discounts in spot prices of cotton, calculated from prices of futures contracts, to subsequent changes in these premiums and discounts were found to be similar to those indicated by Working for wheat (26).

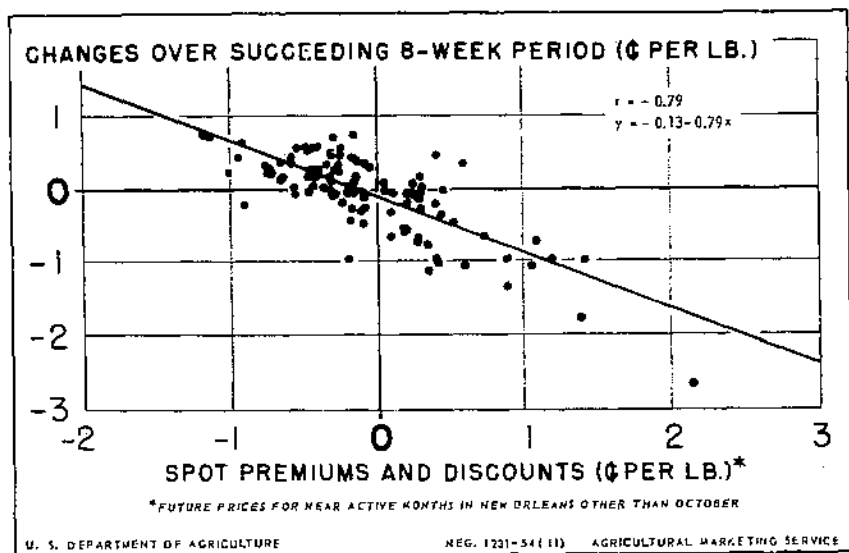


FIGURE 6.—Relation of premiums and discounts in prices of Middling  $1\frac{1}{8}$ -inch cotton in New Orleans in relation to prices of New Orleans futures for near-active months other than October to changes in these premiums and discounts over succeeding 8-week periods, 1947-53.

During the 6 years ended July 1953, changes over 8-week periods in premiums and discounts in prices of spot cotton in relation to prices of near-month futures, other than October, usually varied inversely with the extent of these premiums and discounts at the beginning of the 8-week periods. The correlation coefficient is  $-0.79$ . The regression equation is  $y = -0.13 - 0.79x$  (standard error of regression coefficient is 0.06).

*Cotton yarn.*—The extent to which manufacturers who have long- or short-market interests in cotton yarn could reduce or offset their risks of loss and possibilities of gain from changes in spot prices of the yarn, by the use of cotton futures as hedges, may be indicated by

comparison of changes in spot prices of yarn with the corresponding changes in spread between spot prices of yarn and prices of cotton futures. Changes in spread, less than the corresponding changes in spot prices, indicate that gains and losses from changes in prices of yarn could have been reduced or offset, at least in part, through the use of cotton futures as hedges. But changes in spread, equal to or greater than the corresponding changes in yarn prices, mean that gains and losses from changes in these prices could not have been reduced or offset by the use of cotton futures as hedges.

Data relating to prices of the quantity of carded cotton yarn (10s) obtainable from a pound of cotton and to prices of cotton futures show that, during the 6 years ended July 1941 and the 6 years ended July 1953 combined, changes over 8-week periods in prices of this yarn in New York averaged greater than the corresponding changes in spread between prices of this yarn and prices of cotton futures in New York (fig. 7). Changes in spot prices of yarn exceeded the corresponding changes in spread between these prices and prices of cotton futures in New York about 53 percent of the time. Advances in spot prices exceeded the corresponding changes in spread about 77 percent of the time. Declines in spot prices exceeded the corresponding changes in spread 52 percent of the time. These proportions varied from year to year and from one part of the season to another.

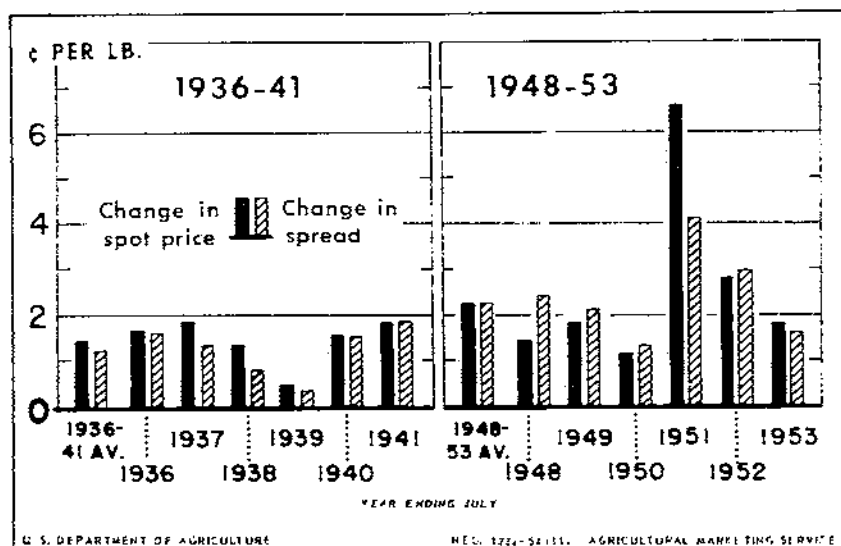


FIGURE 7.—Average changes over 8-week periods in prices in New York of the quantity of carded cotton yarn (10s) obtainable from a pound of cotton and in spread between prices of this yarn and prices of cotton futures in New York, 1936-41, and 1948-53.

Average changes in prices of carded cotton yarn and in spread between prices of this yarn and prices of cotton futures varied widely from year to year. Changes over 8-week periods in prices of the yarn averaged greater in the prewar period and about the same in the postwar periods as the corresponding changes in spread between prices of the yarn and prices of cotton futures.

Changes over 8-week periods in prices of this yarn showed declines 39 percent of the time during the prewar period and 46 percent of the time during the postwar period, but the declines during both periods averaged greater than the advances (table 30). On the average, less than a third of the gains and losses from these changes in prices of yarn could have been offset by the use of cotton futures as hedges, if the futures used as hedges approximated the quantity of cotton required to produce the yarn hedged. The cost of the cotton used accounted for roughly about one-half of the value of the cotton yarn produced (13). If the futures used in hedging had represented about twice as much cotton as was required to produce the yarn hedged, the hedge offset would have averaged about twice as great and the gains or losses on basis would have averaged less than those shown in table 30.

Extent of changes in prices of cotton yarn in New York, over 8-week periods, and the proportion of the gains and losses from these changes that could have been offset by the use of cotton futures in New York as hedges varied from year to year (table 30) and from one part of the year to another (table 31), but no very definite seasonal trends were indicated. Changes in prices of carded cotton yarn varied considerably with the length of the period, but the proportion of these changes, over 8-week periods, that could have been offset by the use of futures as hedges averaged about the same as the proportions for 4-week and 16-week periods (table 32).

Similar data relating to combed cotton yarn (20s) show that changes over 8-week periods in the quantity of yarn obtainable from a pound of cotton averaged greater than the corresponding changes in prices of carded yarn, and that the protection afforded by cotton futures as hedges was proportionally less for combed than for carded yarn (table 33).

Advances and declines in spot prices of cotton yarn, during both the prewar and postwar periods, usually were substantially greater than the corresponding changes in prices of cotton futures. The proportions of the gains and losses from changes in spot prices of yarn that could have been offset by the use of cotton futures as hedges averaged greater when spot prices advanced than when they declined. When prices of yarn advanced, changes in spread between spot prices of yarn and prices of cotton futures usually would have resulted in gains on long-market interests and in losses on short-market interests in cotton yarn hedged by the sale and purchase, respectively, of cotton futures. On the other hand, when prices of yarn declined, the changes in spread usually would have resulted in losses on long-market interests and gains on short-market interests in the yarn hedged by offsetting transactions in cotton futures.

During the 6 years ended July 1953, changes over 8-week periods in spread between spot prices of carded cotton yarn in New York and prices of cotton futures contracts in New York usually varied inversely with the spread between spot prices of the yarn and prices of cotton futures at the beginning of the 8-week periods. An analysis of the relationship of these spreads to changes in them over succeeding 8-week periods indicate so much irregularity in the relationships that these spreads could not be used effectively in estimating gains and losses from the use of cotton futures as hedges.

TABLE 30.—Average advance and decline, over 8-week periods, in prices of carded cotton yarn in New York, hedge offset afforded by cotton futures, and gain or loss on basis, 1936-41 and 1948-53<sup>1</sup>

WHEN PRICES OF YARN ADVANCED<sup>2</sup>

Year ended July—	Proportion of time	Price change	Hedge		Additional		Gain or loss (—) on basis
			Offset <sup>3</sup>	Not offset <sup>4</sup>	Gain <sup>5</sup>	Loss <sup>6</sup>	
	Percent	Cents	Cents	Cents	Cents	Cents	Cents
1936	53.8	1.20	0.55	0.65	0.21	0.04	0.82
1937	67.3	1.60	.57	1.03	.11	.03	1.11
1938	25.0	.34	.16	.18	.06	.30	-.06
1939	80.8	.50	.29	.21	.06	.11	.16
1940	58.5	1.34	.35	.99	.02	.38	.63
1941	78.8	2.19	.55	1.64	.01	.30	1.35
Average	60.7	1.30	.44	.86	.07	.18	.75
1948	65.3	1.74	.68	1.06	1.04	.39	1.71
1949	22.0	.16	.13	.03	.07	.38	-.28
1950	76.5	1.20	.33	.87	.05	.60	.32
1951	89.3	6.95	2.65	4.30	0	.03	4.27
1952	42.6	1.53	1.33	.20	.29	1.18	-.69
1953	43.1	1.10	.60	.50	.93	.14	1.29
Average	54.0	2.23	.95	1.28	.42	.45	1.25

WHEN PRICES OF YARN DECLINED

1936	46.2	2.23	0.08	2.15	0.02	0.32	2.45
1937	32.7	2.41	.88	1.53	.01	.06	-1.58
1938	75.0	1.65	.90	.75	.02	.08	-.81
1939	19.2	.45	.16	.29	.06	.08	-.31
1940	41.5	1.76	.25	1.51	0	.19	-1.70
1941	21.2	.62	.03	.59	0	1.04	-1.63
Average	39.3	1.70	.48	1.22	.01	.23	-1.44
1948	34.7	.90	.61	.29	.07	1.90	-2.12
1949	78.0	2.33	.27	2.06	0	.55	-2.61
1950	23.5	.98	.33	.65	0	.24	-.89
1951	19.7	3.60	1.17	2.43	0	0	-2.43
1952	57.4	3.68	.74	2.94	.26	.70	-3.38
1953	56.9	2.39	1.02	1.37	.14	.12	-1.35
Average	46.0	2.34	.61	1.73	.10	.62	-2.25

<sup>1</sup> Based on prices of carded yarn (10s) as reported in *Daily News Record*, adjusted to approximate the value of the quantity of yarn obtainable from a pound of cotton, closing prices of New York futures for the near-active month, usually on Wednesday or Thursday of each week. Gains and losses are calculated for long interests in yarn hedged by sales of futures contracts.

<sup>2</sup> Periods showing no change in prices of yarn are also included.

<sup>3</sup> Prices of yarn and of futures contracts advanced and declined the same amounts.

<sup>4</sup> Extent to which advances or declines in prices of yarn exceeded the corresponding advances or declines in prices of futures contracts.

<sup>5</sup> Extent to which prices of futures declined more than prices of yarn.

<sup>6</sup> Extent to which prices of futures advanced more than prices of yarn.

TABLE 31.—Average advance and decline, over 8-week periods, in prices of carded cotton yarn in New York, hedge offset afforded by cotton futures, and gain or loss on basis, by specified periods, 1936-41 and 1948-53<sup>1</sup>

WHEN PRICES OF YARN ADVANCED<sup>2</sup>

8-week periods— ended	Pro- por- tion of time	Price change	Hedge		Additional		Gain or loss (-) on basis
			Offset <sup>3</sup>	Not offset <sup>4</sup>	Gain <sup>5</sup>	Loss <sup>6</sup>	
<i>1936-41</i>							
July 15-Oct. 14.....	Percent	Cents	Cents	Cents	Cents	Cents	Cents
July 15-Oct. 14.....	86.2	1.03	0.33	0.70	0.18	0.10	0.78
Oct. 15-Dec. 14.....	76.9	1.84	.40	1.35	.03	.08	1.30
Dec. 15-Mar. 14.....	61.0	.68	.25	.43	.02	.29	.16
Mar. 15-May 14.....	47.2	2.45	.74	1.71	.05	.04	1.72
May 15-July 14.....	49.0	1.03	.63	.40	.05	.45	0
Average.....	60.7	1.30	.44	.86	.07	.18	.75
<i>1948-53</i>							
July 15-Oct. 14.....	65.6	3.80	1.54	2.06	.28	.10	2.24
Oct. 15-Dec. 14.....	72.5	2.75	1.19	1.56	.51	.52	1.55
Dec. 15-Mar. 14.....	53.6	2.09	.86	1.23	.50	.48	1.31
Mar. 15-May 14.....	20.0	.10	.05	.05	.17	.57	-.35
May 15-July 14.....	51.1	.07	.06	.01	.40	.87	-.46
Average.....	54.0	2.23	.95	1.28	.42	.45	1.25

WHEN PRICES OF YARN DECLINED

<i>1936-41</i>							
July 15-Oct. 14.....	33.8	1.77	1.12	0.65	0.05	0.13	-0.73
Oct. 15-Dec. 14.....	23.1	1.69	.58	1.11	0	.06	-1.17
Dec. 15-Mar. 14.....	39.0	1.95	.08	1.87	0	.28	-2.15
Mar. 15-May 14.....	52.8	1.29	.15	1.14	.01	.18	-1.31
May 15-July 14.....	51.0	1.78	.61	1.17	.01	.42	-1.58
Average.....	39.3	1.70	.48	1.22	.01	.23	-1.44
<i>1948-53</i>							
July 15-Oct. 14.....	34.4	4.77	1.15	3.62	0	.36	-3.98
Oct. 15-Dec. 14.....	27.5	2.02	.55	1.47	.29	1.07	-2.25
Dec. 15-Mar. 14.....	46.4	2.48	.99	1.49	.04	.22	-1.67
Mar. 15-May 14.....	80.0	1.55	.14	1.41	.15	1.06	-2.32
May 15-July 14.....	48.9	1.27	.34	.93	.05	.46	-1.34
Average.....	46.0	2.34	.61	1.73	.10	.62	-2.25

<sup>1</sup> Year ended July. See footnote 1, table 30.

<sup>2</sup> See footnote 2, table 30.

<sup>3</sup> See footnote 3, table 30.

<sup>4</sup> See footnote 4, table 30.

<sup>5</sup> See footnote 5, table 30.

<sup>6</sup> See footnote 6, table 30.



TABLE 32.—Average advance and decline, over 4-, 8-, and 16-week periods, in prices of carded cotton yarn in New York, hedge offset afforded by cotton futures, and gain or loss on basis, 1936-41 and 1948-53<sup>1</sup>

WHEN PRICES OF YARN ADVANCED<sup>2</sup>

Year ended July and length of period—	Proportion of time	Price change	Hedge		Additional		Gain or loss (—) on basis
			Offset <sup>3</sup>	Not offset <sup>4</sup>	Gain <sup>5</sup>	Loss <sup>6</sup>	
<i>1936-41</i>							
4 weeks.....	Percent 60.3	Cents 0.80	Cents 0.29	Cents 0.51	Cents 0.07	Cents 0.12	Cents 0.46
8 weeks.....	60.7	1.30	.44	.86	.07	.18	.75
16 weeks.....	62.5	2.17	.84	1.33	.08	.10	1.31
<i>1948-53</i>							
4 weeks.....	63.4	1.00	.43	.57	.31	.34	.54
8 weeks.....	54.0	2.23	.95	1.28	.42	.45	1.25
16 weeks.....	45.4	4.72	2.03	2.69	.17	.63	2.23

WHEN PRICES OF YARN DECLINED

<i>1936-41</i>							
4 weeks.....	39.7	1.01	0.31	0.70	0.04	0.13	-0.79
8 weeks.....	39.3	1.70	.48	1.22	.01	.23	-1.44
16 weeks.....	37.5	2.94	.80	2.14	.03	.32	-2.43
<i>1948-53</i>							
4 weeks.....	36.6	1.64	.39	1.25	.15	.45	-1.55
8 weeks.....	46.0	2.34	.61	1.73	.10	.62	-2.25
16 weeks.....	54.6	3.56	.90	2.66	.09	1.07	-3.64

<sup>1</sup> Based on prices of carded cotton yarn (10s) in *Daily News Record*, adjusted to approximate the value of the quantity of yarn obtainable from a pound of cotton, and closing prices of cotton futures in New York for the near-active month, usually on Wednesday or Thursday of each week. Gains and losses are calculated for long interests on yarn hedged by sales of futures contracts.

<sup>2</sup> Periods showing no change in prices of yarn are also included.

<sup>3</sup> Prices of yarn and of futures contracts advanced and declined the same amounts.

<sup>4</sup> Extent to which advances or declines in prices of yarn exceeded the corresponding advances or declines in prices of futures contracts.

<sup>5</sup> Extent to which prices of futures declined more than prices of yarn.

<sup>6</sup> Extent to which prices of futures advanced more than prices of yarn.

*Cotton fabric.*—Whether, and to what extent, manufacturers, who have long- or short-market interests in cotton fabrics, can reduce or offset their risks of loss and possibilities of gain from changes in spot prices of the fabrics by the use of cotton futures as hedges, may be indicated by comparisons of changes in spot prices of the fabrics with the corresponding changes in spread between spot prices and prices of cotton futures. As indicated for cotton yarn, changes in spread less than the corresponding changes in prices of the fabrics indicate that gains and losses from changes in spot prices could have been reduced or offset, at least in part, by the use of cotton futures as hedges. Changes in the spread, equal to or greater than the corresponding changes in prices of the fabrics, mean that gains and losses

TABLE 33.—Average advance and decline, over 8-week periods, in spot prices of combed cotton yarn, hedge offset afforded by cotton futures, and gain or loss on basis, 1936-41 and 1948-53<sup>1</sup>

WHEN SPOT PRICES ADVANCED<sup>2</sup>

Year ended July—	Pro- portion of time	Price change	Hedge		Additional		Gain or loss (—) on basis
			Offset <sup>3</sup>	Not offset <sup>4</sup>	Gain <sup>5</sup>	Loss <sup>6</sup>	
	Percent	Cents	Cents	Cents	Cents	Cents	Cents
1936.....	46.2	1.20	0.56	0.64	0.08	0.12	0.60
1937.....	71.2	1.56	.48	1.08	.10	.10	1.08
1938.....	36.5	.67	.29	.38	.10	.11	.37
1939.....	67.3	.50	.23	.27	.01	.20	.08
1940.....	60.4	1.18	.52	.66	.01	.29	.38
1941.....	78.8	2.68	.64	2.04	.01	0	2.05
Average.....	60.1	1.41	.47	.94	.05	.13	.86
1948.....	65.3	3.11	1.07	2.04	.78	.64	2.18
1949.....	2.0	0	0	0	0	.66	-.66
1950.....	68.6	1.17	.36	.81	.01	.43	.39
1951.....	90.6	6.51	2.29	4.22	0	.02	4.20
1952.....	29.8	2.46	2.18	.28	.06	1.27	-.93
1953.....	35.3	1.33	.70	.63	1.05	.17	1.51
Average.....	46.1	3.00	1.21	1.79	.35	.45	1.69

WHEN SPOT PRICES DECLINED

1936.....	53.8	1.77	0.18	1.59	0.05	0.28	-1.82
1937.....	28.8	2.53	.92	1.61	.08	.05	-1.58
1938.....	63.5	2.17	1.04	1.13	.01	.03	-1.15
1939.....	32.7	.73	.23	.50	.02	.16	-.64
1940.....	39.6	1.47	.27	1.20	0	.04	-1.24
1941.....	21.2	3.82	.02	3.80	0	1.83	-5.63
Average.....	39.9	1.96	.51	1.45	.02	.27	-1.70
1948.....	34.7	1.72	.91	.81	.26	.71	-1.26
1949.....	98.0	2.95	.23	2.72	0	.54	-3.26
1950.....	31.4	1.00	0	1.00	0	.80	-1.80
1951.....	9.4	3.20	1.17	2.03	0	0	-2.03
1952.....	70.2	3.82	.76	3.07	.10	.65	-3.62
1953.....	64.7	1.58	.63	.95	.45	.13	-.63
Average.....	53.9	2.50	.50	2.00	.15	.51	-2.36

<sup>1</sup> Based on prices of combed cotton yarn (20s), as reported in *Daily News Record*, adjusted to approximate the value of the quantity of yarn obtainable from a pound of cotton, and closing prices of New York futures for the near-active month, usually on Wednesday or Thursday of each week. Gains and losses are calculated from long interests in the yarn hedged by sales of futures contracts.

<sup>2</sup> Periods showing no changes in spot prices are also included.

<sup>3</sup> Price of the spot commodity and of futures advanced and declined the same amounts.

<sup>4</sup> Extent to which advances or declines in spot prices exceeded the corresponding advances or declines in prices of futures contracts.

<sup>5</sup> Extent to which prices of futures declined more than prices of the spot commodity.

<sup>6</sup> Extent to which prices of futures advanced more than prices of the spot commodity.

from changes in prices could not have been reduced or offset by the use of cotton futures as hedges.

Data relating to prices of the quantity of cotton print cloth (39" x 80) obtainable from a pound of cotton and to prices of cotton futures show that, during the 6 years ended July 1941 and the 6 years ended July 1953, changes over 8-week periods in prices of this fabric in New York averaged somewhat greater than the corresponding changes in spread between these prices and prices of cotton futures in New York (fig. 8). Changes in spot prices of print cloth exceeded the corresponding changes in spread between prices of this fabric and prices of cotton futures about 56 percent of the time. Advances in spot prices exceeded the corresponding changes in spread about 73 percent of the time and declines in spot prices exceeded the corresponding changes in spread 46 percent of the time. These proportions varied considerably from year to year and from one part of the year to another.

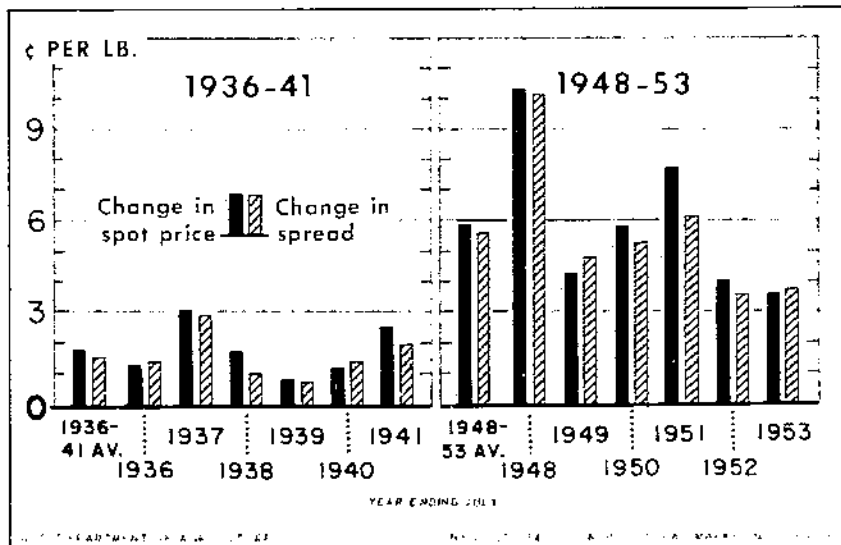


FIGURE 8. Average changes over 8-week periods in prices in New York of the quantity of cotton print cloth (39" x 80) obtainable from a pound of cotton and in spread between prices of this fabric and prices of cotton futures in New York, 1936-41 and 1948-53.

Average changes in prices of print cloth and in spread between prices of this fabric and prices of cotton futures varied widely from one period to another. Changes over 8-week periods in prices of the fabric averaged only slightly greater than the corresponding changes in spread between prices of the fabric and prices of cotton futures.

Changes over 8-week periods in prices of cotton print cloth showed declines almost half of the time during the prewar period but the declines averaged less than the advances (table 34). In the postwar period, changes over 8-week periods in prices of print cloth showed declines 52 percent of the time and the declines averaged greater than the advances. If the futures used as hedges had approximated the quantity of cotton required to produce the fabrics hedged, during the prewar and postwar periods, only about one-fourth of the gains

on long market interests and losses on short-market interests in print cloth from advances in prices of the spot commodity could have been offset by the use of cotton futures as hedges. Additional gains and losses, as a result of prices of futures advancing more or declining less than prices of the spot commodity, were such that gains and losses from changes in basis averaged about 85 percent of the corresponding advances in spot prices of print cloth.

Similar data relating to declines in prices of print cloth, over 8-week periods, show that, for the prewar period, about one-fourth of the losses on long market interests and gains on short-market interests in print cloth from declines in prices of the spot commodity could have been offset by the use of cotton futures as hedges. In the postwar period, only about 12 percent of the losses and gains from declines in prices of print cloth could have been offset by the use of futures as hedges. Additional gains and losses on hedged positions, as a result of prices of futures advancing more and declining more than spot prices of the fabrics, were such that, during the prewar period, changes in spread between prices of the spot commodity and prices of cotton futures averaged 90 percent of the declines in spot prices. During the postwar period, the changes in spread averaged more than the declines in spot prices.

Net cotton costs apparently account for less than half the value of print cloth (13). If futures used as hedges had represented two or three times the cotton required to produce the print cloth, hedge offsets would have averaged about two or three times as great as indicated by the data in table 34. Additional gains and losses, as a result of prices of futures advancing and declining more than prices of the spot commodity, also would have been greater, but gains and losses from changes in basis would have averaged less than those shown in table 34.

Advances and declines, over 8-week periods, in prices of print cloth, during both the prewar and postwar periods, usually were associated with smaller advances and declines, respectively, in prices of cotton futures so that the use of cotton futures as hedges usually would have resulted in gains on long-basis positions and losses on short-basis positions when prices of print cloth advanced, and in losses on long-basis positions and gains on short-basis positions when prices of print cloth declined (table 34).

The extent of the changes, over 8-week periods, in prices of print cloth and the proportions of the gains and losses from these changes that could have been offset by the use of cotton futures as hedges varied from year to year (table 34) and from one part of the year to another (table 35), but no very definite seasonal trends were indicated. Changes in prices of print cloth varied considerably with the length of the period, but the proportion of the changes over 8-week periods that could have been offset by the use of futures as hedges was about the same as the proportions for 4-week and 16-week periods (table 36).

Similar data, relating to sheeting (40" 48 x 44) and to twill (39" 68 x 76), show that changes over 8-week period in prices of the quantities of these fabrics obtainable from a pound of cotton averaged less than those for print cloth, and that the proportions of the changes in spot prices of these fabrics that could have been offset by the use of cotton futures as hedges averaged greater for sheeting and twill than for print cloth (tables 37 and 38).

TABLE 34.—Average advance and decline, over 8-week periods, in prices of cotton print cloth in New York, hedge offset afforded by cotton futures, and gain or loss on basis, 1936-41 and 1948-53<sup>1</sup>

WHEN PRICES OF PRINT CLOTH ADVANCED<sup>2</sup>

Year ended July—	Pro- por- tion of time	Price change	Hedge		Additional		Gain or loss (—) on basis
			Offset <sup>3</sup>	Not offset <sup>4</sup>	Gain <sup>5</sup>	Loss <sup>6</sup>	
	Percent	Cents	Cents	Cents	Cents	Cents	Cents
1936.....	44.2	0.96	0.51	0.45	0.24	0.10	0.59
1937.....	46.2	3.75	.30	3.45	.10	.02	3.53
1938.....	30.8	1.05	.41	.64	.07	.04	.67
1939.....	36.5	.97	.42	.55	.02	.13	.44
1940.....	56.6	1.25	.30	.95	.05	.32	.68
1941.....	93.8	2.66	.73	1.93	.01	.01	1.93
Average.....	50.8	1.94	.48	1.46	.07	.10	1.43
1948.....	40.4	8.01	1.62	6.39	.54	.06	6.87
1949.....	19.2	.90	0	.90	.42	.28	1.04
1950.....	76.9	5.24	.91	4.33	.07	.07	4.33
1951.....	60.5	7.81	2.35	5.46	.01	.38	5.09
1952.....	35.8	3.25	1.94	1.31	.03	.82	.52
1953.....	56.9	3.55	.61	2.94	.66	.02	3.58
Average.....	47.7	5.15	1.26	3.89	.27	.22	3.94

WHEN PRICES OF PRINT CLOTH DECLINED

1936.....	55.8	1.69	0.07	1.62	0.03	0.35	-1.94
1937.....	53.8	2.55	.59	1.96	.01	.52	-2.47
1938.....	69.2	2.02	.97	1.05	.02	.05	-1.08
1939.....	63.5	.76	.14	.62	0	.22	-.84
1940.....	43.4	1.25	.15	1.10	.04	.38	-1.44
1941.....	6.2	.49	.07	.42	0	.87	-1.20
Average.....	49.2	1.63	.40	1.23	.02	.30	-1.51
1948.....	59.6	11.93	1.06	10.87	.10	1.24	-12.01
1949.....	80.8	5.00	.16	4.84	.05	.58	-5.37
1950.....	23.1	7.58	.24	7.34	0	.48	-7.82
1951.....	39.5	7.68	1.86	5.82	.03	.51	-6.30
1952.....	64.2	4.45	1.00	3.45	.13	.72	-4.04
1953.....	43.1	3.63	.64	2.99	.95	.07	-2.11
Average.....	52.3	6.52	.76	5.76	.20	.66	-6.22

<sup>1</sup> Based on prices of print cloth (39" 80 x 80) as reported in *Daily News Record*, adjusted to approximate the value of the quantity of fabric obtainable from a pound of cotton, and closing prices of New York futures for the near-active month, usually on Wednesday or Thursday of each week. Gains and losses are calculated for long interests in print cloth hedged by sales of futures contracts.

<sup>2</sup> Period showing no change in print cloth prices are also included.

<sup>3</sup> Prices of print cloth and of futures contracts advanced and declined the same amounts.

<sup>4</sup> Extent to which advances or declines in prices of print cloth exceeded the corresponding advances or declines in prices of futures contracts.

<sup>5</sup> Extent to which prices of futures declined more than prices of print cloth.

<sup>6</sup> Extent to which prices of futures advanced more than prices of print cloth.

TABLE 35.—Average advance and decline, over 8-week periods, in prices of cotton print cloth in New York, hedge offset afforded by cotton futures, and gain or loss on basis, by specified periods, 1936-41 and 1948-53<sup>1</sup>

WHEN PRICES OF PRINT CLOTH ADVANCED<sup>2</sup>

Period ended—	Pro- por- tion of time	Price change	Hedge		Additional		Gain or loss (-) on basis
			Offset <sup>3</sup>	Not offset <sup>4</sup>	Gain <sup>5</sup>	Loss <sup>6</sup>	
<i>1936-41</i>							
July 15-Oct. 14.....	<i>Percent</i> 63.6	<i>Cents</i> 1.54	<i>Cents</i> 0.32	<i>Cents</i> 1.22	<i>Cents</i> 0.14	<i>Cents</i> 0.03	<i>Cents</i> 1.33
Oct. 15-Dec. 14.....	59.6	2.63	.32	2.31	.05	.10	2.26
Dec. 15-Mar. 14.....	49.4	1.33	.41	.92	0	.26	.66
Mar. 15-May 14.....	32.1	2.72	.55	2.17	.03	0	2.20
May 15-July 14.....	44.0	2.31	1.14	1.17	.10	.07	1.20
Average.....	50.8	1.94	.48	1.46	.07	.10	1.43
<i>1948-53</i>							
July 15-Oct. 14.....	66.2	7.56	1.60	5.96	.32	.06	6.22
Oct. 15-Dec. 14.....	61.5	6.96	1.38	5.58	.36	.46	5.48
Dec. 15-Mar. 14.....	53.5	2.11	1.01	1.10	.21	.31	1.00
Mar. 15-May 14.....	10.6	.51	.05	.46	.13	.12	.47
May 15-July 14.....	33.3	3.05	.94	2.11	.14	.07	2.18
Average.....	47.7	5.15	1.26	3.89	.27	.22	3.94

WHEN PRICES OF PRINT CLOTH DECLINED

<i>1936-41</i>							
July 15-Oct. 14.....	36.4	1.99	1.17	0.82	0.06	0.03	-0.79
Oct. 15-Dec. 14.....	40.4	1.39	.32	1.07	0	.52	-1.59
Dec. 15-Mar. 14.....	50.6	1.95	.07	1.88	0	.22	-2.10
Mar. 15-May 14.....	67.9	1.12	.14	.98	0	.43	-1.41
May 15-July 14.....	56.0	1.70	.51	1.19	.03	.33	-1.49
Average.....	49.2	1.63	.40	1.23	.02	.30	-1.51
<i>1948-53</i>							
July 15-Oct. 14.....	33.8	7.95	1.24	6.71	.21	.14	-6.64
Oct. 15-Dec. 14.....	38.5	5.19	.29	4.90	.66	1.57	-5.81
Dec. 15-Mar. 14.....	46.5	4.53	1.18	3.35	.22	.24	-3.37
Mar. 15-May 14.....	89.4	8.16	.18	7.98	.10	1.05	-8.93
May 15-July 14.....	66.7	6.19	.99	5.20	.04	.43	-5.59
Average.....	52.3	6.52	.76	5.76	.20	.66	-6.22

<sup>1</sup> Year ended July. See footnote 1, table 34.

<sup>2</sup> See footnote 2, table 34.

<sup>3</sup> See footnote 3, table 34.

<sup>4</sup> See footnote 4, table 34.

<sup>5</sup> See footnote 5, table 34.

<sup>6</sup> See footnote 6, table 34.

TABLE 36.—Average advance and decline, over 4-, 8-, and 16-week periods, in prices of cotton print cloth in New York, hedge offset afforded by cotton futures, and gain or loss on basis, 1936-41 and 1948-53 <sup>1</sup>

WHEN PRICES OF PRINT CLOTH ADVANCED <sup>2</sup>

Year ended July and length of period	Pro- por- tion of time	Price change		Hedge		Additional		Gain or loss (-) on basis
				Offset <sup>3</sup>	Not offset <sup>4</sup>	Gain <sup>5</sup>	Loss <sup>6</sup>	
<i>1936-41</i>								
4 weeks.....	55.3	1.10	0.29	0.81	0.07	0.07	0.81	1.43
8 weeks.....	50.8	1.94	.48	1.46	.07	.10	1.43	2.64
16 weeks.....	44.7	3.52	.86	2.66	.05	.07	2.64	
<i>1948-53</i>								
4 weeks.....	51.0	2.84	.65	2.19	.26	.24	2.21	3.94
8 weeks.....	47.7	5.15	1.26	3.89	.27	.22	3.94	7.48
16 weeks.....	44.7	9.80	2.23	7.57	.42	.51	7.48	

WHEN PRICES OF PRINT CLOTH DECLINED

<i>1936-41</i>								
4 weeks.....	44.7	1.08	0.30	0.78	0.02	0.16	-0.92	-1.51
8 weeks.....	49.2	1.63	.40	1.23	.02	.30	-1.51	-2.23
16 weeks.....	55.3	2.45	.60	1.85	.02	.40	-2.23	
<i>1948-53</i>								
4 weeks.....	49.0	4.11	.46	3.65	.00	.38	-3.94	-6.22
8 weeks.....	52.3	6.52	.76	5.76	.20	.66	-6.22	-11.03
16 weeks.....	55.3	10.99	.82	10.17	.12	.98	-11.03	

<sup>1</sup> Based on prices of cotton print cloth (39" 80 x 80) as reported in *Daily News Record*, adjusted to approximate the value of the quantity of fabric obtainable from a pound of cotton, and on closing prices of New York futures for the near-active month, usually on Wednesday or Thursday of each week. Gains and losses are calculated for long-interests in print cloth hedged by sales of futures contracts.

<sup>2</sup> Periods showing no change in prices of print cloth also included.

<sup>3</sup> Prices of print cloth and of futures contracts advanced and declined the same amounts.

<sup>4</sup> Extent to which advances or declines in prices of print cloth exceeded the corresponding advances or declines in prices of futures contracts.

<sup>5</sup> Extent to which prices of futures declined more than prices of print cloth.

<sup>6</sup> Extent to which prices of futures advanced more than prices of print cloth.

TABLE 37.—Average advance and decline, over 8-week periods, in spot prices of cotton sheeting, hedge offset afforded by cotton futures, and gain or loss on basis, 1936-41 and 1948-53<sup>1</sup>

WHEN SPOT PRICES ADVANCED<sup>2</sup>

Year ended July—	Proportion of time	Price advance	Hedge		Additional		Gain or loss (—) on basis
			Offset <sup>3</sup>	Not offset <sup>4</sup>	Gain <sup>5</sup>	Loss <sup>6</sup>	
	Percent	Cents	Cents	Cents	Cents	Cents	Cents
1936.....	50.0	1.18	0.56	0.62	0.24	0.09	0.77
1937.....	76.0	1.81	.51	1.30	.11	.02	1.39
1938.....	17.3	.20	.14	.06	.01	.39	-.32
1939.....	59.6	.40	.23	.17	.03	.29	-.09
1940.....	37.7	1.96	.32	1.64	.02	.20	1.46
1941.....	82.5	2.72	.62	2.10	0	0	2.10
Average.....	52.5	1.55	.45	1.10	.08	.12	1.06
1948.....	44.2	3.64	1.40	2.24	.71	.18	2.77
1949.....	25.0	.29	.07	.22	.03	.36	-.11
1950.....	46.9	3.63	1.17	2.46	0	.12	2.34
1951.....	64.7	4.12	.98	3.14	.07	.07	3.14
1952.....	18.9	2.25	2.03	.22	0	2.37	-2.15
1953.....	54.9	1.05	.56	.49	.37	.10	.76
Average.....	38.9	2.39	.97	1.42	.28	.38	1.32

WHEN SPOT PRICES DECLINED

1936.....	50.0	1.80	0.08	1.72	0	0.28	-2.00
1937.....	24.0	3.74	1.22	2.52	0	0	-2.52
1938.....	82.7	1.59	.83	.76	.01	.10	-.85
1939.....	40.4	.52	.18	.34	.01	.06	-.39
1940.....	62.3	.83	.15	.68	.02	.50	-1.16
1941.....	17.5	.37	.07	.30	0	.05	-.35
Average.....	47.5	1.42	.44	.98	.01	.21	-1.18
1948.....	55.8	3.71	.74	2.97	.34	1.30	-3.93
1949.....	75.0	1.76	.32	1.44	0	.56	-2.00
1950.....	53.1	3.68	0	3.68	0	.58	-4.26
1951.....	35.3	6.46	3.09	3.37	1.55	0	-1.82
1952.....	81.1	4.12	.78	3.34	.06	.76	-4.04
1953.....	45.1	.62	.51	.11	1.40	.05	1.24
Average.....	61.1	2.99	.63	2.36	.34	.66	-2.68

<sup>1</sup> Based on prices of cotton sheeting (40" x 48 x 44) as reported in *Daily News Record*, adjusted to approximate the value of the quantity of sheeting obtainable from a pound of cotton, and on closing prices of New York futures for the near-active month, usually on Wednesday or Thursday of each week. Gains and losses are calculated from long interests in sheeting hedged by sales of futures contracts.

<sup>2</sup> Periods showing no changes in spot prices are also included.

<sup>3</sup> Prices of the spot commodity and of futures advanced and declined the same amounts.

<sup>4</sup> Extent to which advances or declines in spot prices exceeded the corresponding advances or declines in prices of futures contracts.

<sup>5</sup> Extent to which prices of futures declined more than prices of the spot commodity.

<sup>6</sup> Extent to which prices of futures advanced more than prices of the spot commodity.



TABLE 38.—Average advance and decline, over 8-week periods, in spot prices of cotton twill, hedge offset afforded by cotton futures, and gain or loss on basis, 1936-41 and 1948-53<sup>1</sup>

WHEN SPOT PRICES ADVANCED<sup>2</sup>

Year ended July—	Pro- por- tion of time	Price change	Hedge		Additional		Gain or loss (-) on basis
			Offset <sup>3</sup>	Not offset <sup>4</sup>	Gain <sup>5</sup>	Loss <sup>6</sup>	
	<i>Percent</i>	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>
1936	32.7	0.73	0.54	0.19	0.03	0.34	-0.12
1937	55.2	1.29	.23	1.06	.15	0	1.21
1938	36.5	.85	.09	.76	.27	.02	1.01
1939	55.8	.39	.21	.18	.03	.34	-.13
1940	39.6	1.92	.27	1.65	.12	.02	1.75
1941	87.2	2.05	.41	1.64	.01	.04	1.61
Average	49.1	1.25	.29	.96	.08	.13	.91
1948	84.6	.18	.17	.01	.82	1.51	-.68
1949	24.3	.14	.09	.05	.27	.10	.16
1950	100.0	.61	.22	.39	0	.45	-.06
1951	64.7	4.55	1.65	2.90	0	.86	2.04
1952	26.4	4.09	2.78	1.31	0	.62	.69
1953	97.3	1.34	.35	.99	1.15	.20	1.94
Average	61.7	1.58	.70	.88	.56	.78	.66

WHEN SPOT PRICES DECLINED

1936	67.3	1.28	0.14	1.14	0.09	0.26	-1.31
1937	44.8	3.25	.09	2.26	.11	0	-2.15
1938	63.5	2.49	.94	1.55	.01	.21	-1.75
1939	44.2	.78	.17	.61	0	.08	-.69
1940	60.4	.87	.07	.80	.04	.65	-1.41
1941	12.8	.70	.06	.64	0	.06	-.70
Average	50.9	1.55	.39	1.16	.04	.28	-1.40
1948	15.4	5.13	1.39	3.74	.07	.02	-3.69
1949	75.7	3.15	.26	2.89	.07	.53	-3.35
1950	0	0	0	0	0	0	0
1951	35.3	2.60	.67	1.93	1.70	.06	-.29
1952	73.6	6.20	.92	5.28	.01	.75	-6.02
1953	2.7	4.55	0	4.55	0	.11	-4.66
Average	38.3	4.62	.71	3.91	.26	.52	-4.17

<sup>1</sup> Based on prices of cotton twill (39" 68 x 80) as reported in *Daily News Record*, adjusted to approximate the value of the quantity of twill obtainable from a pound of cotton, and on closing prices of New York futures for the near-active month, usually on Wednesday or Thursday of each week. Gains and losses are calculated from long interests in twill hedged by sales of futures contracts.

<sup>2</sup> Periods showing no changes in spot prices are also included.

<sup>3</sup> Prices of spot commodity and of futures advanced and declined the same amounts.

<sup>4</sup> Extent to which advances or declines in spot prices exceed the corresponding advances or declines in prices of futures contracts.

<sup>5</sup> Extent to which prices of futures declined more than prices of the spot commodity.

<sup>6</sup> Extent to which prices of futures advanced more than prices of the spot commodity.

A comparison of the extent of premiums for print-cloth prices over prices of cotton futures with changes in these premiums over the succeeding 8-week period showed little, if any, consistent relationship. Apparently differences in these premiums could not have been used effectively in estimating gains and losses from the use of cotton futures as hedges.

### **Basis Risks Sometimes Greater Than Price Risks**

Data already presented clearly show that changes in basis for spot cotton averaged substantially less than the corresponding changes in prices of spot cotton, and that risks of losses and the possibilities of gains usually could have been reduced considerably by the use of futures as hedges. But these data also show that changes in basis sometimes were as great as or greater than the corresponding changes in prices of spot cotton, so that gains and losses from changes in basis at such times would have been as great as or greater than the corresponding changes in spot prices. During the 6-year periods ended July 1941 and 1953, changes over 8-week periods in basis for Middling  $1\frac{1}{16}$ -inch cotton in New Orleans, calculated from near-month futures in New Orleans, equaled or exceeded the corresponding changes in spot prices about 26 percent of the time.

Changes in basis equaled or exceeded the corresponding advances in spot prices 17 percent of the time and they equalled or exceeded the corresponding declines in spot prices 33 percent of the time. The times when the use of futures contracts as hedges would not have reduced the gains and losses from changes in prices usually were confined to periods for which changes in spot prices were relatively small as compared with changes in other periods.

Similar data for cotton yarn show that changes over 8-week periods in spread between prices of the quantity of carded cotton yarn (10s) obtainable from a pound of cotton and prices of cotton futures in New York, during the 6-year periods ended July 1941 and 1953, were as great as or greater than the corresponding changes in spot prices of the commodity 37 percent of the time. Changes in these spreads equaled or exceeded the corresponding advances in spot prices of the yarn 22 percent of the time and they equalled or exceeded the corresponding declines in spot prices 48 percent of the time.

These data mean that risks of losses and possibilities of gains from changes in spot prices of cotton yarn could not have been reduced or offset by the use of cotton futures as hedges during a substantial proportion of the time in both the prewar and postwar periods. But, as indicated earlier in this bulletin, net cost of the cotton used accounts for about one-half of the value of the carded yarn produced. If the futures used as hedges had represented about twice the quantity of cotton required to produce the yarn hedged, the proportion of the time that gains and losses from changes in basis would have equaled or exceeded the corresponding changes in spot prices would have been reduced.

Data relating to prices of cotton print cloth (39" 80 x 80) and to prices of cotton futures contracts show that, during the 6-year periods ended July 1941 and 1953, changes over 8-week periods in spread between spot prices of this fabric and prices of cotton futures equaled or exceeded the corresponding changes in spot prices of the fabric about 44 percent of the time. Changes in the spread equaled or exceeded the corresponding advances in spot prices of print cloth 27

percent of the time and they equaled or exceeded the corresponding declines in spot prices 54 percent of the time.

It is apparent from these data that during a substantial proportion of the time, during both the prewar and postwar periods, risks of losses and possibilities of gains from changes in prices of print cloth could not have been reduced or offset by the use of cotton futures as hedges. Changes in spread between prices of cotton sheeting and twill and prices of cotton futures were relatively less than those indicated for print cloth. Cotton used apparently accounts for less than half the value of the fabrics, and if the futures used as hedges had represented two or three times the quantity of cotton required to produce these fabrics, the proportion of the time that gains and losses from changes in basis would have equaled or exceeded those from changes in spot prices would have been reduced.

## GAINS AND LOSSES FROM TRANSFERRING HEDGES

Risks of losses and possibilities of gains from transferring hedges may also be an important consideration in connection with the use of futures as hedges. It is extremely difficult to learn just how large a part such transfers play in the hedging operations for any given time. But the maintenance of hedged positions for the large volumes of cotton carried for several months following the harvesting season and from one season to another normally requires considerable transferring of hedges from one futures contract to another.

These transfers may involve futures contracts for the same markets but maturing in different months, and contracts for different markets but maturing in the same or different months. The transfer of hedges from futures contracts maturing in near months to those maturing in more distant months in the same market are made for long-basis positions by buying near-month futures and by selling, as nearly simultaneously as is feasible, futures contracts maturing in more distant months. For short-basis positions, such transfers are made by selling near-month futures and by buying, as nearly simultaneously as is feasible, futures for the more distant months. Similarly, transfers may be made involving futures contracts for different markets but maturing in the same or in different months.

Gains and losses from transferring hedges arise from differences between prices of the futures contracts involved. When prices of futures contracts from which hedges are transferred are high in relation to those to which hedges are transferred, the transfers result in losses on long-basis positions and in gains on short-basis positions. For example, when prices of cotton futures in New York for delivery in July are substantially higher than those for delivery in October, as was the case in the spring of 1952, transfers of hedges from July to October futures would have resulted in losses on long-basis positions and gains on short-basis positions. On the other hand, such transfers when prices of July futures are below those for October futures, as was the case in June 1953, would have resulted in gains on long-basis positions and in losses on short-basis positions.

Such gains and losses from transferring hedges refer to the differences between the prices of futures contracts involved at the time of transfer and not to net gains or losses from the whole hedging opera-

tions, including the transfer of hedges along with changes in basis up to the date of liquidation of the hedged positions.

The extent of the gains and losses involved in transferring hedges from one futures contract to another may be indicated by data showing differences between the prices of the futures contracts involved. With abundant supplies of cotton readily available in the market and with no material changes in the relative supply-and-demand situation for cotton in prospect, prices of futures contracts for the more distant months normally would be expected to exceed prices of those for the near-active months by amounts approximately equal to the differences in costs of carrying the commodity to the dates of maturity of the futures contracts (19). Under such conditions, gains and losses from transferring hedges would approximate the differences in carrying charges. But in most instances, particularly in recent years, only a small part, if any, of the differences between prices of near-month and more distant month cotton futures may be accounted for by differences in carrying charges.

Data relating to differences between prices of cotton futures in New York for the near-month and those for more distant months show that, during the 6 years ended July 1941 and the 6 years ended July 1953, prices of futures for the near-active months usually were higher than those for the more distant months (tables 39 and 40). This means that most of the time during the prewar and postwar periods the transfer of hedges from near-month to more distant month futures would have resulted in losses on long-basis positions and in gains on short-basis positions. Available information on costs of carrying cotton does not supply a satisfactory basis for making accurate adjustments for carrying charges.

Consequently, the data here given have not been adjusted for the influence of carrying costs on the differences between prices of near-month and more distant-month futures. Such adjustments would reduce the amounts by which prices of futures for the more distant months exceed those for the near months and would increase the extent to which prices of futures for the more distant months were below those for the near months by amounts equal to the differences in carrying charges.

During the 6 years ended July 1941, prices of cotton futures in New York for the near-active months exceeded those for the more distant months so that the transfer of hedges from the near to the more distant month futures would have resulted in losses on long-basis positions and gains on short-basis positions more than two-thirds of the time, and the amounts of the losses and gains would have averaged 0.45 cent a pound (table 41). These losses and gains would have exceeded 0.25 cent a pound about 40 percent of the time and they would have exceeded 0.75 cent a pound about 14 percent of the time. Prices of near-month futures were lower than those for more distant months so that the transfer of hedges from the near to more distant month futures would have resulted in gains on long-basis positions and in losses on short-basis positions less than a third of the time, and the gains and losses would have averaged about 0.12 cent a pound.

In the postwar period, August 1947 to July 1953, prices of cotton futures in New York for the near-active month were higher than those for the more distant months so that the transfer of hedges from the near to more distant month futures would have resulted in losses on

TABLE 39.—Average amounts by which prices of cotton futures in New Orleans for the more distant months differed from those for near-active months, by active month and year, 1936-41<sup>1</sup>

Active futures month	Year ended July—						
	1936	1937	1938	1939	1940	1941	Average
October to—	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>
December.....	-0.05	0.02	0.05	-0.01	-0.17	0.02	-0.02
March.....	-.03	.06	.15	-.07	-.36	-.03	-.05
May.....	-.01	.07	.22	-.11	-.52	-.15	-.08
December to—							
March.....	-.07	-.03	-.01	-.12	-.18	-.01	-.07
May.....	-.08	-.03	.02	-.28	-.35	-.09	-.14
July.....	-.11	-.08	.04	-.42	-.55	-.28	-.23
March to—							
May.....	-.25	-.11	.05	-.25	-.33	-.03	-.15
July.....	-.48	-.23	.10	-.53	-.73	-.18	-.34
October.....	-.73	-.65	.16	-.82	-1.43	-.68	-.69
May to—							
July.....	-.32	-.09	.05	-.24	-.26	-.04	-.15
October.....	-.87	-.51	.12	-.60	-.92	-.11	-.48
December.....	-.87	-.48	.14	-.66	-1.08	-.12	-.51
July to—							
October.....	-.80	.05	.04	-.71	-.90	.18	-.36
December.....	-.82	.12	.07	-.90	-1.02	.26	-.38
March.....	-.81	.18	.12	-1.03	-1.23	.29	-.41

<sup>1</sup> Minus (-) means that prices of futures for the more distant months were lower than prices for the near-active month.

long-basis positions and gains on short-basis positions about three-fourths of the time, and the gains and losses would have averaged 1.73 cents a pound (table 42). These losses and gains would have exceeded 1.10 cents a pound about 33 percent of the time and they would have exceeded 3.10 cents a pound about 20 percent of the time. Prices of near-month futures were lower than those for more distant months so that the transfer of hedges from the near to more distant month futures would have resulted in gains on long-basis positions and in losses on short-basis positions less than one-fourth of the time, and the gains and losses would have averaged 0.28 cent a pound.

The proportion of the time that gains and losses would have been sustained from the transfer of the hedges from near to more distant month futures, and the amounts of these gains and losses, vary widely from year to year and from one part of the season to another. In recent years, gains and losses would have been greatest for the transfer of hedges from near-month futures for delivery in the old-crop year to more distant month futures maturing in the new-crop year. During the 6 years ended July 1941, the transfer of hedges from near-month futures maturing in the old-crop year to more distant futures maturing in the new-crop year would have resulted in losses on long-basis positions, and in gains on short-basis positions about 73 percent of the time, and the losses and gains would have averaged 0.78 cent a pound. The transfer of hedges from near-month to more distant month futures, all maturing during the same crop year, would have resulted in losses on long-basis positions and in gains on short-basis

TABLE 40.—Average amounts by which prices of cotton futures in New Orleans for the more distant months differed from those for near-active months, by active month and year, 1948-53<sup>1</sup>

Active futures month	Year ended July—						Average
	1948	1949	1950	1951	1952	1953	
October to—	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>
December.....	-0.32	-0.11	-0.05	-0.09	-0.08	0.02	-0.10
March.....	-.38	-.21	-.06	-.02	-.04	.05	-.11
May.....	-.62	-.38	-.15	-.14	-.11	-.06	-.24
December to—							
March.....	.18	-.03	-.01	-.14	-.23	.32	.02
May.....	.05	-.26	-.07	-.46	-.37	.43	-.11
July.....	-.73	-1.34	-.48	-.99	-.91	.21	-.71
March to—							
May.....	-.06	-.20	(?)	-.48	-.31	.41	-.11
July.....	-.96	-1.19	-.53	-.97	-.89	.72	-.64
October.....	-3.66	-3.84	-2.29	-3.85	-3.42	.64	-2.74
May to—							
July.....	-.65	-.92	.14	-.55	-.88	.13	-.45
October.....	-3.87	-3.88	-1.42	-5.17	-3.65	.15	-2.97
December.....	-4.50	-4.11	-1.60	-5.81	-3.96	.22	-3.29
July to—							
October.....	-3.29	-3.55	-.87	-6.79	-2.43	.07	-2.81
December.....	-3.75	-3.74	-.97	-7.16	-2.67	.11	-3.03
March.....	-4.10	-3.85	-.94	-7.09	-2.81	.20	-3.10

<sup>1</sup> Minus (-) means that prices of futures for the more distant months were lower than prices for the near-active month.

<sup>2</sup> Less than 0.005 cent.

positions about 65 percent of the time, and the gains and losses would have averaged 0.14 cent a pound (table 41).

During the 6 years ended July 1953, the transfer of hedges from near-month futures maturing in the old-crop year to more distant futures maturing in the new-crop year would have resulted in losses on long-basis positions and in gains on short-basis positions 85 percent of the time, and the losses and gains would have averaged 3.35 cents a pound. The transfer of hedges from near to more distant month futures maturing in the same crop year would have resulted in losses on long-basis positions and in gains on short-basis positions about 69 percent of the time, and the losses and gains would have averaged 0.33 cent a pound (table 42). The proportion of the time that transferring hedges from near to more distant month futures, maturing in different crop years, would have resulted in gains on long-basis positions and in losses on short-basis positions would have been less, and the average amounts of the gains and losses would have been greater, than from transfers of hedges from near to more distant month futures, maturing in the same crop year (tables 41 and 42).

Differences between prices of cotton futures contracts in different markets usually are not great. During the 6 years ended July 1953, prices of cotton futures in New York averaged somewhat higher than those in New Orleans. Prices of New York futures for the near-active month exceeded the corresponding prices in New Orleans 0.12 or more cent a pound about one-fourth of the time. They were

TABLE 41.—Differences between prices of cotton futures in New York for delivery in specified months, 1936-41 <sup>1</sup>

Item	Differences between prices of futures for delivery in—								
	October and —			December and—			March and—		
	Dec.	Mar.	May	Mar.	May	July	May	July	Oct.
Change in cents per pound:	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>
Under -.75			1			1		2	38
-.75 to -.66						2	1	8	6
-.65 to -.56		1	4			3		12	8
-.55 to -.46			8			4	1	7	6
-.45 to -.36		9	9		7	9	5	3	2
-.35 to -.26	1	7	4	1	10	8	12	10	
-.25 to -.16	9	8	3	11	6	3	13	14	
-.15 to -.06	16	9	6	16	12	8	22	6	
-.05 to 0.04	32	9	8	16	7	4	13	1	
0.05 to 0.14	19	23	11	8	9	8	8	11	3
0.15 to 0.24	2	10	21		1			1	10
0.25 and over		3	4			2			2
Total	79	79	79	52	52	52	75	75	75
Gain <sup>2</sup>	38	40	38	15	10	11	17	13	15
Loss <sup>2</sup>	35	38	38	36	37	41	58	62	60
Average difference	<i>Cents</i> 0.08	<i>Cents</i> 0.18	<i>Cents</i> 0.25	<i>Cents</i> 0.10	<i>Cents</i> 0.18	<i>Cents</i> 0.28	<i>Cents</i> 0.17	<i>Cents</i> 0.37	<i>Cents</i> 0.76
Gain	.06	.13	.17	.05	.10	.11	.04	.10	.19
Loss	.12	.24	.36	.12	.23	.33	.21	.43	.91
Maximum:									
Gain	.15	.31	.37	.09	.15	.17	.09	.15	.44
Loss	.35	.57	.79	.26	.44	.76	.68	1.47	1.57

Item	Differences between prices of futures for delivery in—						Total	Oct., Dec., Mar., and May	Mar., May, July, and Oct.
	May and—			July and—					
	July	Oct.	Dec.	Oct.	Dec.	Mar.			
Change in cents per pound:	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>
Under -1.15.....		2	2	2	5	8	33		17
-1.15 to -1.06.....		1	5	3	1	4	18		8
-1.05 to -0.96.....		3	1	2	5	3	20		11
-0.95 to -0.86.....		4	5	2	4	2	22		11
-0.85 to -0.76.....		5	4	5	3	3	33	1	20
-0.75 to -0.66.....		5	3	3	4	3	35	1	14
-0.65 to -0.56.....		8	10	5	3	2	56	4	21
-0.55 to -0.46.....		4	2	3			35	9	13
-0.45 to -0.36.....	3	1	1				49	21	3
-0.35 to -0.26.....	14	1	1				69	26	1
-0.25 to -0.16.....	10	1	2				80	22	1
-0.15 to -0.06.....	8	7	5	2	1		118	40	9
-0.05 to 0.04.....	10	2	3	8	2	2	117	28	10
0.05 to 0.14.....	8	9	4	8	12	6	147	28	20
0.15 to 0.24.....			5	8	4	9	73	22	18
0.25 and over.....					7	9	25	4	2
Total.....	53	53	53	51	51	51	930	206	179
Gain <sup>2</sup> .....	11	10	10	21	24	24	297	65	46
Loss <sup>2</sup> .....	42	43	43	27	27	26	613	133	130
Average difference.....	<i>Cents</i> 1.17	<i>Cents</i> 0.51	<i>Cents</i> 0.55	<i>Cents</i> 0.45	<i>Cents</i> 0.53	<i>Cents</i> 0.61	<i>Cents</i> 0.34	<i>Cents</i> 0.20	<i>Cents</i> 0.60
Gain.....	.06	.11	.13	.12	.16	.21	.12	.13	.14
Loss.....	.20	.61	.65	.75	.86	1.00	.45	.25	.78
Maximum:									
Gain.....	.08	.14	.16	.24	.33	.39	.44	.37	.44
Loss.....	.39	1.23	1.51	1.27	1.42	1.68	1.68	.79	1.57

<sup>1</sup> Year ended July. Differences are derived by subtracting prices of near month from prices of more distant month futures.

<sup>2</sup> Gain and loss on long-basis positions from transferring hedges from near month to more distant month futures.



below the corresponding prices in New Orleans only a small proportion of the time.

Gains and losses from transferring hedges from one futures contract to another may be offset in whole, or in part, by differences in changes in basis calculated from the futures to which the hedge was transferred and those calculated from futures contracts from which the hedge was transferred between the time of the transfer and the time of liquidating the hedged position. When the changes in basis calculated from futures contracts to which the hedge is transferred are the same as those calculated from futures from which the hedge was transferred, the gains and losses from transferring hedges are offset by losses and gains, respectively, from differences between prices of the futures contracts involved at the time the hedged position is liquidated. Under such conditions, no net gains and losses are realized at the end of the hedging period from switching hedges, aside from the costs of making transfers and, perhaps, small differences in costs as a result of differences in prices of the futures contracts involved.

When advances in basis (advances in spot prices in relation to prices of futures) calculated from futures to which the hedge was transferred are greater than those calculated from futures from which the hedge was transferred, gains on long-basis positions and losses on short-basis positions as a result of the transfer are supplemented by the extent of the differences in changes in basis. When advances in basis calculated from futures to which the hedge was transferred are less than those calculated from futures from which the hedge was transferred, the gains on long-basis positions and losses on short-basis positions, as a result of the transfer, are offset to the extent of the differences in changes in basis.

On the other hand, when declines in basis calculated from futures to which the hedge was transferred are greater than those calculated from futures from which the hedge was transferred, losses on long-basis positions and gains on short-basis positions, as a result of the transfer, are supplemented by amounts equal to the differences in the changes in basis. When declines in basis calculated from futures to which the hedge was transferred are less than those calculated from futures from which the hedge was transferred, losses on long-basis positions and gains on short-basis positions are offset to the extent of the differences in changes in basis.

Such supplements to gains and losses from transferring hedges as a result of differences between changes in basis represent net gains and losses realized as a result of transferring hedges at the end of the hedging period. On the other hand, such offsets to gains and losses from transferring hedges resulting from differences between changes in basis represent net gains and losses realized at the end of the hedging period as a result of transferring hedges. Net gains and losses that could be realized at the time the hedge is liquidated as a result of switching hedges are indicated by data showing changes in the spread between prices of futures contracts. Such data also show gains and losses that could have been realized from straddle transactions. These data are presented in detail in the next section of this bulletin.

TABLE 42.—Differences between prices of cotton futures in New York for delivery in specified months, 1948-53 <sup>1</sup>

Item	Differences between prices of futures for delivery in—								
	October and—			December and—			March and—		
	Dec.	Mar.	May	Mar.	May	July	May	July	Oct.
	Number	Number	Number	Number	Number	Number	Number	Number	Number
Change in cents per pound:			1			2		1	58
Under -1.70.....						2		3	
-1.70 to -1.51.....						2		1	
-1.50 to -1.31.....	1	1				6		6	
-1.30 to -1.11.....			1			4		11	
-1.10 to -0.91.....			2			3		6	
-0.90 to -0.71.....		2	5		4	8	2	12	
-0.70 to -0.51.....		4	5	1	3	9	2	8	
-0.50 to -0.31.....	8	9	15	4	10	10	11	8	
-0.30 to -0.11.....	24	19	22	10	7	3	29	3	
-0.10 to 0.09.....	39	27	13	23	17	1	7		
0.10 to 0.29.....	6	11	9	10	6	1	7		
0.30 to 0.49.....		4	3	3	1	2	10	1	5
0.50 and over.....		1	2	2	5	2	3	12	8
Total.....	78	78	78	53	53	53	71	71	71
Gain <sup>2</sup> .....	20	30	18	29	15	5	26	13	13
Loss <sup>2</sup> .....	53	47	59	23	36	47	44	58	58
Average difference.....	Cents 0.15	Cents 0.23	Cents 0.34	Cents 0.17	Cents 0.30	Cents 0.81	Cents 0.28	Cents 0.87	Cents 2.89
Gain.....	.09	.16	.22	.17	.33	.63	.28	.72	.64
Loss.....	.18	.28	.38	.18	.30	.85	.30	.91	3.39
Maximum:									
Gain.....	.27	.50	.54	.70	1.06	1.14	.53	.93	1.01
Loss.....	1.35	1.41	1.77	.55	.80	1.80	.71	1.73	5.32

TABLE 42.—Differences between prices of cotton futures in New York for delivery in specified months, 1948-53<sup>1</sup>—Con.

Item	Differences between prices of futures for delivery in—						Total	Oct., Dec., Mar., and May	Mar., May, July, and Oct.
	May and—			July and—					
	July	Oct.	Dec.	Oct.	Dec.	Mar.			
Change in cents per pound:	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>
Under -4.50.....		8	9	9	9	10	48		20
-4.50 to -4.31.....		1	5		1	3	13		4
-4.30 to -4.11.....			9		2	1	15		3
-4.10 to -3.91.....		8	6		3	6	31		16
-3.90 to -3.71.....		9	2		5	4	29		18
-3.70 to -3.51.....		2	1		7	2	22		15
-3.50 to -3.31.....		1	1		4	1	9		6
-3.30 to -3.11.....		3			3	1	16		13
-3.10 to -2.91.....		1			2	3	14		9
-2.90 to -2.71.....					3	1	4		3
-2.70 to -2.51.....			1		1	1	4		1
-2.50 to -2.31.....		1			2	2	11		7
-2.30 to -2.11.....			1		1	1	13		10
-2.10 to -1.91.....			2		1		5		2
-1.90 to -1.71.....		2			1		7	1	3
-1.70 to -1.51.....			2			1	9		
-1.50 to -1.31.....		2	2		2	2	23		3
-1.30 to -1.11.....	2	2	1		3	1	26	1	5
-1.10 to -0.91.....	9	2	1		1	1	26	2	3
-0.90 to -0.71.....	9						42	11	
-0.70 to -0.51.....	9				2	2	47	10	2
-0.50 to -0.31.....	3				2	3	85	36	2
-0.30 to -0.11.....	2	1	1		3	2	128	58	4
-0.10 to 0.09.....	4	2	1			1	135	37	2

0.10 to 0.29	14	5	4	4	2	1	80	22	9
0.30 to 0.49		1	2	1	2	3	38	14	7
0.50 and over			1		1	1	38	10	8
Total	52	52	52	52	52	52	018	202	175
Gain <sup>1</sup>	17	8	8	5	5	5	217	59	26
Loss <sup>2</sup>	35	44	44	47	47	47	689	139	149
Average difference	<i>Cents</i> 0.55	<i>Cents</i> 2.95	<i>Cents</i> 3.28	<i>Cents</i> 2.02	<i>Cents</i> 3.16	<i>Cents</i> 3.25	<i>Cents</i> 1.30	<i>Cents</i> 0.31	<i>Cents</i> 2.92
Gain	.15	.20	.27	.26	.33	.44	.28	.27	.43
Loss	.74	3.45	3.83	3.21	3.46	3.55	1.73	.33	3.35
Maximum: Gain	.27	.41	.51	.57	.67	.87	1.14	1.06	1.01
Loss	1.12	6.11	6.79	8.11	8.34	8.22	8.34	1.77	8.11

<sup>1</sup> Year ended July. Differences are derived by subtracting prices of near-month from more distant month futures.

<sup>2</sup> Gain and loss on long-basis positions from transferring hedges from near-month to more distant month futures.

## GAINS AND LOSSES FROM STRADDLE TRANSACTIONS

Prices of cotton futures contracts for the same market, but maturing in different months, may differ considerably as a result of differences between the immediate and prospective supply-and-demand situation and in cost of carrying cotton to the dates of maturity of the futures contracts. Similarly, prices of futures contracts in different markets, but maturing in the same or different months and calling for delivery in the same or different markets, may differ as a result of differences in terms and condition of sale, in immediate and prospective demand-and-supply situation, and in costs of moving the cotton from the place of delivery to centers of consumption. Differences between these prices may vary considerably over relatively short periods. Traders may take advantage of these changes in prices in their straddle operations.

Straddling usually is accomplished by selling futures contracts, the prices of which are considered relatively high, and by buying as nearly simultaneously as feasible futures contracts, the prices of which are considered relatively low. It may involve futures for delivery in different months in the same market, or futures for delivery in the same or in different months in different markets. Such transactions, by increasing the demand for contracts that are considered relatively low in price and by increasing the available supply of contracts that are considered relatively high in price, tend to bring about a realignment of prices. The realignment of prices results in profits, whereas further disparities in prices result in losses to such straddlers.

Straddle transactions designed to take advantage of increases in price disparities are made by buying futures contracts that are considered relatively high but are expected to go relatively higher, and by selling, as nearly simultaneously as is feasible, contracts that are considered relatively low in price but are expected to go relatively lower. These operations tend to force prices of contracts further out of alignment. Further disparities in prices under such situations bring profits, whereas readjustments in prices bring losses from such straddle operations.

The quantity of straddle transactions may be indicated by data showing that, during the 6 years ended July 1953, open straddle commitments of large traders, as reported to Commodity Exchange Authority (21), averaged about 420,000 bales, or about 58 percent of the average open commitments for long hedges, 45 percent of those for short hedges, and 14 percent of total open contracts for cotton. Yearly average open commitments of straddlers ranged from 330,000 bales for the year ended July 1949 to 537,000 bales for the year ended July 1952. Monthly averages for the 6 years combined ranged from 326,000 bales in May to 514,000 bales in December.

Gains and losses from straddle operations may be indicated by data showing changes in spread between prices of futures contracts for delivery in the different months in the same market or for delivery in the same or different months in different markets. Changes over 8-week periods in spread between prices of cotton futures in New York for the near-active month and those for more distant months averaged 0.18 cent a pound during the 6 years ended July 1941 (table 43), and 0.48 cent during the 6 years ended July 1953 (table 44). These

changes amounted to 0.45 cent or more a pound about 10 percent of the time during the prewar period, and to 0.75 cent or more about 21 percent of the time during the postwar period.

Usually the greatest changes occurred between futures maturing toward the end of one crop year and those maturing during the new-crop year. Changes in spread between prices of cotton futures maturing in October, December, and March and prices of futures maturing in May of the same crop year averaged only about half as great as the comparable changes in spread between prices of futures maturing in March, May, and July and prices of futures maturing in October of the next crop year.

During the 6 years August 1935 to July 1941, changes over 8-week periods in spread between prices of near and more distant month futures would have resulted in gains on straddle positions with long interests in near-month futures less than half of the time, and the gains would have averaged less than the losses (table 43). Losses would have amounted to 0.45 cent or more a pound about 8 percent of the time, and gains would have amounted to 0.45 cent or more about 2 percent of the time. In the postwar period, August 1947 to July 1953, similar changes in spread between prices of cotton futures would have resulted in gains on straddle positions, with long interests in near-month futures, more than half of the time, but the gains would have averaged less than the losses (table 44). Gains would have amounted to 0.75 cent or more a pound about 13 percent of the time, and losses would have amounted to 0.75 cent or more a pound about 8 percent of the time.

The spread between prices of futures contracts for delivery in different markets shows considerable changes over relatively short periods and such changes may result in gains and losses from straddle operations. Data relating to changes, over 8-week periods, in spread between prices of New York and New Orleans futures contracts for the near-active month show that, during the 6 years ended July 1941, these changes amounted to 0.10 cent or more a pound about 7 percent of the time (table 45). During the 6 years ended July 1953, these changes amounted to 0.10 cent or more a pound about 25 percent of the time (table 46). These changes would have resulted in gains on straddle transactions, with long interests in New York futures, somewhat more than half of the time, and the gains would have averaged about the same as, to somewhat greater than, the average loss.

These data clearly indicate that changes over relatively short periods in spread between prices of cotton futures maturing in different months for the same market, and those maturing during the same and in different months for different markets, may be great enough to result in substantial gains and losses from straddle operations. The success of the straddler largely depends upon the accuracy of his forecasts of changes in price spread. When the forecasts are based on a correct evaluation of the immediate and prospective demand-and-supply situation for the contracts involved, the straddlers by selling contracts the prices of which are considered relatively high and by buying, as nearly simultaneously as feasible, contracts the prices of which are considered relatively low, not only reap profits but they also increase the liquidity of the market and tend to stabilize the level of prices by bringing about readjustments in prices of contracts for delivery at different times and in different markets.

TABLE 43.—Changes over 8-week periods in spread between prices of cotton futures in New York for delivery in specified months, August 1935–July 1941<sup>1</sup>

Item	Changes between prices of futures maturing in—								
	October and—			December and—			March and—		
	Dec.	Mar.	May	Mar.	May	July	May	July	Oct.
Change in cents per pound:	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>
Under —0.55-----						2		1	8
—0.55 to —0.46-----						3		2	2
—0.45 to —0.36-----			2		1	2		6	3
—0.35 to —0.26-----		3	4	2	8	8	6	9	9
—0.25 to —0.16-----	2	4	2	8	5	4	10	11	8
—0.15 to —0.06-----	10	15	11	15	10	11	22	13	13
—0.05 to 0.04-----	36	24	20	14	11	8	29	22	12
0.05 to 0.14-----	29	20	14	9	4	3	9	9	5
0.15 to 0.24-----	1	8	7	4	8	4	1	4	4
0.25 to 0.34-----		5	6		3	5			2
0.35 and over-----			1			2			1
Total-----	78	79	67	52	52	52	77	77	67
Gain <sup>2</sup> -----	44	46	36	20	18	17	22	21	15
Loss <sup>2</sup> -----	32	31	28	32	33	34	51	53	50
Average change-----	<i>Cents</i> 0.06	<i>Cents</i> 0.10	<i>Cents</i> 0.13	<i>Cents</i> 0.11	<i>Cents</i> 0.16	<i>Cents</i> 0.25	<i>Cents</i> 0.10	<i>Cents</i> 0.15	<i>Cents</i> 0.24
Gain-----	.07	.11	.14	.09	.15	.22	.05	.09	.15
Loss-----	.06	.09	.13	.13	.18	.25	.12	.18	.27
Maximum:									
Gain-----	.17	.33	.44	.18	.29	.82	.15	.21	.35
Loss-----	.20	.35	.41	.32	.53	.71	.34	.59	.74

Item	Changes between prices of futures maturing in—						Total	Oct., Dec., Mar., and May	Mar., May, July, and Oct.
	May and—			July and—					
	July	Oct.	Dec.	Oct.	Dec.	Mar.			
Change in cents per pound:	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>
Under -0.65				3	6	11	23		5
-0.65 to -0.56		2	2	3	5	1	21		11
-0.55 to -0.46		5	6	4	2		26	2	11
-0.45 to -0.36		4	7	5		4	34	3	12
-0.35 to -0.26		4	2		4		59	18	13
-0.25 to -0.16	1	2	5	3	2		67	17	13
-0.15 to -0.06	7	6	6	4	1	5	149	43	23
-0.05 to 0.04	22	12	10	8	10	3	241	60	32
0.05 to 0.14	20	7	7			1	137	27	12
0.15 to 0.24	2	6	5	10	4	3	71	16	20
0.25 to 0.34	1	1		5	9	6	43	9	8
0.35 to 0.44		1		4	4	6	18	1	6
0.45 and over		3	2	3	5	3	17		6
Total	53	53	52	52	52	43	906	196	172
Gain <sup>2</sup>	31	28	31	21	25	20	395	76	64
Loss <sup>2</sup>	19	21	21	27	27	23	486	112	102
Average change	<i>Cents</i> 0.07	<i>Cents</i> 0.23	<i>Cents</i> 0.24	<i>Cents</i> 0.30	<i>Cents</i> 0.34	<i>Cents</i> 0.45	<i>Cents</i> 0.18	<i>Cents</i> 0.13	<i>Cents</i> 0.25
Gain	.08	.29	.25	.31	.30	.33	.17	.12	.26
Loss	.07	.18	.22	.33	.38	.54	.20	.14	.26
Maximum:									
Gain	.33	.62	.64	.50	.58	.55	.82	.44	.62
Loss	.22	.63	.65	.78	.78	1.78	1.78	.53	.78

<sup>1</sup> Prices of futures as of the close of the market, usually on Wednesday or Thursday of each week.

<sup>2</sup> Gain and loss on long interests in near-month futures offset by short interests in futures for more distant months.



TABLE 44.—Changes over 8-week periods in spread between prices of cotton futures in New York for delivery in specified months, August 1947–July 1953 <sup>1</sup>

Item	Changes between prices of futures maturing in—								
	October and—			December and—			March and—		
	Dec.	Mar.	May	Mar.	May	July	May	July	Oct.
Change in cents per pound:	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>
Under -0.75.....		1	2			4		2	5
-0.75 to -0.66.....			1		1	2		2	4
-0.65 to -0.56.....		2	1		3	3	1	4	2
-0.55 to -0.46.....	1	1		1			2	2	5
-0.45 to -0.36.....	2		1		5	4	2	4	5
-0.35 to -0.26.....	1		2	7	5	3	3	8	6
-0.25 to -0.16.....		3		3	4	4	9	4	3
-0.15 to -0.06.....	6	5	2	11	2	2	12	11	4
-0.05 to 0.04.....	6	4	7	6	5	2	14	4	3
0.05 to 0.14.....	23	11	6	3	8	3	11	3	
0.15 to 0.24.....	16	17	12	8	5	3	3	3	2
0.25 to 0.34.....	8	8	10	6	2	7	4	3	4
0.35 to 0.44.....	2	8	9	5	3	5	3	6	1
0.45 to 0.54.....	2	4	2		1		6	2	1
0.55 to 0.64.....	8		1	2	2		2		
0.65 to 0.74.....	2	4	2		1	1		1	1
0.75 and over.....	1	10	12	1	6	10		13	17
Total.....	78	78	70	53	53	53	72	72	63
Gain <sup>2</sup> .....	64	64	55	29	29	31	33	34	28
Loss <sup>2</sup> .....	12	14	14	24	22	21	36	38	35
Average change.....	<i>Cents</i> 0.23	<i>Cents</i> 0.36	<i>Cents</i> 0.42	<i>Cents</i> 0.23	<i>Cents</i> 0.36	<i>Cents</i> 0.53	<i>Cents</i> 0.20	<i>Cents</i> 0.44	<i>Cents</i> 0.79
Gain.....	.26	.38	.46	.26	.41	.55	.24	.56	1.05
Loss.....	.10	.25	.31	.18	.33	.52	.18	.34	.55
Maximum:									
Gain.....	.88	1.48	1.59	.76	1.28	1.88	.64	1.28	2.56
Loss.....	.48	.78	.92	.64	.72	1.60	.55	1.32	2.06

Item	Changes between prices of futures maturing in—						Total	Oct., Dec., and May	Mar., July, and Oct.
	May and—			July and—					
	July	Oct.	Dec.	Oct.	Dec.	Mar.			
Change in cents per pound:	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>
Under -0.75.....		11	11	12	11	10	69	2	28
-0.75 to -0.66.....		1	3	2	2	2	20	2	7
-0.65 to -0.56.....		1		1	3	2	23	5	4
-0.55 to -0.46.....	2	3	2	3	1	1	24	2	11
-0.45 to -0.36.....	2	1	2	3	3	2	36	8	9
-0.35 to -0.26.....	3	1		2	5	3	49	10	9
-0.25 to -0.16.....	6	5	9	2	1	1	54	13	10
-0.15 to -0.06.....	8	3	2	1			69	16	8
-0.05 to 0.04.....	4	6	5	2	1		69	26	11
0.05 to 0.14.....	3	3	2	3	4	6	89	25	6
0.15 to 0.24.....	4	3	1	4	3	1	85	20	9
0.25 to 0.34.....	3	2	1	1	1	1	61	16	7
0.35 to 0.44.....	4	1	1		1	2	51	15	2
0.45 to 0.54.....							18	9	1
0.55 to 0.64.....	2	1	1	4	1	1	25	5	5
0.65 to 0.74.....	4			1	2		19	3	2
0.75 and over.....		5	6	10	12	11	114	18	32
Total.....	45	47	46	51	51	43	875	195	161
Gain <sup>2</sup> .....	23	19	16	23	25	21	494	117	70
Loss <sup>2</sup> .....	22	28	30	28	26	21	371	72	91
Average change.....	<i>Cents</i> 0.27	<i>Cents</i> 0.53	<i>Cents</i> 0.67	<i>Cents</i> 0.52	<i>Cents</i> 0.80	<i>Cents</i> 0.84	<i>Cents</i> 0.48	<i>Cents</i> 0.33	<i>Cents</i> 0.72
Gain.....	.31	.44	.54	.63	.63	.70	.47	.39	.75
Loss.....	.22	.58	.74	.98	.97	1.02	.51	.25	.69
Maximum:									
Gain.....	.71	1.43	1.46	1.21	1.38	1.40	2.56	1.59	2.56
Loss.....	.52	1.80	2.13	2.66	2.53	2.44	2.66	.92	2.66

<sup>1</sup> Prices of futures as of the close of the market, usually on Wednesday or Thursday of each week.

<sup>2</sup> Gain and loss on long interests in near-month futures offset by short interests in futures for more distant months.

TABLE 45.—Changes over 8-week periods in spread between prices of New York and New Orleans cotton futures for delivery in specified months, 1936-41<sup>1</sup>

Item	Futures for delivery in—					
	Oct.	Dec.	Mar.	May	July	Total
Change in cents per pound:	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>
Under -0.10.....	2	3		2	3	10
-0.10 to -0.08.....		2	3		2	7
-0.07 to -0.05.....	4	6	7	2	1	20
-0.04 to -0.02.....	16	15	11	9	12	63
-0.01 to 0.01.....	28	12	22	12	16	90
0.02 to 0.04.....	25	6	20	16	7	74
0.05 to 0.07.....	3	3	5	6	4	21
0.08 to 0.10.....	1	3	1	2	3	10
Over 0.10.....		2	3	3	2	10
Total.....	79	52	72	52	50	305
Gain <sup>2</sup> .....	39	16	37	32	20	144
Loss <sup>2</sup> .....	29	31	31	16	25	132
Average change.....	<i>Cents</i> 0.02	<i>Cents</i> 0.04	<i>Cents</i> 0.04	<i>Cents</i> 0.04	<i>Cents</i> 0.05	<i>Cents</i> 0.04
Gain.....	.03	.06	.04	.04	.06	.04
Loss.....	.03	.05	.04	.05	.04	.04
Maximum:						
Gain.....	.08	.18	.18	.12	.45	.45
Loss.....	.14	.19	.10	.32	.24	.32

<sup>1</sup> Year ended with July. Spreads are calculated from closing prices for the near-active month.

<sup>2</sup> Gain and loss on long interests in New York futures offset by short interests in New Orleans futures.

Data for recent years show that possibilities of gains from straddling in cotton futures, with short-market interests in near-month and long market interests in more distant month futures, varied directly with the extent to which prices of near-month futures were elevated in relation to prices of futures for the more distant months. Analysis of data relating to prices of cotton futures in New York, for the 6 years ended July 1953, show that possible gains over 8-week periods ended July, August, and September from straddle transactions, with short interests in October futures, when related to premiums of October futures over prices of December and March futures, at the beginning of the 8-week periods, gave a correlation coefficient of 0.87. The regression,  $y = 0.02 + 0.62x$ , indicates that, on the average, for each increase of 1 cent a pound in premium of October futures over prices of futures for more distant months, gains over the succeeding 8-week

TABLE 46.—Changes over 8-week periods in spread between prices of New York and New Orleans cotton futures for delivery in specified months, 1948-53<sup>1</sup>

Item	Futures for delivery in—					
	Oct.	Dec.	Mar.	May	July	Total
Change in cents per pound:	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>
Under -0.10-----	8	11	4	3	3	29
-0.10 to -0.08-----	6	2	1	4	7	20
-0.07 to -0.05-----	5	1	6	4	7	23
-0.04 to -0.02-----	13	10	10	5	4	42
-0.01 to 0.01-----	19	13	13	5	9	59
0.02 to 0.04-----	8	7	10	2	5	32
0.05 to 0.07-----	8	5	7	5	4	29
0.08 to 0.10-----	6	-----	5	2	3	16
Over 0.10-----	4	4	14	14	8	44
Total-----	77	53	70	44	50	294
Gain <sup>2</sup> -----	36	20	39	24	22	141
Loss <sup>2</sup> -----	35	27	23	20	24	129
Average change-----	<i>Cents</i> 0.09	<i>Cents</i> 0.09	<i>Cents</i> 0.08	<i>Cents</i> 0.10	<i>Cents</i> 0.08	<i>Cents</i> 0.09
Gain-----	.09	.06	.11	.13	.11	.10
Loss-----	.10	.12	.07	.06	.08	.09
Maximum:						
Gain-----	1.18	.29	.53	.34	.37	1.18
Loss-----	.97	1.06	.33	.22	.34	1.06

<sup>1</sup> Year ended with July. Spreads are calculated from closing prices for the near-active month.

<sup>2</sup> Gain and loss on long interests in New York futures offset by short interests in New Orleans futures.

period from straddle with short market interests in October futures would have been increased about 0.62 cent a pound. (Standard error of regression coefficient = 0.12.) The relationship of premiums of other near-month futures over prices of futures for more distant month to gains and losses from straddle transactions were not so close as that indicated for October futures and, in many instances, the relationships were quite irregular.

Gains and losses from straddle transactions may be used to supplement or offset, at least in part, gains and losses from changes in spot prices and in basis. But data relating to changes, over 8-week periods, in spread between prices of near-month and those for more distant month futures, during the 6 years ended July 1953, when related to the corresponding changes in spread between prices of spot cotton and prices of futures, for both concurrent and immediately following 8-week periods, showed little, if any, correlation.

# FUTURES TRADING AND FLUCTUATIONS IN PRICES

## Traditional Theory of Stabilizing Influence

Trading in futures may provide some protection from changes in prices of the spot commodity, aside from offsets through hedges, by reducing these changes. The buying and selling of futures contracts by competent speculators is alleged to result in less violent but more frequent fluctuations in spot prices (5, 15, 18, 12). The contention is that prices tend to be kept fairly closely in line with an accurate reflection of the basic demand-and-supply situation mainly by speculators who are ready to buy futures when an appraisal of the market situation indicates that prices are too low and to sell futures when the appraisal indicates that prices are too high.

Since the expectation of profits from changes in prices provides a motive for buying and selling futures, speculators are interested in correctly predicting the changes in prices as a basis for their transactions because they make a profit when they are correct and they take a loss when they are wrong. Futures exchanges are equipped with facilities for readily assembling in a single market all the available data relating to the various factors affecting the demand for and supply of the commodity, and this information is available to speculators and others for their use in deciding when to buy or sell.

The theory, as usually presented, is that when prices are considered to be substantially above those justified by a correct evaluation of the basic demand-and-supply situation, the pressure of the market on the selling side is intensified by speculators who liquidate their holdings or sell short, expecting to buy later at a lower price. Conversely, when prices are considered to be substantially below those justified by a correct evaluation of the basic demand-and-supply situation, the pressure of the market on the buying side is intensified by speculators who buy contracts with which to balance their accounts or to profit from an advance in prices. Such increased pressure on the selling side of the market when prices are considered to be too high and on the buying side when prices are considered to be too low, it is alleged, would tend to keep prices fairly in line with the best composite judgment of an accurate reflection of the basic demand for and supply of the commodity.

Moreover, futures exchanges facilitate straddle transactions which, it is said, tend to keep prices of futures for delivery in different months and in different markets in adjustments (3, 1, 8). This is accomplished by selling futures the prices of which are considered higher than basic conditions warrant and by buying, as nearly simultaneously as is feasible, futures the prices of which are considered lower than warranted. Such transactions tend to bring about readjustments in prices of futures for delivery in different months and in different markets in line with the basic demand-and-supply situation. This is accomplished by increasing the pressure of the market on the selling side for contracts considered relatively high and by increasing the pressure of the market on the buying side for contracts considered relatively low in prices.

## Limitations of Stabilizing Influence

The price-leveling and adjusting features of futures trading are apparently predicated, to a considerable extent at least, on the as-

sumption of free and unrestricted competition in markets dominated largely by the transactions of speculators who decide when to buy or sell on the basis of well-informed judgments regarding the basic demand-and-supply situation. But corners, squeezes, bear raids, and other evidences of manipulations, along with information relating to the composition and trading practices of the trading groups, indicate that transactions in futures markets at times may be notably at variance with such assumptions (10, 16).

It has been pointed out that a large proportion of the speculators in wheat and corn futures, for example, are little better equipped to forecast prices than the average citizen, which means that the accuracy of their price forecasting is not likely to be much above 50 percent (10). Furthermore, information relating to the transactions of large operators, who apparently are in a position to be well informed concerning the basic supply-and-demand situation, indicates that they do not always contribute a stabilizing influence on futures prices (9).

The theory of the price-leveling influence of speculative trading in futures has been criticized for not giving adequate recognition to the influence of manipulations and the kind of trading designated as "movement trading" (16). The increase in width and liquidity of the market as a result of trading in futures, along with the participation of large numbers of poorly informed speculators trading on margins, may afford an opportunity for price manipulation. An influential person or persons may affect prices considerably by buying or selling and spreading information designed to induce a following of less informed persons to buy or sell. In such instances, the originator of the buying or selling movement may adroitly change his market position and profit at the expense of his less informed followers (2). Such manipulation may at times more than offset any leveling influences which futures trading normally may have and may result in considerable irregular variations in prices during relatively short periods.

"Movement trading," or trading on price movements, refers to transactions involved in "going with the market" (16). Movement traders buy when prices are advancing and sell when prices are declining, expecting to reverse their operations when the movements in prices are checked or reversed. Those engaged in such operations are primarily interested in how far other traders will push the movement of prices which they are following at the time, and are only incidentally concerned with what levels of prices are justified by the basic demand-and-supply situation.

Apparently a large proportion of the professional traders in commodity futures (aside from hedgers) are commonly traders on price movements; such trading, it is alleged, tends to widen price swings (16). But the influence of such trading on the extent of price swings apparently depends considerably upon the position on the price "cycle" at which the transactions are concentrated. Additional information relating to the concentration of purchases and sales by movement traders at various points on the price cycle is needed as a basis for final conclusions.

Despite any leveling influences which trading in futures may have, cotton prices fluctuate irregularly and at times widely from one part of the season to another and from year to year. The range in prices of Middling  $\frac{1}{8}$ -inch cotton in central markets during the year sometimes amounts to as much as 50 percent of the highest prices and

as much as 100 percent of the lowest price during the year. During the 23 years ended July 1953, the range in prices of Middling  $1\frac{1}{8}$ -inch cotton in central markets averaged 38 percent of the lowest prices, and 26 percent of the highest prices, during the year. The range exceeded 30 percent of the lowest price during the year more than half of the years; it exceeded 20 percent of the lowest price during the year about three-fourths of the years.

Similar data relating to fluctuations in prices from one year to another show that the ranges in these fluctuations exceeded 100 percent of the lowest prices for about 17 percent of the time, and they averaged 62 percent of the lowest price. They exceeded 50 percent of the highest prices 17 percent of the time, and averaged 34 percent of these prices.

Cotton prices sometimes change considerably over relatively short periods within the season. The nature and extent of these changes in the prewar period, August 1935 to July 1941, and in the postwar period, August 1947 to July 1953, are indicated by weekly prices of Middling  $1\frac{1}{8}$ -inch cotton in New Orleans, as shown in figures 1 and 2, pages 9 and 10. In 1937, for example, the prices declined from 15.50 cents a pound in March to 8.50 cents in October, a decline of 7 cents a pound, or 82 percent of the lower prices, within about 7 months.

In 1950, prices advanced from 30.45 cents in January to 40.80 cents in September, an advance of 10.35 cents a pound, or about 34 percent of the lower price, within about 8 months. Then in 1952, prices decline from 39.10 cents in September to 32.40 cents in December, a decline of 6.70 cents a pound, or 21 percent of the lower price, within about 3 months. During the 6 years ended July 1953, changes over 8-week periods in prices of Middling  $1\frac{1}{8}$ -inch cotton in New Orleans amounted to 3.25 cents or more a pound 22 percent of the time.

Prices of cotton yarns and fabrics fluctuate over a great deal wider range than do prices of cotton (figs. 1 and 2, pp. 9 and 10). In 1937, prices of the quantity of carded cotton yarn (10s) obtainable from a pound of cotton declined from 29.25 cents in April to 16.20 cents in December, a decline of 13.05 cents, or 80 percent of the lower price, within about 8 months. During the same year, prices of the quantity of cotton print cloth (39" 80 x 80) obtainable from a pound of cotton declined from 39.60 in January to 21.82 cents in December, a decline of 17.78 cents, or 81 percent of the lower price, within less than a year.

In 1950, prices for the carded yarn advanced from 49.50 cents in June to 74.70 cents in December, an advance of 25.20 cents, or more than half of the lower price, within about 6 months. Prices for the print cloth advanced from 67.93 cents in May to 106.20 cents in September, an advance of 38.27 cents, or about 56 percent of the lower prices, within about 4 months. Other relatively large changes over relatively short periods are indicated by the data presented in figures 1 and 2, pp. 9 and 10.

Whether changes in prices of the spot commodity with futures trading were greater or less than they would have been without futures trading is difficult to determine statistically. Some students of futures trading have concluded that dealing in futures tends to reduce the range of price fluctuations and statistical investigations are said to support this conclusion (5, 7, 1). But others maintain that conclusive evidence is lacking on the question as to whether prices

are leveled to any extent purely as a result of trading in futures (8, 9).

The problem of measuring statistically the effects of trading in futures on fluctuations in prices of cotton is complicated by the fact that it is difficult, if not impossible, to evaluate correctly and to make accurate adjustments for the influence of other factors on changes in prices. Furthermore, difficulties may be involved in attempts to devise a satisfactory statistical measure of price steadiness. Consequently, caution should be exercised in interpreting the results of statistical analyses designed to show the influence of trading in futures on changes in prices.

Results of analyses showing differences in variability of prices of a commodity in a market before and after trading in futures were inaugurated, differences in variability of prices in markets without futures trading and in those with futures trading, and differences in degree of price variability for commodities traded in on futures exchanges and for commodities not traded in on futures exchanges have been presented as evidence of the price-leveling influence of trading in futures (8). But these results may not supply a satisfactory basis for a conclusion because the influence of trading in futures on fluctuations in prices may be supplemented or offset, in whole or in part, by the influence of other factors. These factors may include differences in means of communication and transportation, in marketing facilities and practices, and in other developments. Information available is not adequate for making correct adjustments for the influence of factors other than trading in futures on fluctuations in cotton prices.

Comparisons of annual fluctuations in prices of American cotton in New York and in Liverpool before and after futures trading in New York began in 1870 is an example of attempts made to show the influence of trading in futures on fluctuations in prices of cotton (14). Prior to 1870, futures trading was carried on in Liverpool in the form of transactions on the basis of cotton under "to-arrive" terms. Comparisons of changes during the year in prices of cotton in New York with those in Liverpool from 1821 to the beginning of futures trading in New York in 1870 show that changes in New York were, for the most part, relatively greater than those in Liverpool. Subsequent to the beginning of trading in cotton futures in New York in 1870, changes in prices of cotton in New York declined in relation to those in Liverpool and, in more recent years, they have been about equal to those in Liverpool.

Although these changes apparently indicate that futures trading in the New York market may have tended to reduce the fluctuations in cotton prices, it is not known to what extent the fluctuations shown were influenced by differences in quality of the cotton, improvements in communication and in transportation, developments within the market, and by other factors. Changes during the year in prices of cotton in New York have not been so great in relation to the level of prices since futures trading began as before. On the other hand, the yearly ranges in prices of cotton in New York and in Liverpool, when expressed as a percentage of the highest price during the year, showed an upward trend from about 1885 to the early 1930's (14).

Futures trading, it is alleged, tends to level out prices during the year so that prices of cotton at harvest time usually are not unduly depressed (5, 6, 15, 1). Analysis of data relating to changing prices



of cotton from one part of the season to another shows considerable irregular variations, but, on the average for periods long enough for irregular variations to compensate each other, prices of cotton during the harvesting period averaged about as high as during the rest of the year, after due allowances are made for carrying costs (3). But the extent to which any such leveling of prices may be attributed to trading in futures apparently depends upon whether the probable course of prices is more accurately forecast with than without, futures trading.

Some students of futures trading have concluded that, through the medium of futures trading, anticipated changes in the demand-and-supply situation usually are reflected in current prices more accurately than they would be without futures markets (5, 8, 1). The fact that trading in futures may indicate more clearly the probable course in prices of cotton than transactions in the spot commodity is evidenced particularly by declines in prices of new crop futures in relation to spot prices in anticipation of a large crop. In early July 1951, for example, with relatively small available stocks of cotton and a large crop in prospect, prices of New Orleans futures for delivery during the new crop year were about 8 cents a pound lower than spot prices of Middling  $1\frac{3}{8}$ -inch cotton in that market. Prices of spot cotton declined from 43.95 cents a pound on July 5, to 33.90 cents on September 5, and prices of October futures declined from 35.88 cents on July 5 to 34.20 cents on September 5. These data reflect a situation in which cotton prices in the future were more accurately reflected in prices of futures than in prices of spot cotton.

The extent to which futures trading increases the accuracy of price forecasting is difficult to determine because there is no way of knowing what spot prices would be in the absence of futures trading. Results of earlier studies show that prices of futures contracts a few weeks before maturity constituted a fairly accurate indication of prices at the date of maturity. But the accuracy of the forecasts varied inversely with the length of the period to maturity, so that prices of futures contracts could not be relied upon to indicate even fairly accurately the prices that prevailed several weeks in the future (2, 8, 14).

Similar comparisons of prices of futures contracts in New Orleans several weeks before the date of their maturity with prices of Middling  $1\frac{3}{8}$ -inch spot cotton in New Orleans on the date of maturity of these contracts, during the 6 years ended July 1953, show considerable differences. Averages of these differences increased with increases in number of weeks prior to the maturity of the futures contracts from 0.96 cent a pound for 4-week, to 1.63 cents for 8-week, and 2.00 cents for 16-week periods. These differences are great enough to suggest that prices of futures contracts, particularly for the more distant months, cannot be relied upon to indicate even fairly accurately the prices that will prevail several weeks in the future. But data relating to spot prices and prices of futures contracts show that anticipated changes in the demand-and-supply situation, particularly from one crop year to another, were more clearly indicated and were somewhat more accurately discounted in prices of futures contracts than in prices of spot cotton for immediate delivery.

These data, and other available information, indicate that futures trading usually tends to lessen the fluctuations in spot prices from one crop year to another and may reduce the extent of changes

from one part of the season to another. Futures markets, by facilitating trading, no doubt increase the frequency of changes in cotton prices and may at times increase the extent of these changes over relatively short periods. Final conclusions regarding the influences of future trading on fluctuations cannot be reached on the basis of information now available.

## EFFECTS OF FUTURES TRADING ON FARM PRICES AND ON COSTS OF COTTON GOODS

Protection afforded by futures as hedges, any price-stabilizing influences that trading in futures may have, and any other uses made of futures trading in cotton are of significance to cotton growers and to consumers of cotton products chiefly because of their influence on the level of farm prices of cotton and on costs of cotton goods. Although an evaluation of the influence of trading in cotton futures on farm prices of cotton and on costs of cotton goods may be of great importance, no attempt is made to present in this bulletin an exhaustive treatment of this problem. A short statement, based on rather limited information, is made, however, as a means of giving some indications of the results normally to be expected.

The effects of trading in futures on the level of farm prices of cotton and on costs of cotton goods to consumers at any given time or over a given period are difficult, if not impossible, to measure directly. As data on prices of cotton and on costs of cotton products with futures trading and without futures trading, with the influence of other factors held constant, are not available, it would appear almost impossible to ascertain by direct means what the level of farm prices of cotton and costs of cotton products would have been without futures trading. Any influences that futures trading may have on these prices and costs apparently result mainly from its effects on costs of merchandising cotton and of manufacturing and distributing cotton products (4, 15).

Hedging facilities provided by futures markets make possible a reduction in necessary costs of merchandising and manufacturing cotton through reductions in risks from changes in prices and through savings in interest charges and in capital requirements (9). As previously shown, about three-fifths of the gains and losses from changes in prices of spot cotton during the 6 years ended July 1941 could have been offset by the use of futures as hedges. Similar data for the 6 years ended July 1953 show that more than half of the gains and losses from changes in prices of spot cotton could have been offset by the use of futures as hedges. Most of the losses on short market interests from advances in spot prices, and a large proportion of the losses on long market interests from declines in cotton prices, could have been offset by the use of futures as hedges.

The influence of using futures as hedges on the costs of financing the marketing and manufacturing of cotton may be indicated by information showing the effects of hedging on the collateral value of the commodity. Reports relating to the importance of hedging to banks that extend credit and to merchants who handle cotton indicate that loans are more secure and that business can be transacted on a narrower margin when the cotton is hedged than when it is not hedged (24). It is said that banks in New York which lend money on cotton each year advanced from 80 to 90 percent of the current market value of cotton that is hedged; whereas, on cotton not hedged

the banks advanced 70 percent or less of its current market value (24).

Similar information relating to banks in New Orleans indicate that bankers make loans on cotton as collateral more freely and at smaller margins when the specific cotton is hedged than they would if it were being carried subject to all the risks of fluctuations in market prices (25). Loan policies of banks, as indicated by an official of a leading bank in the financing of cotton, show that as late as 1953 banks continued to advance substantially larger proportions of its current market value for cotton that is hedged than for cotton not hedged. This increase in collateral value enables merchants to carry a larger volume of cotton with a given amount of their own capital, thus lowering the capital cost per unit.

In addition, any stabilizing influence that trading in futures may have on the level of cotton prices also tends to reduce the necessary costs of marketing and manufacturing cotton by reducing the risks of losses from changes in prices. It seems evident from the information presented earlier in this bulletin that trading in futures tends to reduce the extent of the changes in cotton prices from one season to another and may lessen the seasonal fluctuations in prices. But such trading doubtless increases the frequency of price changes and may at times augment the changes over relatively short periods.

Charges for, as well as benefits of, futures trading also need to be taken into account. The bulk of the direct costs of this trading which is of special importance to cotton merchants and manufacturers relates to commissions paid by hedgers and straddlers. For domestic accounts, commissions charged nonmembers of the exchange for buying or selling each futures contract for 100 bales of cotton, when cotton prices are 30 cents a pound or under, amount (1954) to approximately 0.035 cent a pound on the New York Cotton Exchange, about 0.03 cent on the New Orleans Cotton Exchange, and about 0.025 cent on the Chicago Board of Trade. These charges are increased 0.005 cent a pound for each 5 cents or fraction thereof to which prices of cotton exceed 30 cents. Commissions charged members of the exchanges are only about one-half of those charged nonmembers. There are no commission charges for a member on transactions for his own account, but small clearing charges are made on these accounts. Commissions for foreign accounts usually are slightly higher than those for domestic accounts. Commissions for straddle transactions amount to about 60 percent of the straight rate for nonmembers and to about 65 percent of the straight rate for members. Total commission charges that may be considered legitimate merchandising costs depend upon the number of times the cotton is hedged, the number of times the hedges are transferred, and the number of straddle transactions involved in merchandising operations.

No satisfactory means are available for ascertaining to what extent the benefits to merchants and manufacturers from reductions in price risks and in capital costs through trading in futures exceed the commission charges for the hedging and other futures transactions involved. But the rates of commission charges amount to only a small fraction of a cent a pound. The fact that many of the larger cotton merchants continue to use futures as hedges against losses from changes in prices of spot cotton indicates that they are convinced that the benefits exceed the costs. If the benefits do not exceed the costs the competitive position of cotton merchants and manufacturers are

weakened by the use of futures as hedges. In addition, any stabilizing influences that trading in futures may have on the level of cotton prices would tend to reduce the necessary costs of marketing cotton and of manufacturing cotton products.

Any savings in marketing and manufacturing costs would make possible reductions in margins for marketing cotton and for manufacturing cotton products. Some students of futures trading have concluded that competition forces merchants to pass on a substantial part of these savings to growers in the form of higher farm prices and to consumers in the form of lower retail prices (6, 4). Available information is not adequate for ascertaining to what extent any such savings raise prices to growers or reduce costs to consumers, but it appears reasonable to believe that both producers and consumers would be benefited by such savings.

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# APPENDIX

TABLE 47.—Spot price of Middling  $\frac{1}{16}$ -inch cotton in New Orleans, prices of New Orleans futures for the near-active month, and adjusted prices of cotton yarn, print cloth, and lawn in New York, August 1935 to July 1941 and August 1947 to July 1958<sup>1</sup>

Date	Spot price M $\frac{1}{16}$ -in. cotton in N. O.	Prices of New Orleans futures	Price of—		
			Carded yarn	Print cloth	Lawn
<i>1935</i>					
	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>
Aug. 7.....	12.20	11.30	24.30	30.60	39.17
Aug. 21.....	11.85	11.20	24.75	31.25	42.37
Sept. 4.....	10.90	10.31	23.85	31.25	41.98
Sept. 18.....	11.23	10.58	23.85	31.03	44.42
Oct. 2.....	11.60	11.02	24.30	31.25	44.03
Oct. 16.....	11.45	10.83	25.20	31.50	44.03
Nov. 6.....	11.85	11.02	25.65	31.03	42.75
Nov. 20.....	12.85	11.96	27.00	31.03	43.65
Dec. 11.....	12.10	11.45	27.00	31.03	44.03
Dec. 26.....	12.15	11.25	26.10	31.25	44.03
<i>1936</i>					
Jan. 15.....	12.18	11.27	23.40	27.00	41.98
Jan. 29.....	12.09	11.20	22.95	27.22	43.27
Feb. 11.....	11.96	11.26	22.95	27.22	43.65
Feb. 26.....	11.67	11.02	21.60	27.00	43.65
Mar. 11.....	11.87	11.25	21.15	27.22	43.65
Mar. 25.....	12.00	11.00	21.15	27.00	43.20
Apr. 8.....	12.04	11.24	21.15	26.57	44.03
Apr. 22.....	12.10	11.44	20.70	26.10	44.03
May 6.....	11.89	11.47	20.25	25.63	42.75
May 20.....	12.05	11.29	19.80	25.42	42.37
June 10.....	12.15	11.60	20.25	26.10	40.45
June 24.....	12.67	12.01	20.70	27.00	42.37
July 8.....	13.80	13.08	21.60	28.58	44.80
July 22.....	13.30	12.21	22.50	28.80	45.57
Aug. 5.....	12.91	11.91	22.95	29.02	44.80
Aug. 19.....	12.43	11.52	22.95	28.80	44.42
Sept. 2.....	12.42	11.62	22.05	27.90	43.65
Sept. 16.....	12.73	11.94	22.95	29.70	44.42
Oct. 7.....	12.80	11.94	22.05	31.03	47.62
Oct. 21.....	12.75	11.79	22.50	33.30	49.60
Nov. 4.....	12.89	11.81	22.50	34.20	51.20
Nov. 18.....	12.85	11.75	22.95	39.17	59.20
Dec. 2.....	13.10	12.22	25.20	39.17	65.60
Dec. 16.....	13.45	12.29	26.10	38.95	64.77
<i>1937</i>					
Jan. 6.....	13.50	12.30	26.10	38.45	64.00
Jan. 20.....	13.68	12.38	26.10	39.60	64.00
Feb. 3.....	14.04	12.74	26.55	37.37	64.00
Feb. 17.....	13.80	12.45	26.55	35.35	62.40
Mar. 3.....	14.61	13.49	27.00	34.20	60.80
Mar. 17.....	15.50	14.20	27.90	36.43	60.80
Apr. 7.....	15.05	13.95	29.25	36.00	61.57
Apr. 21.....	14.42	13.30	27.90	33.98	58.37
May 5.....	14.13	12.90	27.90	33.30	56.83
May 19.....	13.74	12.64	26.10	32.40	51.20
June 2.....	13.74	12.64	25.20	32.18	51.20
June 16.....	12.93	11.83	24.30	30.60	50.82
July 7.....	13.18	11.99	23.40	30.17	48.77
July 21.....	12.72	11.66	22.50	29.70	49.60

See footnote at end of table.

TABLE 47.—Spot price of Middling  $\frac{1}{16}$ -inch cotton in New Orleans, prices of New Orleans futures for the near-active month, and adjusted prices of cotton yarn, print cloth, and lawn in New York, August 1935 to July 1941 and August 1947 to July 1953<sup>1</sup>—Continued

Date	Spot price M $\frac{1}{16}$ -in. cotton in N. O.	Prices of New Orleans futures	Price of—		
			Carded yarn	Print cloth	Lawn
<i>1937—Con.</i>					
	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>
Aug. 4.....	11.92	10.85	21.60	29.02	48.38
Aug. 18.....	10.87	10.12	20.70	27.90	48.00
Sept. 1.....	9.59	9.09	20.25	26.10	45.57
Sept. 15.....	9.39	8.99	19.35	25.20	44.03
Oct. 6.....	8.50	8.18	18.90	24.55	41.22
Oct. 20.....	8.78	8.30	17.55	24.05	40.00
Nov. 3.....	8.17	7.77	17.10	24.05	39.55
Nov. 17.....	8.30	7.88	17.10	22.97	38.78
Dec. 1.....	8.43	7.99	16.65	21.82	38.40
Dec. 15.....	8.71	8.31	16.20	22.50	38.40
<i>1938</i>					
Jan. 5.....	9.00	8.48	16.20	22.97	38.40
Jan. 19.....	9.13	8.63	16.65	24.05	38.40
Feb. 2.....	9.04	8.55	16.65	23.83	38.40
Feb. 16.....	9.52	8.96	16.20	23.62	38.02
Mar. 2.....	9.81	9.27	16.65	23.83	38.02
Mar. 16.....	9.54	9.04	16.20	23.62	37.25
Apr. 6.....	9.10	8.60	15.75	21.82	35.97
Apr. 20.....	9.45	8.95	15.75	23.40	36.35
May 4.....	9.31	8.70	15.75	22.97	35.97
May 18.....	9.33	8.80	15.30	22.97	35.97
June 1.....	8.56	8.03	15.30	21.82	35.97
June 15.....	8.92	8.37	15.30	21.60	35.58
July 6.....	9.70	9.11	16.20	23.83	38.40
July 20.....	9.31	8.76	16.20	23.83	38.40
Aug. 3.....	9.11	8.56	16.20	23.83	38.40
Aug. 17.....	8.81	8.36	16.20	22.50	38.02
Sept. 7.....	8.42	8.17	16.20	22.75	36.80
Sept. 21.....	8.30	8.03	15.75	22.97	36.80
Oct. 5.....	8.69	8.32	15.75	22.97	36.80
Oct. 19.....	8.76	8.36	16.65	23.18	36.80
Nov. 2.....	9.04	8.66	16.65	22.97	36.35
Nov. 16.....	9.11	8.70	17.10	22.97	36.35
Dec. 7.....	8.76	8.53	16.20	22.50	35.97
Dec. 21.....	8.87	8.47	16.65	22.25	36.35
<i>1939</i>					
Jan. 4.....	9.00	8.50	16.65	22.25	37.25
Jan. 18.....	8.94	8.54	16.65	22.03	37.63
Feb. 1.....	8.93	8.53	17.10	21.82	38.02
Feb. 15.....	8.78	8.52	16.65	21.38	38.02
Mar. 1.....	8.98	8.70	16.65	21.17	37.63
Mar. 15.....	9.07	8.42	16.65	21.00	37.63
Apr. 5.....	8.80	8.14	17.10	21.38	37.63
Apr. 19.....	9.00	8.35	16.65	21.38	37.25
May 3.....	9.33	8.66	16.65	20.70	36.80
May 17.....	9.74	8.79	17.10	20.45	36.35
June 7.....	9.80	9.29	17.55	21.17	36.35
June 21.....	9.75	9.41	18.00	22.03	36.80
July 5.....	9.80	9.50	18.00	22.50	37.25
July 19.....	9.45	8.78	18.00	22.50	37.25
Aug. 2.....	9.61	9.16	18.00	22.97	37.25
Aug. 16.....	9.05	8.91	18.00	22.97	36.80

See footnote at end of table.



TABLE 47.—Spot price of Middling  $\frac{1}{16}$ -inch cotton in New Orleans, prices of New Orleans futures for the near-active month, and adjusted prices of cotton yarn, print cloth, and lawn in New York, August 1935 to July 1941 and August 1947 to July 1953 <sup>1</sup>—Continued

Date	Spot price M $\frac{1}{16}$ -in. cotton in N. O.	Prices of New Orleans futures	Price of—		
			Curded yarn	Print cloth	Lawn
<i>1939—Con.</i>					
	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>
Sept. 6.....	9.38	9.18	18.45	24.98	38.40
Sept. 20.....	9.13	9.25	20.70	26.57	45.95
Oct. 4.....	9.13	9.32	21.15	26.35	48.00
Oct. 18.....	9.05	9.15	22.50	26.35	48.00
Nov. 1.....	9.07	9.17	22.50	25.85	46.40
Nov. 15.....	9.63	9.74	22.50	25.20	46.40
Dec. 6.....	10.17	10.37	22.50	24.77	43.20
Dec. 20.....	10.93	10.85	22.50	26.10	43.65
<i>1940</i>					
Jan. 3.....	11.41	11.33	22.50	26.10	43.20
Jan. 17.....	11.10	11.22	22.05	25.63	43.20
Feb. 7.....	10.80	11.18	21.15	24.98	42.75
Feb. 20.....	10.92	11.30	20.25	24.30	41.98
Mar. 6.....	10.78	11.20	19.80	24.05	41.60
Mar. 20.....	10.63	10.85	19.35	23.62	40.45
Apr. 3.....	10.69	10.91	18.45	24.05	40.00
Apr. 17.....	10.78	10.98	18.45	24.77	40.00
May 1.....	10.84	10.98	18.45	24.77	40.00
May 15.....	9.62	9.54	17.55	23.62	40.00
June 5.....	10.25	9.62	17.10	22.97	40.00
June 19.....	11.00	10.66	18.45	23.40	40.45
July 2.....	10.75	9.91	18.45	23.40	40.45
July 17.....	10.60	9.46	18.45	23.40	40.00
Aug. 7.....	10.20	9.34	18.45	23.40	40.00
Aug. 21.....	9.80	9.30	18.00	22.97	40.00
Sept. 4.....	9.60	9.43	18.00	23.83	40.00
Sept. 18.....	9.50	9.42	18.90	24.77	40.00
Oct. 2.....	9.52	9.59	19.80	25.20	41.22
Oct. 16.....	9.39	9.49	20.70	25.63	43.20
Nov. 6.....	9.50	9.70	20.70	26.10	44.42
Nov. 19.....	9.95	10.24	21.60	26.57	44.80
Dec. 4.....	9.95	10.21	21.60	26.57	44.80
Dec. 18.....	9.88	10.18	21.15	26.57	44.80
<i>1941</i>					
Jan. 2.....	10.13	10.43	21.15	27.00	44.80
Jan. 15.....	10.21	10.51	21.15	27.65	44.80
Feb. 5.....	10.11	10.36	21.15	28.37	46.40
Feb. 19.....	10.32	10.36	21.15	28.37	46.40
Mar. 5.....	10.48	10.53	21.60	28.80	46.85
Mar. 19.....	10.91	10.91	22.95	33.05	49.15
Apr. 2.....	11.13	11.33	24.75	33.30	52.35
Apr. 16.....	11.11	11.36	27.90	33.05	52.35
May 7.....	11.91	12.15	28.80	35.10	52.80
May 21.....	12.88	13.13	29.70	37.80	56.00
June 4.....	13.01	13.26	28.35	37.80	56.00
June 18.....	13.80	14.11	27.00	40.50	56.60
July 2.....	14.46	14.60	28.80	-----	65.60
July 16.....	15.40	15.75	28.80	-----	65.60
July 30.....	16.30	16.40	30.60	-----	65.60

See footnote at end of table.

TABLE 47.—Spot price of Middling  $\frac{1}{8}$ -inch cotton in New Orleans, prices of New Orleans futures for the near-active month, and adjusted prices of cotton yarn, print cloth, and lawn in New York, August 1935 to July 1941 and August 1947 to July 1953 <sup>1</sup>—Continued

Date	Spot price M $\frac{1}{8}$ -in. cotton in N. O.	Prices of New Orleans futures	Price of—		
			Carded yarn	Print cloth	Lawn
<i>1947</i>					
	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>
Aug. 6	34.60	33.50	54.00	118.80	211.20
Aug. 20	33.95	32.26	53.10	117.90	211.20
Sept. 3	31.25	31.23	53.10	118.80	211.20
Sept. 17	32.10	32.23	53.10	122.40	211.20
Oct. 2	30.35	30.91		124.20	211.20
Oct. 15	31.30	31.83	54.00	128.70	217.60
Nov. 5	32.25	32.61	54.45	132.30	222.40
Nov. 19	33.65	34.07	54.90	134.10	
Dec. 3	35.50	35.98	55.80	137.70	
Dec. 16	35.85	36.13	56.70	137.70	259.20
<i>1948</i>					
Jan. 7	35.15	35.31	66.30	133.20	259.20
Jan. 21	34.40	34.63	59.85	130.50	
Feb. 5	33.45	33.38	60.30	125.10	
Feb. 18	31.90	31.92	60.30	122.40	
Mar. 3	33.50	33.71	60.30	120.60	
Mar. 17	33.70	33.89	60.30	120.60	
Apr. 7	36.10	36.17	59.85	108.00	
Apr. 21	38.45	38.82	59.85	104.40	224.00
May 5	36.60	36.59	59.85	99.90	224.00
May 19	37.40	37.06	59.85	96.73	224.00
June 2	38.25	37.31	59.85	92.70	224.00
June 16	37.25	36.38	59.85	87.30	224.00
July 7	35.00	34.98	58.05	90.00	
July 21	33.15	32.05	58.05	90.90	
Aug. 4	31.80	31.59	54.00	92.23	
Aug. 19	31.05	31.01	54.00	88.20	
Sept. 1	30.85	30.89	53.55	87.73	
Sept. 15	31.15	31.25	52.65	84.60	179.20
Oct. 6	30.85	31.53	50.85	79.20	
Oct. 20	31.30	31.44	50.85	72.90	147.20
Nov. 3	30.70	31.09	50.40	72.00	147.20
Nov. 17	31.35	31.79	50.40	72.90	147.20
Dec. 1	31.80	32.16	49.50	72.90	144.00
Dec. 15	31.80	32.05	49.50	72.43	150.40
<i>1949</i>					
Jan. 5	32.05	32.22	47.70	72.00	150.40
Jan. 19	32.65	32.63	47.70	71.10	150.40
Feb. 2	32.55	32.55	48.60	71.10	147.20
Feb. 16	32.40	32.23	47.70	71.10	147.20
Mar. 2	32.45	32.18	47.70	72.00	147.20
Mar. 16	32.30	31.96	47.70	72.00	147.20
Apr. 6	32.65	32.17	46.80	71.10	140.80
Apr. 20	33.05	32.92	47.70	70.20	137.60
May 4	32.75	33.52	46.80	68.40	131.20
May 18	32.75	32.32	45.90	66.60	126.40
June 1	32.45	32.22	46.80	66.60	124.80
June 15	32.85	32.94	45.90	65.23	123.20
July 6	32.80	32.85	45.90	63.90	123.20
July 20	31.25	29.64	46.80	64.80	118.40
Aug. 3	30.90	29.51	47.70	64.80	121.60
Aug. 17	30.90	29.82	47.70	66.60	120.00

See footnote at end of table.

TABLE 47.—Spot price of Middling  $\frac{1}{16}$ -inch cotton in New Orleans, prices of New Orleans futures for the near-active month, and adjusted prices of cotton yarn, print cloth, and lawn in New York, August 1935 to July 1941 and August 1947 to July 1953 <sup>1</sup>—Continued

Date	Spot price M $\frac{1}{16}$ -in. cotton in N. O.	Prices of New Orleans futures	Price of—		
			Carded yarn	Print cloth	Lawn
<i>1949—Con.</i>					
	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>
Sept. 7.....	30.35	30.01	48.60	71.10	128.00
Sept. 21.....	30.00	29.85	48.60	73.80	132.80
Oct. 5.....	29.40	29.81	48.60	73.80	132.80
Oct. 19.....	29.25	29.73	50.40	75.60	132.80
Nov. 2.....	29.50	29.94	51.30	79.20	137.60
Nov. 16.....	29.35	29.77	51.30	80.10	144.00
Dec. 7.....	29.90	30.31	51.30	81.00	150.40
Dec. 21.....	30.15	30.46	51.30	78.30	150.40
<i>1950</i>					
Jan. 4.....	30.45	30.70	51.30	79.20	150.40
Jan. 18.....	30.80	30.69	51.30	82.80	150.40
Feb. 1.....	31.35	31.17	51.30	81.90	153.60
Feb. 15.....	32.00	31.83	51.30	81.90	153.60
Mar. 1.....	32.00	31.70	51.30	81.90	153.60
Mar. 15.....	31.65	31.87	51.30	79.20	147.20
Apr. 5.....	32.20	32.15	50.40	72.00	128.00
Apr. 19.....	32.35	32.31	49.50	71.10	128.00
May 3.....	32.40	32.40	50.40	67.93	124.80
May 17.....	32.60	32.73	50.40	72.00	123.20
June 7.....	33.55	33.29	49.50	72.90	126.40
June 21.....	33.65	33.23	49.50	74.23	124.03
July 5.....	34.00	33.42	50.40	77.40	126.40
July 19.....	37.25	37.20		88.20	
Aug. 2.....	37.45	37.28	60.30	93.60	155.20
Aug. 17.....	37.75	37.70	62.10	93.60	152.00
Sept. 6.....	40.05	40.22	63.90	97.20	152.00
Sept. 20.....	40.80	40.80	66.60	106.20	164.80
Oct. 4.....	40.60	40.70	67.50	99.00	147.20
Oct. 18.....	38.85	38.62	68.40	97.20	147.20
Nov. 1.....	40.15	40.22	69.30	100.80	155.20
Nov. 15.....	42.65	42.64	70.20	100.80	155.20
Dec. 6.....	42.25	42.16	73.80	100.80	155.20
Dec. 20.....	42.65	42.39	74.70	102.60	
<i>1951</i>					
Jan. 3.....	43.50	43.37	74.70	102.60	
Jan. 17.....	43.90	43.76	74.70	104.40	161.60
Feb. 7.....			74.70	105.30	163.20
Feb. 20.....			75.60	104.40	163.20
Mar. 7.....				104.40	160.00
Mar. 21.....	44.91	45.39		102.60	147.20
Apr. 4.....	44.91	45.29		93.60	131.20
Apr. 18.....	44.91	45.39	75.60	93.60	137.60
May 2.....	44.91	45.39		91.80	137.60
May 15.....	44.91	45.15	75.60	90.90	134.40
June 7.....	44.91	44.75	72.90	90.90	141.00
June 20.....	44.91	44.69		90.00	140.80
July 5.....	43.95	44.35		82.37	137.60
July 18.....	37.25	34.68	69.30	75.60	124.80
Aug. 1.....	34.85	34.22	68.40	72.90	134.40
Aug. 14.....	34.55	34.25	68.85	71.10	116.80
Sept. 5.....	33.90	34.20	61.65	72.43	119.17
Sept. 19.....	34.60	34.92	59.85	71.57	118.40

See footnote at end of table.

TABLE 47.—Spot price of Middling  $1\frac{1}{8}$ -inch cotton in New Orleans, prices of New Orleans futures for the near-active month, and adjusted prices of cotton yarn, print cloth, and lawn in New York, August 1935 to July 1941 and August 1947 to July 1953 <sup>1</sup>—Continued

Date	Spot price M $1\frac{1}{8}$ -in. cotton in N. O.	Prices of New Orleans futures	Price of—		
			Carded yarn	Print cloth	Lawn
<i>1951—Con.</i>					
	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>
Oct. 3.....	36.50	37.00	59.85	72.43	113.60
Oct. 17.....	36.50	36.88	60.75	72.00	113.60
Nov. 7.....	39.50	39.85	60.75	70.63	113.60
Nov. 20.....	42.35	42.92	67.50	74.70	120.83
Dec. 5.....	42.90	43.53	64.35	76.25	121.60
Dec. 19.....	41.65	42.09	64.35	76.50	120.00
<i>1952</i>					
Jan. 2.....	41.70	41.87	64.35	76.03	120.00
Jan. 16.....	42.00	42.20	63.45	74.70	118.40
Feb. 6.....	41.50	41.65	63.45	73.58	116.80
Feb. 20.....	39.75	40.07	60.30	72.43	115.97
Mar. 5.....	39.95	40.37	60.30	71.35	115.20
Mar. 19.....	41.75	41.57	60.30	70.20	115.20
Apr. 2.....	42.15	41.98	59.40	70.85	115.20
Apr. 17.....	41.20	41.01	60.75	70.85	116.35
May 8.....	39.20	39.32	58.50	68.83	117.63
May 21.....	38.55	38.37	59.40	69.05	117.63
June 4.....	40.40	40.00	59.40	68.83	117.63
June 18.....	40.80	40.50	59.40	71.10	121.60
July 2.....	39.75	39.67	59.40	73.37	124.80
July 16.....	39.05	36.58	59.40	73.80	124.80
Aug. 6.....	40.15	38.82	61.20	75.60	126.40
Aug. 20.....	38.80	38.49	61.20	76.50	126.40
Sept. 3.....	39.10	39.25	61.20	77.62	127.23
Sept. 17.....	38.95	38.95	62.10	81.90	129.60
Oct. 1.....	38.45	38.88	63.00	82.80	129.60
Oct. 15.....	36.35	36.94	63.00	83.70	129.60
Nov. 5.....	35.20	36.38	62.10	81.43	128.00
Nov. 19.....	34.25	34.79	62.10	81.90	128.00
Dec. 3.....	33.95	34.56	61.20	82.37	128.00
Dec. 17.....	32.40	33.53	58.50	81.43	129.60
<i>1953</i>					
Jan. 7.....	32.55	33.32	58.50	80.57	131.20
Jan. 21.....	32.40	32.86	57.60	79.63	131.20
Feb. 4.....	32.70	33.13	56.70	83.23	131.20
Feb. 18.....	32.30	32.60	56.70	85.50	137.60
Mar. 4.....	33.00	33.46	56.70	85.03	137.60
Mar. 18.....	33.10	33.61	55.80	74.95	133.63
Apr. 1.....	32.80	33.32	55.80	76.03	132.80
Apr. 15.....	32.75	33.27	54.90	75.38	128.77
May 6.....	33.40	33.91	54.00	75.60	128.00
May 20.....	33.70	34.19	54.00	74.70	128.00
June 3.....	33.10	33.56	54.00	76.03	128.00
June 17.....	33.10	33.57	54.00	75.00	128.00
July 1.....	33.00	32.91	54.00	75.17	128.00
July 15.....	33.25	34.02	54.00	75.17	127.23
July 29.....	33.15	33.86	54.00	76.03	128.00

<sup>1</sup> Price per pound for spot cotton and for futures contracts and quoted prices of carded cotton yarn (10s), cotton print cloth (39" 80 x 80), and lawn (40" 76 x 72), adjusted to approximate the value of the quantity of these products obtainable from a pound of cotton.

TABLE 48.—Spot prices of Middling  $\frac{1}{16}$ -inch cotton in New Orleans and basis for this cotton calculated from prices of New Orleans futures, August 1935 to July 1941 and August 1947 to July 1958<sup>1</sup>

Date	Spot prices M $\frac{1}{16}$ -in. cotton in N. O.	Basis for Middling $\frac{1}{16}$ -inch spot cotton at New Orleans calculated from New Orleans futures maturing in—				
		Oct.	Dec.	Mar.	May	July
<i>1935</i>						
Aug. 7	12.20	-0.90	-1.00	-1.05	-1.08	-1.14
Aug. 21	11.85	-.65	-.81	-.87	-.89	-.93
Sept. 4	10.90	-.59	-.55	-.45	-.41	-.38
Sept. 18	11.23	-.65	-.62	-.52	-.44	-.39
Oct. 2	11.60	-.58	-.62	-.53	-.47	-.45
Oct. 16	11.45	-.62	-.62	-.56	-.50	-.48
Nov. 6	11.85	-1.15	-.83	-.94	-.95	-.98
Nov. 20	12.85	-1.75	-.89	-1.15	-1.29	-1.42
Dec. 11	12.10	-1.40	-.65	-.95	-1.06	-1.17
Dec. 26	12.15	-1.60	-.90	-.90	-1.13	-1.24
<i>1936</i>						
Jan. 15	12.18	-2.04	-2.12	-.91	-1.21	-1.56
Jan. 29	12.09	-1.69	-1.69	-.80	-1.04	-1.29
Feb. 11	11.96	-1.78	-1.77	-.70	-1.18	-1.49
Feb. 26	11.67	-1.63	-1.61	-.65	-.95	-1.26
Mar. 11	11.87	-1.60	-1.58	-.62	-1.00	-1.30
Mar. 25	12.00	-1.82	-1.85	-.62	-1.00	-1.39
Apr. 8	12.04	-1.69	-1.67	-1.60	-.80	-1.09
Apr. 22	12.10	-1.74	-1.74	-1.65	-.66	-.95
May 6	11.89	-1.66	-1.65	-1.62	-.42	-.80
May 20	12.05	-1.72	-1.75	-1.72	-.66	-.76
June 10	12.15	-1.26	-1.29	-1.29	-1.28	-.55
June 24	12.67	-1.22	-1.24	-1.24	-1.21	-.66
July 8	13.80	-1.42	-1.44	-1.44	-1.42	-.72
July 22	13.30	-1.09	-1.12	-1.14	-1.14	-.66
Aug. 5	12.91	-1.00	-1.01	-1.00	-.99	-1.03
Aug. 19	12.43	-.91	-.87	-.81	-.81	-.86
Sept. 2	12.42	-.80	-.80	-.73	-.69	-.67
Sept. 16	12.73	-.79	-.75	-.82	-.83	-.92
Oct. 7	12.80	-.86	-.96	-.94	-.96	-1.06
Oct. 21	12.75	-.96	-.96	-.87	-.84	-.88
Nov. 4	12.86	-1.43	-1.05	-1.07	-1.05	-1.08
Nov. 18	12.85	-1.75	-1.10	-1.24	-1.28	-1.37
Dec. 2	13.10	-1.79	-.88	-1.11	-1.23	-1.38
Dec. 16	13.45	-1.78	-.96	-1.16	-1.29	-1.38
<i>1937</i>						
Jan. 6	13.50	-1.76	-1.70	-1.20	-1.30	-1.40
Jan. 20	13.68	-1.90	-1.83	-1.30	-1.43	-1.53
Feb. 3	14.04	-2.19	-2.15	-1.30	-1.44	-1.63
Feb. 17	13.80	-2.02	-1.97	-1.35	-1.45	-1.58
Mar. 3	14.61	-2.23	-2.21	-1.12	-1.40	-1.68
Mar. 17	15.50	-1.98	-1.95	-.94	-1.30	-1.43
Apr. 7	15.05	-1.69	-1.67	-1.63	-1.10	-1.20
Apr. 21	14.42	-1.20	-1.17	-1.11	-1.12	-1.05
May 5	14.13	-1.24	-1.17	-1.13	-1.23	-1.11
May 19	13.74	-1.10	-1.01	-.94	-.94	-1.10
June 2	13.74	-1.06	-.99	-.92	-.87	-1.10
June 16	12.93	-.95	-.89	-.82	-.77	-1.10
July 7	13.18	-1.05	-1.03	-.99	-.99	-1.19
July 21	12.72	-1.05	-1.02	-.92	-.88	-.92
Aug. 4	11.92	-1.07	-1.03	-.89	-.85	-.83
Aug. 18	10.87	-.75	-.72	-.59	-.51	-.48

See footnote at end of table.

TABLE 48.—Spot prices of Middling  $\frac{1}{16}$ -inch cotton in New Orleans and basis for this cotton calculated from prices of New Orleans futures, August 1935 to July 1941 and August 1947 to July 1953<sup>1</sup>—Con.

Date	Spot prices M $\frac{1}{16}$ -in. cotton in N. O.	Basis for Middling $\frac{1}{16}$ -inch spot cotton at New Orleans calculated from New Orleans futures maturing in—				
		Oct.	Dec.	Mar.	May	July
<i>1937 - Con.</i>						
	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>
Sept. 1	9.59	-.50	-.45	-.34	-.25	-.19
Sept. 15	9.39	-.49	-.40	-.30	-.19	-.12
Oct. 6	8.50	-.32	-.41	-.41	-.41	-.37
Oct. 20	8.78		-.39	-.40	-.43	-.41
Nov. 3	8.17	-.16	-.40	-.35	-.30	-.26
Nov. 17	8.30	-.22	-.42	-.40	-.35	-.30
Dec. 1	8.43	-.32	-.44	-.40	-.38	-.33
Dec. 15	8.71	-.31		-.40	-.38	-.37
<i>1938</i>						
Jan. 5	9.00	-.33	-.30	-.52	-.43	-.38
Jan. 19	9.13	-.31	-.30	-.50	-.44	-.40
Feb. 2	9.04	-.23	-.20	-.49	-.40	-.34
Feb. 16	9.52	-.37	-.35	-.56	-.50	-.44
Mar. 2	9.81	-.35	-.33	-.54	-.49	-.43
Mar. 16	9.54	-.38	-.36	-.54	-.50	-.46
Apr. 6	9.10	-.37	-.34		-.50	-.44
Apr. 20	9.45	-.36	-.35	-.27	-.50	-.46
May 4	9.31	-.48	-.47	-.38	-.61	-.53
May 18	9.33	-.47	-.45	-.38		-.53
June 1	8.56	-.50	-.47	-.42	-.39	-.53
June 15	8.92	-.55	-.52	-.47	-.43	-.55
July 6	9.70	-.54	-.48	-.40	-.37	-.59
July 20	9.31	-.55	-.47	-.41	-.37	
Aug. 3	9.11	-.55	-.49	-.41	-.37	-.33
Aug. 17	8.81	-.45	-.39	-.36	-.35	-.34
Sept. 7	8.42	-.25	-.20	-.24	-.25	-.27
Sept. 21	8.30	-.27	-.22	-.18	-.24	-.26
Oct. 5	8.69	-.37	-.35	-.39	-.46	-.46
Oct. 19	8.76		-.40	-.48	-.68	-.82
Nov. 2	9.04	-1.05	-.38	-.51	-.69	-.78
Nov. 16	9.11	-1.18	-.41	-.53	-.71	-.88
Dec. 7	8.76	-1.16	-.23	-.40	-.57	-.85
Dec. 21	8.87	-1.20		-.40	-.60	-.89
<i>1939</i>						
Jan. 4	9.00	-1.27	-1.24	-.41	-.62	-.86
Jan. 18	8.94	-1.44	-1.41	-.40	-.65	-.93
Feb. 1	8.93	-1.37	-1.36	-.40	-.73	-1.02
Feb. 15	8.78	-1.31	-1.30	-.26	-.64	-.94
Mar. 1	8.98	-1.30	-1.35	-.28	-.65	-.85
Mar. 15	9.07	-1.23	-1.28	-.21	-.65	-.85
Apr. 5	8.80	-1.16	-1.22		-.66	-.85
Apr. 19	9.00	-1.45	-1.52	-1.58	-.65	-1.05
May 3	9.33	-1.48	-1.64	-1.69	-.67	-.95
May 17	9.74	-1.76	-1.95	-2.01		-.95
June 7	9.80	-1.35	-1.55	-1.71	-1.74	-.51
June 21	9.75	-1.10	-1.35	-1.53	-1.60	-.34
July 5	9.89	-.94	-1.12	-1.32	-1.39	-.30
July 19	9.45	-.67	-.81	-1.03	-1.11	
Aug. 2	9.61	-.45	-.63	-.86	-1.03	-1.21
Aug. 16	9.05	-.14	-.29	-.49	-.65	-.86
Sept. 6	9.38	-.20	-.33	-.45	-.58	-.72
Sept. 20	9.13	-.12	-.08	-.26	-.46	-.61

See footnote at end of table.

TABLE 48.—Spot prices of Middling  $\frac{1}{16}$ -inch cotton in New Orleans and basis for this cotton calculated from prices of New Orleans futures, August 1935 to July 1941 and August 1947 to July 1953<sup>1</sup>—Con.

Date	Spot prices M $\frac{1}{16}$ -in. cotton in N. O.	Basis for Middling $\frac{1}{16}$ -inch spot cotton at New Orleans calculated from New Orleans futures maturing in—				
		Oct.	Dec.	Mar.	May	July
<i>1939—Con.</i>		<i>Cents</i>	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>
Oct. 4.....	9.13	.19	-.08	-.33	-.52	-.70
Oct. 18.....	9.05	.....	.10	-.05	-.15	-.28
Nov. 1.....	9.07	-.71	.10	-.08	-.18	-.31
Nov. 15.....	9.63	-1.27	.11	-.08	-.27	-.53
Dec. 6.....	10.17	-1.37	.20	-.08	-.38	-.69
Dec. 20.....	10.93	-1.47	.....	-.08	-.45	-.82
<i>1940</i>						
Jan. 3.....	11.41	-1.35	-1.42	-.08	-.42	-.72
Jan. 17.....	11.10	-1.25	-1.33	.12	-.11	-.46
Feb. 7.....	10.80	-1.11	-1.22	.38	.08	-.27
Feb. 20.....	10.92	-1.14	-1.28	.38	.18	-.34
Mar. 6.....	10.78	-.94	-1.29	.42	.22	-.13
Mar. 20.....	10.63	-.73	-.86	.....	.22	-.01
Apr. 3.....	10.69	-.77	-.92	-1.07	.22	-.09
Apr. 17.....	10.78	-.55	-.66	-.78	.20	-.07
May 1.....	10.84	-.64	-.76	-.91	.14	-.09
May 15.....	9.62	-.57	-.69	-.83	.16	-.08
June 5.....	10.25	-1.71	-1.81	-1.97	.....	-.63
June 19.....	11.00	-1.47	-1.61	-1.92	-2.09	-.34
July 2.....	10.75	-1.41	-1.59	-1.84	-2.00	-.84
July 17.....	10.60	-1.14	-1.27	-1.49	-1.66	.....
Aug. 7.....	10.29	-.86	-.97	-1.17	-1.36	-1.57
Aug. 21.....	9.80	-.50	-.50	-.63	-.79	-1.01
Sept. 4.....	9.69	-.17	-.24	-.41	-.58	-.78
Sept. 18.....	9.50	-.08	-.08	-.25	-.44	-.61
Oct. 2.....	9.52	.07	.06	-.05	-.14	-.36
Oct. 16.....	9.39	.....	.10	.09	-.01	-.21
Nov. 6.....	9.50	-.54	.20	.22	.14	-.06
Nov. 19.....	9.95	-.29	.29	.30	.21	.10
Dec. 4.....	9.95	-.68	.26	.30	.23	.03
Dec. 18.....	9.88	-.52	.....	.30	.23	.03
<i>1941</i>						
Jan. 2.....	10.13	-.50	-.55	.30	.26	.05
Jan. 15.....	10.21	-.21	-.25	.30	.32	.23
Feb. 5.....	10.11	-.34	-.38	.25	.26	.15
Feb. 19.....	10.32	-.58	-.61	.04	0	-.14
Mar. 5.....	10.48	-.32	-.35	.05	0	-.07
Mar. 19.....	10.91	-.08	-.10	.....	0	-.04
Apr. 2.....	11.13	.16	.13	.09	.20	.16
Apr. 16.....	11.11	.17	.16	.15	.25	.21
May 7.....	11.91	.37	.39	.11	.24	.25
May 21.....	12.88	.39	.46	.51	.....	.25
June 4.....	13.01	.42	.52	.52	.50	.25
June 18.....	13.80	.50	.61	.67	.67	.31
July 2.....	14.46	.35	.44	.50	.50	.14
July 16.....	15.40	.35	.43	.50	.49	.....
<i>1947</i>						
Aug. 6.....	34.60	-1.10	-1.54	-1.81	-2.22	-3.02
Aug. 20.....	33.95	-1.69	-2.15	-2.31	-2.71	-3.50
Sept. 3.....	31.25	-.02	-.37	-.43	-.78	-1.45
Sept. 17.....	32.10	.13	-.03	-.03	-.18	-.80

See footnote at end of table.

TABLE 48.—Spot prices of Middling  $\frac{1}{16}$ -inch cotton in New Orleans and basis for this cotton calculated from prices of New Orleans futures, August 1935 to July 1941 and August 1947 to July 1953<sup>1</sup>—Con.

Date	Spot prices M $\frac{1}{16}$ -in. cotton in N. O.	Basis for Middling $\frac{1}{16}$ -inch spot cotton at New Orleans calculated from New Orleans futures maturing in—				
		Oct.	Dec.	Mar.	May	July
<i>1947—Con.</i>						
	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>
Oct. 2.....	30.35	.56	.52	.61	.52	.08
Oct. 15.....	31.30	.15	.53	.75	.85	.28
Nov. 5.....	32.25	.....	.36	.58	.55	-.17
Nov. 19.....	33.65	-3.32	.42	.63	.38	-.75
Dec. 3.....	35.50	-3.99	0.48	0.46	0.08	-1.10
Dec. 16.....	35.85	-4.23	.02	.28	-.13	-1.31
<i>1948</i>						
Jan. 7.....	35.15	-3.52	.....	.16	.18	-.74
Jan. 21.....	34.40	-2.85	-3.21	.23	.32	-.22
Feb. 5.....	33.45	-2.35	-2.59	-.07	.09	-.43
Feb. 18.....	31.90	-2.35	-2.68	.02	.31	-.19
Mar. 3.....	33.50	-3.53	-3.99	.21	.27	-.56
Mar. 17.....	33.70	-2.91	-3.46	.....	.19	-.41
Apr. 7.....	36.10	-3.73	-4.39	-4.64	.07	-.60
Apr. 21.....	38.45	-4.54	-5.38	-5.66	.37	-.41
May 5.....	36.60	-3.78	-4.35	-4.62	.01	-.50
May 19.....	37.40	-3.36	-4.05	-4.39	.....	-.34
June 2.....	38.25	-4.47	-5.08	-5.27	-5.57	-.94
June 16.....	37.25	-4.24	-4.77	-4.96	-5.20	-.87
July 7.....	35.00	-2.63	-2.88	-2.99	-3.10	-.02
July 21.....	33.15	-1.10	-1.13	-1.21	-1.34	.....
Aug. 4.....	31.80	-.21	-.14	-.12	-.21	-.64
Aug. 19.....	31.05	-.04	.03	.01	-.24	-1.38
Sept. 1.....	30.85	.04	-.04	-.18	-.40	-1.60
Sept. 15.....	31.15	.10	-.25	-.50	-.74	-1.72
Oct. 6.....	30.85	.68	.29	.16	-.08	-1.19
Oct. 20.....	31.10	.....	.34	.19	-.04	-1.36
Nov. 3.....	30.70	-2.99	.39	.36	.15	-.98
Nov. 17.....	31.35	-2.63	.44	.46	.26	-.60
Dec. 1.....	31.80	-3.04	.36	.48	.33	-.49
Dec. 15.....	31.80	-3.60	.30	.25	.04	-.94
<i>1949</i>						
Jan. 5.....	32.05	-3.44	.....	.17	-.01	-1.01
Jan. 19.....	32.65	-4.08	-4.28	-.02	-.26	-1.38
Feb. 2.....	32.55	-3.94	-4.18	0	-.25	-1.36
Feb. 16.....	32.40	-4.27	-4.48	-.17	-.29	-1.32
Mar. 2.....	32.45	-4.35	-4.57	-.27	-.32	-1.44
Mar. 16.....	32.30	-4.24	-4.44	-.14	-.34	-1.36
Apr. 6.....	32.65	-3.90	-4.19	.....	.48	-1.21
Apr. 20.....	33.05	-4.18	-4.42	-4.55	.13	-.90
May 4.....	32.75	-3.69	-3.89	-4.01	.77	-.22
May 18.....	32.75	-3.67	-3.92	-4.05	.....	-.43
June 1.....	32.45	-3.74	-3.90	-4.05	-4.21	-.23
June 15.....	32.85	-3.50	-3.76	-3.86	-4.00	.09
June 6.....	32.30	-3.01	-3.03	-3.11	-3.23	.55
July 20.....	31.25	-1.61	-1.66	-1.72	-1.85	.....
Aug. 3.....	30.90	-1.39	-1.40	-1.44	-1.55	-2.20
Aug. 17.....	30.90	-1.08	-1.14	-1.16	-1.27	-1.96
Sept. 7.....	30.35	-.34	-.34	-.33	-.40	-.99
Sept. 21.....	30.00	-.15	-.29	-.35	-.44	-1.05
Oct. 5.....	29.40	.41	.26	.24	.18	-.34
Oct. 19.....	29.25	.....	.48	.40	.35	-.08

See footnote at end of table.



TABLE 48.—Spot prices of Middling  $1\frac{1}{16}$ -inch cotton in New Orleans and basis for this cotton calculated from prices of New Orleans futures, August 1935 to July 1941 and August 1947 to July 1953<sup>1</sup>—Con.

Date	Spot prices M $1\frac{1}{16}$ -in. cotton in N. O.	Basis for Middling $1\frac{1}{16}$ -inch spot cotton at New Orleans calculated from New Orleans futures maturing in—				
		Oct.	Dec.	Mar.	May	July
<i>1949—Con.</i>						
	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>
Nov. 2.....	29.50	-1.52	.44	.44	.39	.01
Nov. 16.....	29.35	-1.46	.42	.40	.34	-.01
Dec. 7.....	29.90	-1.81	.41	.41	.29	-.27
Dec. 21.....	30.15	-1.96		.31	.09	-.56
<i>1950</i>						
Jan. 4.....	30.45	-2.08	-2.22	.25	.08	-.46
Jan. 18.....	30.80	-2.33	-2.45	-.11	-.10	-.53
Feb. 1.....	31.35	-2.50	-2.72	-.18	-.10	-.73
Feb. 15.....	32.00	-2.52	-2.67	-.17	.08	-.37
Mar. 1.....	32.00	-1.96	-2.15	-.30	.08	-.07
Mar. 15.....	31.65	-1.49	-1.70	-.23	.22	.36
Apr. 5.....	32.20	-1.52	-1.70		-.05	.09
Apr. 19.....	32.35	-1.12	-1.28	-1.22	-.04	.17
May 3.....	32.40	-.94	-1.09	-1.05	0	.21
May 17.....	32.60	-1.30	-1.41	-1.38		.13
June 7.....	33.55	-.60	-.72	-.70	-.79	-.26
June 21.....	33.65	-.72	-.79	-.71	-.80	-.42
July 5.....	34.00	-.82	-.82	-.78	-.84	-.58
July 19.....	37.25	-.05	-.09	-.12	-.21	
Aug. 2.....	37.45	-.17	-.17	-.15	-.22	-.75
Aug. 17.....	37.75	-.05	.01	.20	.11	-.49
Sept. 6.....	40.05	.17	.16	.29	.14	-.33
Sept. 20.....	40.80	0	.21	.31	-.61	-1.44
Oct. 4.....	40.60	.10	.34	.70	-1.05	-1.65
Oct. 18.....	38.85		.23	.17	-.32	-.67
Nov. 1.....	40.15	-4.23	.07	-.05	-.32	-.77
Nov. 15.....	42.65	-5.95	-.01	-.24	-.66	-1.27
Dec. 6.....	42.25	-5.56	-.09	-.24	-.95	-1.61
Dec. 20.....	42.65	-3.20		-.26	-.62	-1.00
<i>1951</i>						
Jan. 3.....	43.50	-3.80	-4.24	.13	.59	-1.11
Jan. 17.....	43.90	-3.92	-4.41	-.14	-.62	-1.15
Feb. 7.....						
Feb. 20.....						
Mar. 7.....						
Mar. 21.....	44.91	-3.17	-3.90		.48	-.46
Apr. 4.....	44.91	5.73	-6.41	-6.59	.38	-.73
Apr. 18.....	44.91	-5.26	-5.86	-5.87	.48	-.15
May 2.....	44.91	5.60	-6.09	-6.09	.48	.11
May 15.....	44.91	-5.44	-5.94	-5.91		.24
June 7.....	44.91	-7.46	-7.82	-7.73	-7.90	-.16
June 20.....	44.91	-7.80	-8.04	-7.90	-7.98	-.22
July 5.....	43.95	-8.07	-8.40	-8.25	-8.34	-.40
July 18.....	37.25	-2.57	-2.68	-2.55	-2.62	
Aug. 1.....	34.85	-.63	.71	-.58	-.61	-.86
Aug. 14.....	34.55	.30	.32	-.16	-.18	-.54
Sept. 5.....	33.90	.30	.34	.52	.50	.04
Sept. 19.....	34.60	.32	.34	.57	.60	.22
Oct. 3.....	36.50	.50	.32	.35	.33	-.20
Oct. 17.....	36.50		.38	.15	.05	-.43
Nov. 7.....	39.50	-2.32	.35	.18	.08	-.81
Nov. 20.....	42.35	-3.17	.57	.09	.13	-.75

See footnote at end of table.

TABLE 48.—Spot prices of Middling  $\frac{1}{16}$ -inch cotton in New Orleans and basis for this cotton calculated from prices of New Orleans futures, August 1935 to July 1941 and August 1947 to July 1953<sup>1</sup>—Con.

Date	Spot prices M $\frac{1}{16}$ -in. cotton in N. O.	Basis for Middling $\frac{1}{16}$ -inch spot cotton at New Orleans calculated from New Orleans futures maturing in—				
		Oct.	Dec.	Mar.	May	July
<i>1951—Con.</i>						
Dec. 5.....	Cents 42.90	Cents -3.30	Cents .63	Cents .26	Cents .05	Cents -.40
Dec. 19.....	41.65	-2.75		.44	.25	-.40
<i>1952</i>						
Jan. 2.....	41.70	-3.12	-3.53	.17	-.03	-.63
Jan. 16.....	42.00	-2.93	-3.27	.20	-.03	-.47
Feb. 6.....	41.50	-3.97	-4.27	.15	-.30	-1.08
Feb. 20.....	39.75	-3.14	-3.37	.32	-.25	-.88
Mar. 5.....	39.95	-4.02	-4.29	.42	-.30	-1.17
Mar. 19.....	41.75	-4.17	-4.49		-.18	-1.19
Apr. 2.....	42.15	-4.21	-4.50	-4.65	-.17	-1.18
Apr. 17.....	41.20	-4.15	-4.48	-4.64	-.19	-1.17
May 8.....	39.20	-2.74	-2.95	-3.06	.12	-.53
May 21.....	38.35	-1.91	-2.16	-2.34		-.02
June 4.....	40.40	-3.18	-3.50	-3.65	-3.81	-.40
June 18.....	40.80	-3.30	-3.52	-3.67	-3.86	-.30
July 2.....	39.75	-2.99	-3.21	-3.36	-3.57	-.08
July 16.....	39.05	-2.47	-2.66	-2.75	-2.92	
Aug. 6.....	40.15	-1.33	-1.50	-1.65	-1.85	-2.48
Aug. 20.....	38.80	-.31	-.42	-.51	-.72	-1.27
Sept. 3.....	39.10	.15	.02	-.08	-.27	-.83
Sept. 17.....	38.95	0	-.08	-.17	-.33	-.91
Oct. 1.....	38.45	.43	.52	.56	.45	-.09
Oct. 15.....	36.35	.91	.59	.78	.72	.35
Nov. 5.....	35.20		1.18	1.59	1.72	1.45
Nov. 19.....	34.25	.57	.51	1.24	1.60	1.68
Dec. 3.....	33.95	.60	.61	1.15	1.55	1.77
Dec. 17.....	32.40	1.59		1.13	1.57	1.90
<i>1953</i>						
Jan. 7.....	32.55	1.44	1.48	.77	1.30	1.70
Jan. 21.....	32.40	1.47	1.55	.46	.94	1.34
Feb. 4.....	32.70	1.22	1.24	.43	.73	1.03
Feb. 18.....	32.30	1.27	1.37	.30	.66	1.06
Mar. 4.....	33.00	.74	.80	.46	.51	.68
Mar. 18.....	33.10	.52	.56		.51	.56
Apr. 1.....	32.80	.58	.67	.74	.52	.58
Apr. 15.....	32.75	.76	.85	.93	.52	.71
May 6.....	33.40	.28	.24	.30	.51	.49
May 20.....	33.70	.05	.07	.16		.49
June 3.....	33.10	.66	.71	.76	.75	.46
June 17.....	33.10	.67	.77	.92	.90	.47
July 7.....	33.40	.73	.91	1.14	1.15	.24
July 22.....	33.15	.74	1.00	1.23	1.25	
July 29.....	33.15	.71	.98	1.21	1.25	1.09

<sup>1</sup> Basis arrived at by subtracting quoted prices of spot cotton from closing prices of futures contracts.

**END**